# FUNDAMENTALS OF NURSING

## TEACHER'S GUIDE

## SENIOR FOUR

### ASSOCIATE NURSING PROGRAM

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# FOREWORD

Dear Teacher,

The Rwanda Basic Education Board is pleased to present this Teacher's Guide for the Associate Nursing Program. This guide is designed to support competence-based teaching and ensure consistency in delivering the Fundamentals of Nursing subject.The Rwandan educational philosophy aims to help student-associate nurses achieve their full potential, preparing them to address community health needs and pursue career opportunities.

To enhance education quality, the government of Rwanda emphasizes the alignment of teaching materials with the syllabus. Effective teaching relies on the relevance of content, pedagogical approaches, assessment strategies, and instructional materials. The guide focuses on activities that promote learning, allowing students to develop ideas and make discoveries.

In a competence-based curriculum, learning involves actively building knowledge and skills through activities, scenarios, and real-life applications. Your role as a teacher includes:

- Planning lessons and preparing teaching materials.
- Organizing group discussions and collaborative learning.
- Engaging students through active learning methods such as inquiry, research, and group work.
- Supporting and facilitating the learning process by valuing student contributions and guiding them towards integrating their findings.

This guide is divided into three parts:

1. Explains the book's structure and provides methodological guidance.
2. Offers sample lesson plans for reference.
3. Provides detailed teaching guidance for each concept in the student book.

Although the guide includes answers to student book activities, please review each question and activity before assessing student responses.

I extend my gratitude to everyone involved in developing this guide, including the Ministry of Health, University of Rwanda, and other institutions. Special thanks go to faculty members, nurses, midwives, teachers, illustrators, designers, Health Workforce development staff/MoH, and REB staff for their dedicated work.

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**Director General, REB**

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# PART I. GENERAL INTRODUCTION

## 1.0. About the teacher's guide

This book is a teacher's guide for Fundamentals of Nursing subject, for senior four in Associate Nursing program. It is designed to accompany student book and intends to help teachers in the implementation of competence based curriculum specifically Fundamentals of Nursing syllabus.

As the name says, it is a guide that teachers can refer to when preparing their lessons. Teachers may prefer to adopt the guidance provided but they are also expected to be more creative and consider their specific classes' contexts and prepare accordingly.

## 1.1. Structure of the guide

This section presents the overall structure, the unit and sub-heading structure to help teachers to understand the different sections of this guide and what they will find in each section.

**Overall structure**

The whole guide has three main parts as follows

- **Part I: General introduction**

This part provides general guidance on how to develop the generic competences, how to integrate cross cutting issues, how to cater for students with special educational needs, active methods and techniques of Fundamentals of Nursing and guidance on assessment

- **Part II: Sample lesson plan**

This part provides a sample lesson plan, developed and designed to help the teacher develop their own lesson plans.

- **Part III: Unit development**

**This is the core part of the guide. Each unit is developed following the structure below. The guide ends with references.**

Each unit is made of the following sections:

- **Unit title:** from the syllabus
- **Key unit competence:** from the syllabus
- **Prerequisites (knowledge, skills, attitudes and values)**

This section indicates knowledge, skills and attitudes required for the success of the unit. The competence-based approach calls for connections between units/

topics within a subject and interconnections between different subjects. The teacher will find an indication of those prerequisites and guidance on how to establish connections.

- **Cross-cutting issues to be addressed**

This section suggests cross cutting issues that can be addressed depending on the unit content. It provides guidance on how to come up with the integration of the issue. Note that the issue indicated is a suggestion; teacher are free to take another cross-cutting issue taking into consideration the learning environment.

- **Guidance on the introductory activity**

Each unit starts with an introductory activity in the teacher's book. This section of the teacher's guide provides guidance on how to conduct this activity and related answers. Note that students may not be able to find the right solution but they are invited to predict possible solutions or answers. Solutions are provided by students gradually through discovery activities organized at the beginning of lessons or during the lesson.

- **List of lessons/sub-heading**

This section presents in a table suggestion on the list of lessons, lesson objectives copied or adapted from the syllabus and duration for each lesson. Each lesson / subheading is then developed.

- **End of each unit**

At the end of each unit the teacher provides the following sections:

- Summary of the unit which provides the key points of content developed in the teacher's book.
- Additional information which provides additional content compared to the student book for the teacher to have a deeper understanding of the topic.
- End unit assessment which provides answers to questions of the end unit assessment in the teacher's book and suggests additional questions and related answers to assess the key unit competence.
- Additional activities :( remedial, consolidation and extended activities). The purpose of these activities is to accommodate each student (slow, average and gifted) based on the end of unit assessment results.

**Structure of each sub heading**

Each lesson/sub-heading is made of the following sections:

**Lesson /Sub heading title 1: ……………………………..**

- **Prerequisites/Revision/Introduction:**

This section gives a clear instruction to teacher on how to start the lesson.

- **Teaching resources**

This section suggests the teaching aids or other resources needed in line with the activities to achieve the learning objectives. Teachers are encouraged to replace the suggested teaching aids by the available ones in their respective schools and based on learning environment.

- **Learning activities**

This section provides a short description of the methodology and any important aspect to consider. It provides also answers to learning activities with cross reference to student's book.

- **Exercises/self-assessment activities**

This provides questions and answers for exercises/ application activities.

## 1.2. Methodological guidance

### 1.2.1. Developing competence

Since 2015 Rwanda shifted from a knowledge based to a competence based curriculum for pre-primary, primary and general secondary education. For Associate Nursing Programs, it is in 2021 that the competence based curriculum was embraced. This called for changing the way of learning by shifting from teacher centered to a learner centered approach. Teachers are not only responsible for knowledge transfer but also for fostering teacher's learning achievement, and creating safe and supportive learning environment. It implies also that a student has to demonstrate what he/she is able to do using the knowledge, skills, values and attitude acquired in a new or different or given situation.

The competence-based curriculum employs an approach of teaching and learning based on discrete skills rather than dwelling on only knowledge or the cognitive domain of learning. It focuses on what learner can do rather than what learners know. Students develop basic competences through specific subject unit competences with specific learning objectives broken down into knowledge, skills and attitudes. These competences are developed through learning activities disseminated in learner-centered rather than the traditional didactic approach. The students are evaluated against set standards to achieve before moving on.

In addition to specific subject competences, students also develop generic competences which are transferable throughout a range of learning areas and situations in life. Below are examples of how generic competences can be developed in Fundamentals of nursing:

| Generic competence | Examples of activities that develop generic competences |
|---|---|
| Critical thinking | – Describe the relationship and interdependence of sciences<br>– Observe, record, interpret data recorded during experiments<br>– Identify and use the applications of Fundamentals of Nursing concepts to solve problems of life and society |
| Research and Problem solving | – Research using internet or books from the library<br>– Design a project for making bioplastics<br>– Design a questionnaire for data collection during field visit |
| Innovation and creativity | – Create an experiment procedure to prove a point<br>– Develop a graph to illustrate information<br>– Design a data collection survey/questionnaire<br>– Conduct experiments with objectives, methodology, observations, results, conclusions<br>– Identify local problems and ways to resolve them |
| Cooperation, Personal and Interpersonal management and life skills | – Work in Pairs<br>– Small group work<br>– Large group work |
| Communication | – Organise and present in writing and verbally a complete and clear report of an experiment<br>– Observe, record, interpret the results of a measurement accurately.<br>– Select and use appropriate formats and presentations, such as tables, graphs and diagrams. |
| Lifelong learning | – Exploit all opportunities available to improve on knowledge and skills. Reading scientific journals to keep updated. |

### 1.2.2. Addressing cross cutting issues

Among the changes in the competence based curriculum is the integration of cross cutting issues as an integral part of the teaching learning process-as they relate to and must be considered within all subjects to be appropriately addressed. The eight cross cutting issues identified in the national curriculum framework are: genocide studies, environment and sustainability, gender, Comprehensive Sexuality Education

(CSE), Peace and Values Education, Financial Education, standardization Culture and Inclusive Education.

Some cross cutting issues may seem specific to particular learning areas or subjects but the teacher needs to address all of them whenever an opportunity arises. In addition, student should always be given an opportunity during the learning process to address these cross cutting issues both within and out of the classroom so as to progressively develop related attitudes and values.

Below are examples on how crosscutting issues can be addressed in Biology:

| Cross-cutting issues | Examples on how to integrate the cross-cutting issues |
|---|---|
| Inclusive education | Involve all students in all activities without any bias.<br>Eg: Allow a student with physical disability (using wheelchair) to take notes or lead the team during an experiment. |
| Gender | Involve both girls and boys in all activities: No activity is reserved only to girls or boys.<br>Teacher should ensure equal participation of both girls and boys during experiments as well as during cleaning and tidying up related activities after experiments. |
| Peace and Values Education | During group activities, debates and presentations, the teacher will encourage students to help each other and to respect opinions of colleagues. |
| Standardization culture | Some lessons involve carrying out experiments. Instruction should be clear for students to always check if they are not using expired chemicals or defective apparatus.<br>In addition, when performing experiments students have to record data accurately.<br>For tasks involving calculations, they have to always present accurate results. |
| Environment and sustainability | In order to avoid the environment pollution, before, during or after experiments students avoid throwing away chemicals anywhere; special places or appropriate containers should be used.<br>Students also have to be aware of the impacts of the use of hydrocarbons as fuels, halogenoalkanes, and plastics on the environment. |
| Financial Education | When performing experiments, students are encouraged to avoid wasting chemicals by using the quantities that are just required. They are required to also avoid spoiling equipments and other materials… |

### 1.2.3. Attention to special educational needs specific to each subject

In the classroom, students learn in different way depending to their learning pace, needs or any other special problem they might have. However, the teacher has the responsibility to know how to adopt his/her methodologies and approaches in order to meet the learning needs of each student in the classroom. Also teacher must understand that students with special needs need to be taught differently or need some accommodations to enhance the learning environment. This will be done depending on the subject and the nature of the lesson.

In order to create a well-rounded learning atmosphere, teacher needs to:

- Remember that students learn in different ways so they have to offer a variety of activities (e.g. role-play, music and singing, word games and quizzes, and outdoor activities).
- Maintain an organized classroom and limits distraction. This will help students with special needs to stay on track during lesson and follow instruction easily.
- Vary the pace of teaching to meet the needs of each student-teacher. Some students process information and learn more slowly than others.
- Break down instructions into smaller, manageable tasks. Students with special needs often have difficulty understanding long-winded or several instructions at once. It is better to use simple, concrete sentences in order to facilitate them understand what you are asking.
- Use clear consistent language to explain the meaning (and demonstrate or show pictures) if you introduce new words or concepts.
- Make full use of facial expressions, gestures and body language.
- Pair a student who has a disability with a friend. Let them do things together and learn from each other. Make sure the friend is not over protective and does not do everything for the student-teacher. Both students will benefit from this strategy
- Use multi-sensory strategies. As all students learn in different ways, it is important to make every lesson as multi-sensory as possible. Students with learning disabilities might have difficulty in one area, while they might excel in another. For example, use both visual and auditory cues.

Below are general strategies related to each main category of disabilities and how to deal with every situation that may arise in the classroom. However, the list is not exhaustive because each student is unique with different needs and that should be handled differently.

**Strategy to help students with developmental impairment:**

- Use simple words and sentences when giving instructions.
- Use real objects that the student can feel and handle, rather than just working

abstractly with pen and paper.

- Break a task down into small steps or learning objectives. The student should start with an activity that s/he can do already before moving on to something that is more difficult.
- Gradually give the student less help.
- Let the student work in the same group with those without disability.

**Strategy to help students with visual impairment:**

- Help students to use their other senses (hearing, touch, smell and taste) to play and carry out activities that will promote their learning and development.
- Use simple, clear and consistent language.
- Use tactile objects to help explain a concept.
- If the students has some sight, ask them what they can see. Get information from parents/caregivers on how the student manages their remaining sight at home.
- Make sure the student has a group of friends who are helpful and who allow the students to be as independent as possible.
- Plan activities so that students work in pairs or groups whenever possible.

**Strategy to help students with hearing impairment:**

- Strategies to help students with hearing disabilities or communication difficulties
- Always get the students attention before you begin to speak.
- Encourage the student to look at your face.
- Use gestures, body language and facial expressions.
- Use pictures and objects as much as possible.
- Ask the parents/caregivers to show you the signs they use at home for communication use the same signs yourself and encourage other students to also use them.
- Keep background noise to a minimum.

**Strategies to help children with physical disabilities or mobility difficulties:**

- Adapt activities so that student who use wheelchairs or other mobility aids, or other students who have difficulty moving, can participate.
- Ask parents/caregivers to assist with adapting furniture e.g. The height of a table may need to be changed to make it easier for a student to reach it or fit their legs or wheelchair under.
- Encourage peer support friends can help friends.
- Get advice from parents or a health professional about assistive devices.

### 1.2.4. Guidance on assessment

Each unit in the teacher's guide provides additional activities to help students achieve the key unit competence. Results from assessment inform the teacher which student needs remedial, consolidation or extension activities. These activities are designed to cater for the needs of all categories of learners; slow, average and gifted learners respectively.

Assessment is an integral part of teaching and learning process. The main purpose of assessment is for improvement. Assessment for learning (Continuous/formative assessment) intends to improve student-teachers' learning and teacher's teaching whereas assessment of learning/summative assessment intends to improve the entire school's performance and education system in general.

**Continuous/ formative assessment**

It is an ongoing process that arises out of interaction during teaching and learning process. It includes lesson evaluation and end of sub unit assessment. This formative assessment plays a big role in teaching and learning process. The teacher should encourage individual, peer and group evaluation of the work done in the classroom and uses appropriate competence-based assessment approaches and methods.

In year two textbook, formative assessment principle is applied through application activities that are planned in each lesson to ensure that lesson objectives are achieved before moving on. At the end of each unit, the end unit assessment is formative when it is done to give information on the progress of students and from there decide what adjustments need to be done. Assessment standards are taken into consideration when setting tasks.

**Summative assessment**

The assessment done at the end of the term, end of year, is considered as summative. The teacher, school and parents are informed on the achievement of educational objectives and think of improvement strategies. There is also end of level/ cycle assessment in form of national examinations.

### 1.2.5. Student teachers' learning styles and strategies to conduct teaching and learning process

There are different teaching styles and techniques that should be catered for. The selection of teaching method should be done with the greatest care and some of the factors to be considered are: the uniqueness of subjects, the type of lessons, the particular learning objectives to be achieved, the allocated time to achieve the objective, instructional available materials, the physical/sitting arrangement of the classroom, individual student teachers' needs, abilities and learning styles.

There are mainly four different learning styles as explained below:

**d) Active and reflective learners**

Active learners tend to retain and understand information best by doing something active with it, discussing or applying it or explaining it to others. Reflective learners prefer to think about it quietly first.

**e) Sensing and intuitive learners**

Sensing learners tend to like learning facts while intuitive learners often prefer discovering possibilities and relationships. Sensors often like solving problems by well-established methods and dislike complications and surprises; intuitive learners like innovation and dislike repetition.

**f) Visual and verbal learners**

Visual learners remember best what they see (pictures, diagrams, flow charts, time lines, films, demonstrations, etc.); verbal learners get more out of words (written and spoken explanations).

**g) Sequential and global learners**

Sequential learners tend to gain understanding in linear steps, with each step following logically from the previous one. Global learners tend to learn in large jumps, absorbing material almost randomly without seeing connections, and then suddenly "getting it."

### 1.2.6. Teaching methods and techniques that promote the active learning

The different student learning styles mentioned above can be catered for, if the teacher uses active learning whereby students are really engaged in the learning process.

**What is Active learning?**

Active learning is a pedagogical approach that engages students in doing things and thinking about the things they are doing. In active learning, learners are encouraged to bring their own experience and knowledge into the learning process.

**The role of the teacher in active learning**

- The teacher engages students through active learning methods such as inquiry methods, group discussions, research, investigative activities and group and individual work activities.
- He/she encourages individual, peer and group evaluation of the work done in the classroom and uses appropriate competence-based assessment approaches and methods.

- He provides supervised opportunities for students to develop different competences by giving tasks which enhance critical thinking, problem solving, research, creativity and innovation, communication and cooperation.
- Teacher supports and facilitates the learning process by valuing student-teachers' contributions in the class activities.

**The role of learners in active learning**

Learners are key in the active learning process. They are not empty vessels to fill but people with ideas, capacity and skills to build on for effective learning. A learner engaged in active learning:

- Communicates and shares relevant information with other learners through presentations, discussions, group work and other learner-centred activities (role play, case studies, project work, research and investigation)
- Actively participates and takes responsibility for their own learning
- Develops knowledge and skills in active ways
- Carries out research/investigation by consulting print/online documents and resourceful people, and presents their findings
- Ensures the effective contribution of each group member in assigned tasks through clear explanation and arguments, critical thinking, responsibility and confidence in public speaking
- Draws conclusions based on the findings from the learning activities.

**Some active techniques that can be used in Biology**

The teaching methods strongly emphasised in the competence Based Curriculum (CBC) are active methods. Below are some active techniques that apply in sciences:

a) **Practical work/ experiments:**

Many of the activities suggested in Fundamentals of Nursing curriculum as well as in the teacher's book are practical works or experiments.

Practical work is vital in learning Biology; this method gives the student the opportunity to implement a series of activities and leads to the development of both cognitive and hands-on skills. The experiments and questions given should target the development of the following skills in student-teachers: observation, recording and report writing, manipulation, measuring, planning and designing.

A practical lesson/Experiment is done in three main stages:

- **Preparation of experiment:** Checking materials to ensure they are available and at good state; try the experiment before the lesson; think of safety rules and give instructions to lab technician if you have any.

- **Performance of experiment:** Sitting or standing arrangement of student-teachers; introduction of the experiment: aims and objectives; setting up the apparatus; performing the experiment; write and record the data.
- **Discussion**: Observations and interpreting data; make generalisations and assignment: writing out the experiment report and further practice and research.

In some cases, demonstration by the teacher is recommended when for example the experiment requires the use of sophisticated materials or very expensive materials or when safety is a major factor like dangerous experiments and it needs specific skills to be learnt first.

In case your school does not have enough laboratory materials and chemicals, experiments can be done in groups but make sure every student participates. You can also make arrangements with the neighbouring science school and take your students there for a number of experiments

**b) Research work**

Each student or group of students is given a research topic. They have to gather information from internet, available books in the library or ask experienced people and then the results are presented in verbal or written form and discussed in class.

**c) Project work**

Fundamentals of nursing teachers are encouraged to sample and prepare project works and engage their students in, as many as possible. Students in groups or individually, are engaged in a self-directed work for an extended period of time to investigate and respond to a complex question, problem, or challenge. The work can be presented to classmates or other people beyond the school. Projects are based on real-world problems that capture learners' interest. This technique develops higher order thinking as the students acquire and apply new knowledge in a problem-solving context.

**d) Field trip**

One of the main aims of teaching Fundamentals of nursing in Rwanda is to apply its knowledge for development. To achieve this aim we need to show to students the relationship between classroom science lessons and applied sciences. This helps them see the link between science principles and technological applications.

To be successful, the field visit should be well prepared and well exploited after the visit:

Before the visit, the teacher and student:

- Agree on aims and objectives
- Gather relevant information prior to visit

- Brainstorm on key questions and share responsibilities
- Discuss materials needed and other logistical and administrative issues
- Discuss and agree on accepted behaviours during the visit
- Visit the area before the trip if possible to familiarise yourself with the place

After the visit

When students come back from trip, the teacher should plan for follow-up. The follow-up should allow students to share experiences and relate them to the prior science knowledge. This can be done in several ways; either: Students write a report individually or in groups and give to the teacher for marking. The teacher then arranges for discussion to explain possible misconceptions and fill gaps. Or students write reports in groups and display them on the class notice board for everyone to read.

**Main steps for a lesson in active learning approach**

All the principles and characteristics of the active learning process highlighted above are reflected in steps of a lesson as displayed below. Generally, the lesson is divided into three main parts whereby each one is divided into smaller steps to make sure that students are involved in the learning process. Below are those main parts and their small steps:

**1) Introduction**

Introduction is a part where the teacher makes connection between the current and previous lesson through appropriate technique. The teacher opens short discussions to encourage students to think about the previous learning experience and connect it with the current instructional objective. The teacher reviews the prior knowledge, skills and attitudes which have a link with the new concepts to create good foundation and logical sequencings.

**2) Development of the new lesson**

The development of a lesson that introduces a new concept will go through the following small steps: discovery activities, presentation of student-teachers' findings, exploitation, synthesis/summary and exercises/application activities, explained below:

**Discovery activity**

**Step 1**

- The teacher discusses convincingly with students to take responsibility of their learning
- He/she distributes the task/activity and gives instructions related to the tasks

(working in groups, pairs, or individual to instigate collaborative learning, to discover knowledge to be learned)

**Step 2**

- The teacher let the students work collaboratively on the task.
- During this period the teacher refrains to intervene directly on the knowledge
- He/she then monitors how the students are progressing towards the knowledge to be learned and boost those who are still behind (but without communicating to them the knowledge).

**Presentation of student-teachers' productions**

- In this episode, the teacher invites representatives of groups to present the student-teachers' productions/findings.
- After three/four or an acceptable number of presentations, the teacher decides to engage the class into exploitation of the student-teachers' productions.

**Exploitation of student-teachers' productions**

- The teacher asks the students to evaluate the productions: which ones are correct, incomplete or false
- Then the teacher judges the logic of the student-teachers' products, corrects those which are false, completes those which are incomplete, and confirms those which correct.

**Institutionalization (summary/conclusion/ and examples)**

- The teacher summarises the learned knowledge and gives examples which illustrate the learned content.

**Exercises/Application activities**

- Exercises of applying processes and products/objects related to learned unit/ sub-unit
- Exercises in real life contexts
- Teacher guides students to make the connection of what they learnt to real life situations. At this level, the role of teacher is to monitor the fixation of process and product/object being learned.

**3) Assessment**

In this step the teacher asks some questions to assess achievement of instructional objective. During assessment activity, students work individually on the task/activity. The teacher avoids intervening directly. In fact, results from this assessment inform the teacher on next steps for the whole class and individuals. In some cases, the teacher can end with a homework assignment.

# PART II: SAMPLE LESSON PLAN

**Teacher's name**……………………………………**School name**……….…………

| **Term** | **Date** | **Subject** | **Class** | **Unit N°** | **Lesson N$^0$** | **Duration** | **Class size** |
|---|---|---|---|---|---|---|---|
| 1 | To be specified | Fundamentals of nursing | Year4 | 2 | 1 of 8 | 80min | 30 Students |

| | |
|---|---|
| **Type of Special Education Needs and number of learners** | Students with hearing impairment |
| **Unit Title** | Hygiene and comfort care of the client |
| **Key unit Competence** | To be able to perform the Nursing care procedures related to hygiene and comfort of the client/patient. |
| **Title of the lesson** | Hand hygiene and gloving |
| **Plan for this class**<br>**(Location: In/ outside)** | In skills lab (U-shape formation and 5-6 groups) |
| **Instructional objectives**<br>**(inclusive to reflect needs of whole class)** | Provided with theoretical knowledge and practical skills and shaping good attitudes, the learners will be able to perform correctly hand hygiene and gloving in the all aspects of infection preventions. |
| **Learning Materials**<br>**(for all learners)** | Teaching videos, simulation lab materials, Hand washing facility (soap, water, towel), alcohol based sanitizer, non-sterile gloves and sterile gloves |
| **References** | Kozier & Erb's. (2018). *Fundamentals of Nursing: Concepts, Process and Practice* (4th Ed). Pearson Australia.<br>Craven, R. F., Hirnle, C. J., & Jensen, S. (2013). *Procedure checklists for Fundamentals of Nursing Human Health and Function* (7th Ed). Lippincott Williams & Wilkins.<br>Burton, M. A., & Ludwig, L. J. M. (2015). *Fundamentals of Nursing Care: Concepts, Connections & Skills* (2nd Ed). F. A. Davis Company. Philadelphia.<br>Erb, K., Snyder, B., Buck, F., & Yiu, F. (2018). *Fundamentals of Canadian Nursing: Concepts, Process, and Practice* (4th Ed). Pearson Canada Inc. |

| Timing for each Step | Description of teaching and learning activity | | Competences and cross cutting issues to be addressed |
|---|---|---|---|
| | Small group discussion about hand hygiene and gloving, the groups will observe the given images and read the scenario then after make a discussion of given questions. | | |
| **1. Introduction (5minutes)** | **Tutor's activities** | **Learner's activities** | |
| | Through questioning, the teacher ask the learners what they think as purpose of hand hygiene in health settings<br><br>The teacher also asks the learners what they think as the purpose of wearing non-sterile and sterile gloves<br><br>The teacher ensures the students are in their groups of 5-6 person to discuss on the given learning activity 2.1.<br><br>Teacher share the objectives of the lesson with the learners and ask students to show the link between learning objective and Key unit competence | Students think in their small groups and discuss with each other purposes of hand hygiene and gloving.<br><br>Learners get into their group while they are thinking on asked introductory questions<br><br>Three volunteers describe the relationship of the key unit competence and the learning objectives of the lesson | Critical thinking as learners are thinking about the purposes.<br><br>Communication as students discuss with their colleagues |
| **2. Development of the lesson** | | | |
| **2.1 Discovery activity** | Teacher prepares the skills lab with hand washing station, hand rubbing materials, projector, non-sterile gloves and sterile gloves. | Students get in their respective groups<br><br>Students start to brainstorm on the given questions<br><br>Students prepare the presentation to share with other group members | Cooperation, interpersonal management and life skills: Students share ideas in groups.<br><br>Students learn to respect each |

| | | | |
|---|---|---|---|
| | Teacher facilitates the already made small groups of 6 students and provide them copies of images of WHO five moment of hand washing, hand rubbing steps, hand washing steps and the scenario of Mr. Paul (patient) and Mrs. Mary (nurse).<br><br>Teacher instructs students to observe and read these copies to attempt the given questions.<br><br>Teacher moves around in groups and guides them as they attempt to answer the questions.<br><br>The teacher pays a special attention to students with disabilities | Student analyze the images and find the difference between hand washing and rubbing<br><br>Students try to understand the WHO five moments of hand washing.<br><br>Learners pays attention to the guidance and ask questions when required | other's opinions and presentation preparation.<br><br>Interpersonal relationship and effective communication<br><br>Infection control and prevention, |
| **2.2 Presentation of findings**<br><br>**(15minutes)** | Teacher invites back students from the group to present their discussions<br><br>Teacher asks further questions to make sure that even students with special education need are involved in the learning process. | Each group their findings and supplement each other<br><br>The groups exchange their ideas and opinions while learning | Communication skills during the presentation<br><br>Lifelong Learning. These competences will be developed from presentation of their works, working in groups, and from producing a poster |

| | | | |
|---|---|---|---|
| **2.3 Exploitation of student's findings**<br><br>**(10 minutes)** | The teacher asks other groups if they agree on what the group has said and comments on each presentation.<br><br>Invite the representative of each group to come and demonstrate the way of washing, rubbing hands and wearing gloves<br><br>Make correction on mistake done during demonstration. | Students follow the presentations from their colleagues carefully and their practices.<br><br>Students ask questions to their colleague while learning the new skills.<br><br>Students practice skills of hand washing/ rubbing and gloving skills | Hands on skills while trying to hand wash/rub and gloving.<br><br>Learners use critical thinking in answering questions from their colleagues and trying to perform skills |
| **2.4 Synthesis** | The teacher helps the students to come up with a summary hand hygiene and gloving.<br><br>The teacher provide guidance on the skills of hand washing/ rubbing and hand gloving techniques<br><br>The teacher also help the students to come up with the summary on hand gloving and provide guidance on the techniques of wearing them | Students with the guidance of the teacher manage to come up with the summary of the hand hygiene and hand gloving<br><br>They also come up with the skills of hand washing/rubbing and hand gloving techniques | Inclusive Education:<br><br>Taking into account of students with lower limb impairment by facilitating them to have a sit.<br><br>Communication skills developed through the discussion<br><br>Technical skills on hand hygiene and gloving techniques |
| **2.5 Conclusion**<br><br>**5 minutes** | Randomly, choose three students to summarize what has been covered from this lesson<br><br>Ask 5 students from different groups to wash and or rub their hand before or after caring the patient. | Students summarize lesson and they complement each other<br><br>Students shows the techniques of hand washing/rubbing and gloving | Communication skills while summarizing the lesson<br><br>Confidence to answer questions<br><br>Hand hygiene and gloving skills |

| | | | |
|---|---|---|---|
| | Advise also to wear gloves when necessary to prevent contamination | | |
| **3. Assessment** | Ask student to answer the self-assessment activity in the student book<br><br>Teacher asks other questions:<br><br>What is the importance of hand hygiene in health settings?<br><br>What is the difference between non sterile hand gloving and sterile hand gloving? | Student-teacher answer to the self-assessment activities and other questions asked by the teacher | Cross cutting issues:<br><br>Peace and value education<br><br>During group activities, debates and presentations, the teacher will encourage learners to help each other and to respect opinions of colleagues, and to respect each other<br><br>Inclusive education: The students with hearing impairments can do the assessment in writing to ensure they are with others |
| **Comments on the lesson delivery** | The lesson was conducted very nice since every learner was involved and is capable to achieve the key competence of the lesson | | |

# PART III. UNIT DEVELOPMENT

# UNIT 1 NURSING THEORIES

## 1.1 Key unit competence

Integrate the principles of nursing theories during modern-day nursing practice.

## 1.2 Prerequisites (knowledge, skills, attitudes and values)

Not applicable, there is no specific prerequisite to this unit, however the teacher should ask learners what they know about nursing, history of nursing, and how people are cared for when they are sick

## 1.3 Cross-cutting issues to be addressed

### a) Inclusive education

This unit involves activities of reading and observation of pictures. This may be challenging to students with special educational needs especially those with visual (myopia& hypermetropia) and hearing impairment. However, the teacher can address them this way:

Avail appropriate seats to accommodate those with visual and hearing impairment. Every important point is written and spoken. The written points help students with visual impairment and speaking aloud helps students with hearing impairment.

Grouping them with other students and being assigned roles basing on individual student's abilities. Remember to repeat the main points of the lessons

### b) Gender education

Emphasize to learners that anybody irrespective of their gender can present and report during group activities: Give a role model of who are successful in real life without considering their gender. Make sure that during presentations both boys and girls share and participate equally in all activities

### c) Environment and sustainability

As a facilitator, emphasise to the learners that environment must be sustainably cleaned for different reasons such as: A clean environment contains fresh air needed by patients and humans to survive. A clean environment assists the patient to recover from illness. Unclean environment is the habitat of microorganisms that cause illness

## 1.4 Guidance on the introductory activity

This introductory activity aids the teacher to involve learners in the introduction of nursing theories and engages the learners to follow the next lessons.

**Teacher's activity:**

- Ask students to observe the image provided in the student's book and discuss the given questions.
- Engage students in working mutually in the activity.
- Help students to understand the questions.
- Ask some students to present their findings while others are following
- Make sure that all students participate and give their ideas about the activity.

**Learner's activities**

- follow the instructions provided by the teacher

**Expected answers to the introductory activity 1**

Learners may not be able to find the right solution but they are invited to predict possible solutions or answers):

**1)**

- A vomiting patient in unarranged bed.
- A nurse wearing mask holding the patient
- A patient in a wet bed
- Patients are sweating in unventilated room.
- Patients are in unclean room.
- All people are in a room without light.

**2)**

- Dirty clothes
- Unclean room
- Closed doors and windows.
- Room without light/ a dark room.
- Flowing fluids from bed
- Vomiting patient

**3)**

- Dirty clothes can favorize microorganism to grow
- Unclean room can also favorize microorganism to grow
- Closed doors and windows can cause insufficient of fresh air which may lead to suffocation.
- Room without light can interrupt with the sleep pattern, care delivery, it causes coldness in the room, etc.

- Flowing fluids from bed can favorize microorganism to grow and can cause skin infection.
- Vomiting patient/person can be dehydrated and die.
- Unarranged bed can make the patient to be uncomfortable.

**4) Before modern nursing**

- In early age, there was an absence of doctors/ physicians and nurses.
- Patients were attended by traditional healers / religious leaders
- Patients were attended at home.
- In middle age, physicians/doctors were treating and giving medications to the patients.
- Patients were cared by their female relatives who were not educated nor trained in health matter
- Patients were treated in poor conditions, and inadequate care which was increasing the death rate.

## 1.5. List of lessons/subheadings (including assessment)

| # | Lesson title | Learning objectives | Number of periods |
|---|---|---|---|
| 1 | Historical Overview of Nursing | Define Nursing<br>Explain the history of nursing profession | 2 |
| 2 | Nursing theories | Define Nursing theory<br>Describe the importance of nursing theories. | 2 |
| 3 | Major Concepts of Nursing Theory | Define the concepts of Nursing theories | 2 |
| 4 | Florence Nightingale | Explain Florence Nightingale theory | 2 |
| 5 | Virginia Henderson | Discuss Virginia Henderson theory | 2 |
| 6 | Hildegard Peplau | Describe Hildegard Peplau theory | 2 |
| 7 | Dorothea Orem | Explain Dorothea Orem theory | 2 |
| 8 | Jean Watson | Describe Jean Watson theory | 2 |
| 9 | End unit Assessment | Integrate the principles of nursing theories during modern-day nursing practice. | 2 |
| 10 | Additional activities | | 2 |

## Lesson one. *Historical Overview of Nursing*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define Nursing
- Explain the history of nursing profession

### b) Teaching resources

Teaching videos, projectors, screen, *https://brainkart.com/article/Evolution-of-Nursing_35445/,* Text book (Klainberg, M. (2009). An historical overview of nursing. Today's nursing leader: Managing, succeeding, excelling, 21-40)

### c) Prerequisites/Revision/Introduction

The main objective of this lesson is to equip learners with the knowledge and understanding of nursing and the history of nursing profession.

### d) Learning activities 1.1.

**Guidance**

- Ask learners to do individually activity 1.1 in the student book.
- Provide the necessary materials (link, books).
- Move around in silence to monitor if they are having some problems.
- Remember to assist those who are weak but without giving them the answers.
- Invites any four students to present their findings to the rest.
- Ask other students to follow carefully the presentations.
- Note on chalk board the student's ideas.
- Make sure that all students give their ideas about the activity
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Harmonize and conclude on the learned knowledge and still engage students in making that conclusion

**Answers to learning activity 1.1.**

It is divided into three periods of time in history.

- **Early Christian era**

Temples were considered to be more health source than hospitals.

Nursing was done by women in temples or home.

Caregivers were volunteers and had no formal training in therapeutic modalities.

Deaconesses with some educational backgrounds were assigned by the church to take care of ill persons.

- **Middle age**

– Monks and nuns were taking care of the poor and sick.

– Appearance of hospitals serving as charity houses.

– Appearance of medical schools and informal nursing

– Physicians were not enough to care for the patients

– Educated nurses were needed

– Innovations were implemented in nursing helping to form some of the roots of modern nursing.

- **The dawn of modern Nursing**

– Nursing recognized as an official profession laid by Florence nightingale.

– Florence Nightingale initiated holism in nursing (treating the whole patient)

– Florence Nightingale opened the first nursing school (Nightingale school for nurses)

– Establishment of regulations for learning and practice of nursing.

– Setting standards of care for patients.

– Today nursing is no longer one thing, it has specialties (nurses may choose to study pediatric, cardiology, oncology, neonatology, etc.)

– Today nursing is independent (it is no longer depending to physicians).

– Today nursing is a strong field with a wide range of duties and responsibilities

**Answers to self-assessment 1.1.**

**1)**

a. 3

b. 4

c. 1

d. 2

**2) The founder of nursing is Florence Nightingale**

## Lesson two. *Nursing theories*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define Nursing theory
- Describe the importance of nursing theories

### b) Teaching resources

Teaching videos, projectors, screen, Student's book, C Smith, M., & E Parker, M. (2015). Nursing theories and nursing practice, 3rd edition

### c) Prerequisites/Revision/Introduction

Nursing theories expresses the values and beliefs of nursing discipline leading to nursing practice. Nursing theories lie behind the care that nurses offer to the patients

### d) Learning activities 1.2.

**Guidance**

- Ask students to work in pair and do activity 1.2 in student's book.
- Provide the necessary materials to the learners.
- Move around in silence to monitor if they are sharing ideas in pairs or having any problem.
- Assist those who are weak but without giving them the answers.
- Invite pairs to present their findings to the rest of students.
- Ask other students to follow carefully the presentations.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity.

**Answer to leaning activity 1.2.**

Mrs M. received good care than Mr. T. because:

- Mrs M was well received and put on a stretcher to move her to the bed
- Her dirty clothes were removed.
- She was cleaned by nurse and put in a well-made bed.
- She was examined by a smiling doctor

**Answers to self-assessment 1.2.**

1) Nursing theory is an organized framework of concepts and purposes designed to guide the practice of nursing

2) Yes, Nursing theories are important because they provide a foundational knowledge of care concepts that enable those in the profession to explain what they do for patients and the reasons for their actions. It helps nurse's articulate evidence that justifies the methodologies behind their practices

## Lesson three. *Major Concepts of Nursing Theory*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define the term concept in nursing theories
- Describe concepts of nursing theory

### b) Teaching resources

Teaching videos, projectors, screen, textbook (Kozier and ERB's Fundamental of nursing concepts, process and practice fourth Australian Edition, page 40., Student's book)

### c) Prerequisites/Revision/Introduction

Nursing theories have concepts that are very important in providing the structure of nursing function. Every theorist defined the concepts regarding to his/her theory.

### d) Learning activities 1.3.1.

**Guidance**

- Instruct each student to do activity 1.3 in student's book.
- Provide the necessary materials to the learners (book).
- Move around in silence to check if all of them are on the page 40.
- Assist those who are weak but without giving them the answers.
- Invite three students to present their findings.
- Ask other students to follow carefully the presentations
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity.

**Answers to leaning activity 1.3.**

This page talks about nursing theories starting by defining the word concept as building blocks of theories. They describe four major concepts of nursing theory: person, health, nursing, and environment

**Answers to Self-assessment 1.3.**

1 C

2 D

3 B

4 A

## Lesson four. *Selected Nursing theorists: Florence Nightingale*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Describe the theory of Florence Nightingale
- Apply Florence Nightingale' s theory while providing nursing care
- Respect the principles of Florence Nightingale theory in nursing practice

### b) Teaching resources

Teaching videos, projectors, screen, textbooks (Alligood, M.R. (2018). Nursing theorists and their work, 9th edition, Student's book.)

### c) Prerequisites/Revision/Introduction

As introduced from the previous lessons, Florence Nightingale is the founder of nursing and the first theorist who believed in a clean environment as part of patient healing.

### d) Learning activities 1.4.1

**Guidance**

- Instruct each student to do activity 1.4.1 in student's book.
- Move around in silence to monitor if they are observing and brainstorming on the image.
- Find out if they have any problem and help to address it.
- Assist those who are weak but without giving them answers.
- Invite five students to present their findings.

- Ask other students to follow carefully the presentations.
- Make sure that all students give their ideas about the activity.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity.

**Answers to learning activity 1.4.1.**

1)
   - Nurse is bathing a patient.
   - Nurse is making bed
   - Cleaners cleaning the flow and opening windows

2)
   - Patients may become more uncomfortable
   - Patients may not recover quickly
   - Patients may get more infections.
   - Patients may lack fresh air

**Answers to Self-assessment 1.4.1.**

1)
   - The ward is very small and overcrowded by patients.
   - Windows are closed with small door hindering the increase of fresh air.
   - Despite the number of nurses inside of the room, still patients' belongings are disorganized.
   - Nurses are caring for the patients in unclean and unventilated room. (Feeding, wound dressing, drug administration).
   - The Supervisor didn't alert the student that a good nurse should work in a clean and ventilated room

2) e

3)
   - Fresh air
   - Pure water
   - Efficient drainage
   - Cleanliness or sanitation
   - Light or direct sunlight

## Lesson five. *Selected Nursing theorists: Virginia Henderson*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Describe the theory of Virginia Henderson
- Apply Virginia Henderson' s theory while providing nursing care
- Respect the principles of Virginia Henderson theory in nursing practice

### b) Teaching resources

Teaching videos, projectors, screen, textbooks (Alligood, M.R. (2018). Nursing theorists and their work, 9th edition, Student's book.)

### c) Prerequisites/Revision/Introduction

As Nightingale, Virginia Henderson is one of the nursing theorists who introduced the need theory. She believed that everyone has to fulfil 14 fundamental needs that are components of health

### d) Learning activities 1.4.2.

**Guidance**

- Instruct each student to do activity 1.4.2 in student's book.
- Move around in silence to monitor if they are observing boxes and brainstorming on the image.
- Find out if they have any problem and help to address it.
- Assist those who are weak but without giving them answers.
- Invite five students to present their findings.
- Ask other students to follow carefully the presentations.
- Make sure that all students give their ideas about the activity.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.

**Answers to learning activity 1.4.2.**

1)

**Box A**: A priest with his Christians on the queue receiving Eucharist; pastor in front his Christians who were singing; and the mosque in which Muslims are praying.

**Box B**: A sleeping patient in hospital bed having oxygen. (Facial mask is connected to the oxygen cylinder standing near the bed.).

**Box C**: A male patient using the toilet

**Box D**: A nurse is feeding a patient

**Box E**: Another box having two male people wearing differently (one is very smart; another one is wearing dirty clothes

**Box F**: A nurse is helping a fractured female patient with the plaster on her leg to move out of the bed.

2) All of these mentioned are important because of the following:

- Everyone needs to have a relationship with God.
- Everyone needs to breathe despite having illness that may prevent him to do so
- Everyone needs to eliminate.
- Everyone needs to eat
- Everyone needs be groomed well
- Everyone needs to move

**Answers to Self-assessment activity 1.4.2.**

1) Breathe normally

Eat and drink properly

Normal disposal of body waste

Mobility and proper postures

Sleep and rest

Dress and undress normally

Maintain body temperature in normal ranges

Maintain good body hygiene

Avoid hazards in the environment and avoid endangering others

Communicate emotions, needs, fears and opinions

Act or react according to one's beliefs

Work so that there is a sense of accomplishment.

Participate in recreational activities or games

Learn, discover or satisfy personal curiosity

2)

| | | | |
|---|---|---|---|
| **1 e** | **5 i** | **9 g** | **13 n** |
| **2 a** | **6 c** | **10 d** | **14 j** |
| **3 l** | **7 b** | **11 m** | |
| **4 h** | **8 k** | **12 f** | |

## Lesson six. *Selected Nursing theorists: Hildegard Peplau.*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Describe the theory of Hildegard Peplau
- Apply Hildegard Peplau's theory while providing nursing care
- Respect the principles of Hildegard Peplau theory in nursing practice

### b) Teaching resources

Teaching videos, projectors, screen, textbooks (Alligood, M.R. (2018). Nursing theorists and their work, 9th edition, Student's book.).

### c) Prerequisites/Revision/Introduction

Hildegard Peplau is another nursing theorist who believed in interpersonal relationship as the foundation of nursing practice

### d) Learning activities 1.4.3.

**Guidance**

- Instruct each student to do activity 1.4.3 in student's book.
- Move around in silence to monitor if they are reading the conversation.
- Find out if they have any problem and help to address it.
- Assist those who are weak but without giving them answers.
- Invite five students to present their findings.
- Ask other students to follow carefully the presentations.
- Make sure that all students give their ideas about the activity.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.

**Answers to learning activity 1.4.3.**

1)

a. Mr. K. is unhappy and frustrated.

b. Because he is missing his home and his normal work of art and photography.

c. Nurse U. is taking care of the patient by counselling Mrs K.

d. She took time and listened to Mr K's concerns. She offered an idea of calling a recreational therapist to help him feel comfortable.

e. Mr. K. was very interested and happy

2) Yes, it is good to have someone who could understand you, because you feel happy, comfortable, relaxed physically and emotionally.

**Answers to Self-assessment activity 1.4.3.**

1) c

2) d

## Lesson seven. *Selected Nursing theorists: Dorothea Orem.*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Describe the theory of Dorothea Orem

### b) Teaching resources

Teaching videos, projectors, screen, textbooks (Alligood, M.R. (2018). Nursing theorists and their work, 9th edition, Student's book.).

### c) Prerequisites/Revision/Introduction

As other nursing theorists, Dorothea Orem introduced self-care deficit theory. Orem focused on activities that individuals perform on their own behalf.

### d) Learning activities 1.4.4.

**Guidance**

- Instruct each student to do activity 1.4.4 in student's book.
- Divide students into six groups
- Give each group a picture to interpret.
- Give five minutes to complete the interpretation of images.
- Let every group present.
- Ask other students to follow carefully the presentations.

- Make sure that all students give their ideas about the activity.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.

**Answers to learning activity 1.4.4.**

1)
- A nurse washing the patient in bed
- Two nurses making occupied bed
- Two nurses helping the patient to put on clothes
- A nurse helping a patient to move from chair to bed
- A nurse feeding the patient
- One nurse moving patient in chair, other nurse helping the patient to move out of the bed

2)
- Patients
- Babies
- Old people
- People with disabilities

**Answers Self-assessment activity 1.4.4.**

1) A

2) True.

## Lesson eight. *Selected Nursing theorists: Jean Watson*

**a) Learning objectives**

- Describe the theory of Jean Watson

**b) Teaching resources**

Teaching videos, projectors, screen, textbooks (Alligood, M.R. (2018). Nursing theorists and their work, 9th edition, Student's book.).

**c) Prerequisites/Revision/Introduction**

Jean Watson is another nursing theorist who introduced human caring theory. Watson theory proposed that nurses should go beyond their daily nursing works and procedures and consider every patient as a human being

**d) Learning activities 1.4.5.**

**Guidance**

- Instruct each student to do activity 1.4.5 in student's book.
- Put students in two groups and distribute the student books.
- Move around in silence to monitor if they are reading the case.
- Find out if they have any problem and help to address it.
- Assist those who are weak but without giving them answers.
- Invite three to five pairs to present their findings.
- Ask other students to follow carefully the presentations.
- Make sure that all students give their ideas about the activity.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete

**Answers to the learning activity 1.4.5.**

1) KALISA was well received by the nurse as follow:
    - By holding his hands
    - By speaking with a soft voice
    - By giving him a seat
    - By listening to him
    - By giving him hope of quick recovery
    - By giving him drugs
2) KALISA felt better and happy from the kind of care provided to him and comfort.

**Answers to the self-assessment 1.4.5.**

1) b
2) d.

## 1.6. Summary of the unit

The unit was focusing on the historical development of the nursing; it highlighted the different responsibilities and roles of nurse. The unit also encompassed some of the nursing theorists and their theories; these are Florence Nightingale, Virginia Henderson, Hildegard Peplau, Dorothea Orem and Jean Watson.

## 1.7 Additional information for teachers

As a teacher, it is better to integrate into teaching sessions the principles of nursing practice. It is also relevant to make students aware of patient admission, discharge and documentation before going further to other topics.

### 1.7.1 The Principles of Nursing Practice

Nursing practice is underpinned by values that guide the way in which nursing care is provided. The Nursing and Midwifery Board of Ireland considers that the following values should underpin nursing practice and provide the basis for the formulation of a philosophy of nursing:

1. In making decisions about their individual scope of practice; nurses should keep to the fore the rights, needs and overall benefit to the patient and the importance of promoting and maintaining the highest standards of quality in the health services.
2. Nurses respect all people equally without discriminating on the grounds of age, gender, race, ethnicity, religion, civil status, family status, sexual orientation, disability (physical, mental or intellectual), or membership of the Traveller community.
3. Fundamental to nursing practice is the therapeutic relationship between the nurse and the patient that is based on open communication, trust, understanding, compassion and kindness, and serves to empower the patient to make life choices.
4. Nursing practice involves advocacy for the rights of the individual patient and for their family. It also involves advocacy on behalf of nursing practice in organisational and management structures within nursing.
5. Nurses recognise their role in delegating care appropriately and providing supervision to junior colleagues and other health care workers, where required.
6. Nursing care combines art and science. Nursing care is holistic in nature, grounded in an understanding of the social, emotional, cultural, spiritual, psychological and physical experiences of patients, and is based upon the best available research and experiential evidence.

Nursing practice must always be based on the principles of professional conduct stated in the latest edition of the Code of Professional Conduct and Ethics for Registered Nurses and Registered Midwives

**The Principles of Nursing Practice** tell us what all people can expect from nursing practice, whether they are colleagues, patients, or the families or careers of patients. The principles of Nursing practice are:

1. Nurses and nursing staff treat everyone in their care with dignity and humanity: they understand their individual needs, show compassion and sensitivity, and provide care in a way that respects all people equally
2. Nurses and nursing staff manage risk: are vigilant about risk, and help to keep everyone safe in the places they receive health care.
3. Nurses and nursing staff provide and promote care that puts people at the center, involves patients, service users, their families and their careers in decisions and helps them make informed choices about their treatment and care
4. Nurses and nursing staff are at the heart of the communication process: they assess, record and report on treatment and care, handle information sensitively and confidentially, deal with complaints effectively, and are conscientious in reporting the things they are concerned about
5. Nurses and nursing staff have up-to-date knowledge and skills, and use these with intelligence, insight and understanding in line with the needs of each individual in their care
6. Nurses and nursing staff work closely with their own team and with other professionals, making sure patients' care and treatment is co- ordinated, is of a high standard and has the best possible outcome.
7. Nurses and nursing staff lead by example, develop themselves and other staff, and influence the way care is given in a manner that is open and responds to individual needs
8. Nurses and nursing staff take responsibility for the care they provide and answer for their own judgments and actions they carry out these actions in a way that is agreed with their patients, and the families and careers of their patients, and in a way that meets the requirements of their professional bodies and their laws.

Other principles that are fundamentals for nursing practices are the following:

- ✓ Be true to your patients
- ✓ Be true to your profession.
- ✓ Be true to your peers
- ✓ Be true to yourself
- ✓ When in doubt, ask
- ✓ Take time for family and friends

**N.B. Nursing is a blending (combination) of three factors: art, science and the spirit.**

- ✓ Nursing as an art means that the nurse must develop skilled techniques in the performance of the various procedures required for giving adequate care to the patient.
- ✓ Nursing as a science means that the underlying principles of nursing care depend on knowledge of biological sciences such as anatomy, physiology, microbiology and chemistry.
- ✓ Nursing as a spiritual quality means that the primary aim is to serve humanity,

not only by giving curative care to the bodies of the sick and injured, but by serving the needs of the mind and the spirit as well.

### 1.7.2 Patient admission, discharge and documentation

1. **ADMISSION:**

Is preparation of patient and admission records to enter the hospital (to be hospitalized). Admission to the nursing unit prepares the patient for his hospital stay.

Admission to an acute hospital may be planned (elective) or may be required as a matter of urgency (emergency).

- o **Elective admissions:** are those which occur as a consequence of referral to hospital by a general practitioner, medical consultant, a visit to the hospital outpatient department or a planned transfer from another hospital
- o **An emergency hospital admission:** is defined as one that is not planned and which results from trauma (injury) or acute illness which cannot be treated on an outpatient basis

❖ **PURPOSE:**

1. To establish diagnosis by examination, observations and test:
2. To provide treatment and comprehensive care to patient

Whether the admission is scheduled or follows emergency treatment, effective admission procedures should accomplish the following goals:

- ✓ Verify the patient's identity and assess his clinical status
- ✓ Make the patient as comfortable as possible in his new and potentially threatening environment
- ✓ Introduce the patient to roommates and staff
- ✓ Orient the client to the physical environment and routine activities
- ✓ Provide to him supplies and special equipment needed for daily care

### ❖ ADMISSION ROUTINES

Because admission procedures can color the patient's perception of the hospital environment, they have a significant impact on subsequent treatment.

Admission routines that are **efficient** and **show appropriate concern** for the patient **ease his anxiety and promote cooperation and receptivity to treatment**. Conversely, admission routines that the patient perceives as **careless** or **excessively impersonal** can **heighten anxiety**, **reduce cooperation, impair his response to treatment, and perhaps aggravate symptoms.**

### ❖ WELCOME OF THE PATIENT

It is nurse's daily work to welcome the new case in his service. He must show the empathy and adopt an attitude of understanding and create a climate of confidence since the beginning.

"A good welcome is a half of the treatment"

The medical staff has not only the mission of taking care but also to help patient to adapt to the environment of stress that is perfectly foreign to him.

### ❖ ADMISSION TECHNIQUE/PROCEDURE

#### ➢ EQUIPMENT:

- Hospital gown
- Personal property form
- Valuables envelope
- Admission form
- Nursing assessment form, if appropriate
- Thermometer
- Emesis basin
- Bed pan or urinal
- Bath basin
- Water pitcher
- Cup and tray
- Urine specimen container, if needed
- An admission pack. An admission pack usually contains soap, comb, toothbrush, toothpaste, mouthwash, water pitcher, cup, tray, lotion, facial tissues, and thermometer (if you won't be using an electronic thermometer). Because the patient's pack is included in his hospital bill,

he can take it home at the end of his stay. An admission park helps prevent contamination and increases nursing efficiency by providing basic items at each patient bedside.

- **IMPLEMENTATION:**
  - ✓ Obtain a gown and an admission park for the patient condition requires
  - ✓ Position the bed as the patient's condition requires. If the patient is ambulatory, place the bed in the low position; if he is arriving on a stretcher, place the bed in the high position. Fold down the top linens.
  - ✓ Adjust the light, temperature and ventilation in the room.
  - ✓ If the patient require emergency or special equipment, such as oxygen or suction ,prepare it for use.

A. **ADMITTING THE ADULT PATIENT**

1. When the patient arrives on the unity greet him by his proper name and introduce yourself and any staff present.

   Be sure to speak slowly and clearly.
2. Compare the name of the patient and hospital number on the patient's identification bracelet with that listed on the admission form. Notify the admission office of any corrections.
3. Quickly review the admission form and the doctor's orders. Note the reason for admission, any restrictions on activity or diet, and any orders for diagnostic tests requiring specimen collection.
4. Accompany the patient to his room and introduce him to his roommates if his not in great distress. Then wash your hands and help him change into a hospital gown or pajamas; if the patient is sharing a room, provide privacy.

   Itemize all valuables, clothing on the nursing assessment form, if the hospital doen't use such a form, itemize the patient's belongings in your notes. Encourage the patient to store valuables or money in the hospital safe or, preferably, to send them home. Show the ambulatory patient where the bathroom and toilet are located.
5. Take and record the patient's vital signs and parameters (height and weight) and collect specimens if ordered. If the patient can't stand, use a chair or bed scale and ask him his height.
6. Show the patient how to use the equipment in his room. Be sure to include the call system, bed controls, TV controls, telephone and lights.
7. Explain the hospital routine. Tell the patient when to expect meals, vital signs check, and medications. Inform him of the visiting hours and any restrictions on visiting.

8. Take a complete patient history and follow with a physical assessment.
9. After assessing the patient, inform him of any tests that have been ordered and when they are scheduled.
10. Before leaving the patient‘s room, make sure he is comfortable and safe.
11. Post patient care reminders (concerning such topics as allergies, dietary restriction, fluids restriction, complete bed rest or special needs) at the patient bed side to notify co-workers.

### B. ADMITTING THE PEDIATRIC PATIENT

1. The initial goal when admitting child is to establish a friendly, trusting relationship with child and his parents to help relieve fears and anxiety which can hinder the treatment. Remember that a child under age 3 may fear separation from his parents; an older child may worry about what will happen to him in the hospital.
2. Speak directly to the child and allow him to answer questions before obtaining more information from his parents.
3. While orienting the parent and child to the unity, describe the layout of the room and bathroom’ and tell them the location of the playroom, television room.
4. Teach the child how to call the nurse
5. Explain the institution‘s rooming-in and visiting policies, so the parents can take every opportunity to be with their child.
6. Inquire about the child’s usual routine so that favorite foods, bedtime rituals, toileting and adequate rest can be incorporated into the hospital routine.
7. Encourage the parents to bring some of their child’s favorite toys, blankets, or other items to the hospital to make the child feel more than at home.

**N.B. ADMISSION NURSING ASSESSMENT:** A comprehensive admission assessment, also referred to as initial data base, or nursing assessment is completed when the client is admitted to the nursing unit. The nurse generally records **ongoing assessments** or reassessments on flow sheets or on nursing progress notes.

### ❖ SPECIAL CONSIDERATIONS DURING ADMISSION

- Look for the interpreter for the patient who doesn’t know the spoken language
- The patient admitted in emergency department requires different procedures than the patients admitted in other department.

- If patient bring medication from home, take any inventory and record this information on nursing assessment form. Instruct the patient not to take any medication unless authorized by the doctor

❖ **DOCUMENTATION**

- After leaving the patient's room, complete the nursing assessment form or your notes as specified by your institution.
- The complete form should include the patient's vital signs, height, and weight, allergies, drug and health history, a list of his belongings and those that he sent home with family members, the results of your physical assessment, and a record of specimens collected for diagnostic tests.

## 2. DISCHARGE

Discharge from hospital is a process, not an isolated event. It involves the development and

implementation of a plan to facilitate the transfer of an individual from hospital to an alternative

setting where appropriate. Components of the system (family, carers, hospitals, primary care

providers, community services and social services) must work together

Although discharge from the hospital is usually considered routine, effective discharge requires careful planning and continuing assessment of the patient's needs during his hospitalization.

✓ **Discharge planning aims:**

- To teach the patient and his family about his illness and its effect on his life- style.
- To provide instructions for home care
- To communicate dietary or activity instructions
- To explain the purpose, adverse effects , and scheduling of drug treatment

It can also include arranging for transportation, follow up care if necessary, and coordination of outpatient or home health care services.

✓ **The core principles for effective discharge planning are:**

- A patient's use of a hospital bed and their discharge should be planned before their admission, where possible.
- The estimated date of discharge should be documented and communicated to the patient and relevant personnel within 24 hours of admission.

- Discharge should be "streamlined" (e.g. prescriptions and letter should be completed in a timely manner, transport booked and test results made available promptly).
- Complex discharges should be discussed at a regular multidisciplinary forum to ensure discharge is expedited.

✓ **Good discharge management is vital to ensure:**

- Patient satisfaction;
- Bed availability for emergency and elective admissions; and
- Quality of patient care remains high

### 3. EQUIPMENT

Wheelchair, patient's chart, patient instruction sheet, discharge summary sheet, plastic bag or patient's suitcase for personal belongings.

### 4. IMPLEMENTATION

✓ Before the day of discharge, inform the patient's family of the time and date of discharge for transportation arrangement.

✓ Obtain a written discharge order from the doctor.

✓ If the patient requires home medical care, confirm arrangements with the appropriate community agency or hospital department.

✓ On the day of discharge, review the patient's discharge care plan, with the patient and his family. List prescribed drugs on the patient instruction sheet along with the dosage, prescribed time schedule, and adverse reactions that he should report to the doctor.

✓ Review procedures the patient or his family will perform at home. If necessary, demonstrate these procedures, provide written instructions, and check performance with a return demonstration.

✓ List dietary and activity instructions, if applicable, on the patient instruction sheet, and review the reasons for them. If the doctor orders bed rest, make sure the patient's family can provide daily care and will obtain necessary equipment.

✓ Check with the doctor about the patient's next office appointment; if the doctor hasn't yet done so, inform the patient of the date, time and location.

✓ Retrieve (get back) the patient's valuables from the hospital safe and review each item with him. Then obtain the patient's signature to verify receipt of his valuables.

✓ If appropriate, take and record the patient's vital signs on the discharge summary form. Notify the doctor if any signs are abnormal. If necessary, the doctor may alter the patient's discharge plan.

- ✓ Help the patient get dressed if necessary
- ✓ Collect the patient's personal belongings from his room, compare them with the admission inventory of belongings, and help place them in his suitcase or a plastic bag.
- ✓ Help the patient into the wheelchair, and escort (accompany) him to the hospital's exit.
- ✓ After the patient has left the area, strip the bed linens and notify the housekeeping staff that the room is ready for terminal cleaning.

o **DISCHARGE TEACHING GOALS**

Your discharge teaching should aim to ensure that the patient:

- Understands his illness
- Complies with his drug therapy
- Carefully follows his diet
- Manages his activity level
- Understands his treatments
- Recognizes his need for rest
- Knows about possible complications
- Knows when to seek follow-up care

**N.B.** Remember that your discharge teaching must include the patient's family or other caregivers to ensure that the patient receives proper home care.

o **SPECIAL CONSIDERATION**

Whenever possible, involve the patient's family in discharge planning so they can better understand and perform patient's care procedures. Before the patient is discharged, perform a physical assessment. If you detect abnormal signs or the patient develops new symptoms, notify the doctor and delay discharge until he has seen the patient.

o **DOCUMENTATION**

Although hospital policy determines the extent and form of discharge documentation, you'll usually record the time and date of discharge, the patient's physical condition, special dietary or activity instructions, the type and frequency of home care procedures, the patient's drug regimen, the dates of follow up appointments, the mode of departure and name of the patient's escort, and a summary of the patient's hospitalization if necessary.

## 5. DOCUMENTATION

Client care requires effective communication among members of the health care team. Effective communication among health professionals is vital to the quality of client care. Effective communication takes place along three approaches:

- **A client's record or chart:** is a confidential, permanent legal documentation of information relevant to a client's health care. Information about the client's health care is recorded after each client contact.
- **Reports:** are oral, written, computer-based communication or audiotaped exchanges of information between caregivers.. Common reports given by nurses include change-of-shift reports, telephone reports, transfer reports, and incident reports.
- **Discussion:** is an informal oral consideration of a subject by two or more health care personnel to identify a problem or establish strategies to resolve a problem.

– **Consultations**: are another form of discussion whereby one professional caregiver gives formal advice about the care of a client to another caregiver.

A **RECORD,** also called a **CHART** or **CLIENT RECORD,** is a formal, legal document that provides evidence of a client's care and can be written or computer based.

**DOCUMENTATION:** Is anything written or printed that is relied on as record or proof for authorized persons. Documentation within a client medical record is a vital aspect of nursing practice. The process of making an entry on a client record is called **recording**, **charting** or **documenting**.

Nursing documentation must be:

- ✓ Accurate,
- ✓ Comprehensive
- ✓ Flexible enough to retrieve critical data
- ✓ Maintain continuity of care
- ✓ Track client outcomes
- ✓ Reflect current standards of nursing practice.

Effective documentation ensures continuity of care, saves time, and minimizes the risk of errors.

### ❖ CONFIDENTIALITY

Nurses are legally and ethically obligated to keep information about clients confidential. Nurses may not discuss a client's examination, observation,

conversation, or treatment with other clients or staff not involved in the client's care. **Only staff directly involved in a specific client's care have legitimate access to the records.** Clients frequently request copies of their medical records, and they have the right to read those records. When nurses and other health care professionals have a legitimate reason to use records for data gathering, research, or continuing education, appropriate authorization must be obtained according to agency policy. In most situations, clients are required to give written permission for release of medical information. For computer documentation keep your password to yourself and once logged into the computer, do not leave the computer screen unattended.

❖ **PURPOSES OF CLIENT RECORDS:**

Client records are kept for a number of purposes including communication, planning client care, auditing health agencies, research, education, reimbursement, legal documentation, and health care analysis.

- **Communication:** the record is a means by which health care team members communicate client needs and progress, individual therapies, content of conferences, client education, and discharge planning.
- **Legal documentation:** The client's record is a legal document and is usually admissible in court as evidence. Accurate documentation is one of the best defenses for legal claims associated with nursing care. To limit nursing liability, nursing documentation must clearly indicate that individualized, goal-directed nursing care was provided to a client based on the nursing assessment. The record needs to describe exactly what happened to a client.
- **Financial billing or Reimbursement:** The nurse's contribution to documentation can help clarify the type of treatment a client receives and help support the reimbursement to the health care agency. Medical records are also audited to review financial charges used in the client's care.
- **Education:** A client's record contains a variety of information, including diagnoses, signs and symptoms of disease, successful and unsuccessful therapies, diagnostic findings, and client behaviors. An effective way to learn the nature of an illness and the individual client's response to it is to read the client care record.
- **Research:** Statistical data relating to the frequency of clinical disorders, complications, use of specific medical and nursing therapies, recovery from illness, and deaths can be gathered from client records.
- **Auditing-Monitoring:** An audit is a review of client records for quality assurance purposes. Quality improvement programs keep nurses informed of standards of nursing practice to maintain excellence in nursing care. Nurses

monitor or review records throughout the year to determine the degree to which quality improvement standards are met. Deficiencies identified during monitoring are shared with all members of the nursing staff so that corrections in policy or practice can be made.

- **Planning of care:** Each health professional uses data from the client's record to plan care for that client.
- **Health care analysis:** Information from records may assist health care planners to identify agency needs, such as over utilized and underutilized hospital services.

### ❖ GENERAL GUIDELINES FOR RECORDING

Because the client's record is a legal document and may be used to provide evidence in court, many factors are considered in recording. Health care personnel must not only maintain the confidentiality of the client's record but also meet legal standards in the process of recording:

- ✓ **Date and time:** Document the date and time for each recording. This is essential not only for legal reasons but also for client safety.
- ✓ **Timing:** As a rule, documenting should be done as soon as possible after an assessment or intervention. No recording should be done **before** providing nursing care.
- ✓ **Legibility:** All entries must be legible and easy to read to prevent interpretation errors.
- ✓ **Permanence:** All entries in the client's record are made in dark ink so that the record is permanent and changes can be identified. *Ink cannot be erased ; black ink is more legible when records are photocopied or transferred to microfilm.* Follow the agency's policies about the type of pen and ink used for recording. Accepted terminology: Abbreviations are used because they are short, convenient and easy to use. Even though using abbreviations is convenient, medical abbreviations have been responsible for serious errors and deaths (Kuhn, 2007,p. 393). Therefore, it is important to use only commonly accepted abbreviations, symbols and terms that are specified by the agency.
- ✓ **Correct spelling:** If unsure how to spell a word, look it up in a dictionary or other resource book. Two decidedly different medications may have similar spelling; for example, Fosamax and Flomax. Incorrect spelling gives a negative impression to the reader and, thereby decreases the nurse's credibility.
- ✓ **Signature:** Each recording on the nursing notes is signed by the nurse making it. The signature includes the name and title, for example, “ Susan J. Green, RN”. RN=Registered Nurse

- ✓ **Accuracy:**

  - The client's name and identifying information should be stamped or written on each page of the clinical record. Before making any entry, check that it is the correct chart by checking the client's name and room number.
  - Notations on records must be accurate and correct
  - Correct all errors promptly. Errors in recording can lead to errors in treatment. When a recording mistake is made, draw a single line through it to identify it as erroneous with your initials or name above or near the line (depending on agency policy). Then record note correctly.
  - Do not erase, use correction fluid or scratch out errors made (blot out) while recording. *Rationale:* Charting becomes illegible: it may appear as if you were attempting to hide information or deface record. The original entry must remain visible. *Correction*: Draw single line through error and sign your name or initials above or near the line. Then record note correctly.
  - Write on every line but never between lines. If a blank appears in a notion, draw a line through the blank space so that no additional information can be recorded at any other time or by any other person, and sign the notation. Chart consecutively, line by line; if space is left, draw line horizontally through it and sign your name at end.

**CLINICAL ALERT:** Avoid writing the word ***error*** when a recording mistake has been made. Some believe that the word ***error*** is a "red flag" for juries and can lead to the assumption that a clinical error has caused a client injury.

- ✓ **Sequence:** Document events in the order in which they occur, for example records assessments, then the nursing interventions, and then the client's responses.
- ✓ **Appropriateness:** Record only information that pertains to the client's health problems and care. Any other personal information that the client conveys is inappropriate for the record.
- ✓ **Completeness:** Not all data that a nurse obtains about a client can be recorded. However, the information that is recorded needs to be complete and helpful to the client and health care professionals. Nurses' notes need to reflect the nursing process. Record all assessments, dependent and independent nursing interventions, client problems, client comments and responses to interventions and tests, progress toward goals, and communication with other members of the health team. Chart all teaching, record the client's actual words by putting quotes around the words.

- N.B. Care that is ***omitted*** because of the client's condition or refusal of treatment must also be recorded. Document what was omitted, why it was omitted, and who was notified.

✓ **Conciseness:** Recordings need to be brief as well as complete to save time in communication.

✓ **Legal prudence:** Accurate, complete documentation should give legal protection to the nurse, the client's other caregivers, the health care facility and the client. For the best legal protection, the nurse should not only adhere to professional standards of nursing care but also follow agency policy and procedures for intervention and documentation in all situations.

- **CLINICAL ALERT**: Complete charting, for example, by using the steps of nursing process as a framework, is the defense against malpractice.

✓ **Chart only for yourself**: You are accountable for information you enter into chart. Never chart for someone else (exception : if caregiver has left unit for day and calls with information that needs to be documented, include the name of the source of information in the entry and include that the information was provided via telephone).

### ❖ DOCUMENTATION FORMS

The client record should describe the client's ongoing status and reflect the full range of the nursing process. Regardless of the records system used in an agency, nurses document evidence of the nursing process on a variety of forms throughout the clinical record. The following are a variety of documentation forms:

1. ADMISSION NURSING ASSESSMENT
2. NURSING CARE PLANS
3. KARDEXES
4. FLOW SHEETS
5. PROGRESS NOTES
6. NURSING DISCHARGE/ REFERRAL SUMMARIES

- **KARDEX:** The Kardex is a widely used, concise method of organizing and recording data about a client, making information quickly accessible to all health professionals. The system consists of a series of cards kept in a portable index file or on computer-generated forms. The Kardex may or may not become a part of the client's permanent record. In some organizations it is a temporary worksheet written in pencil for ease in recording frequent changes in details of a client's care. The information on Kardexes may be organized into sections,

for example:

- Pertinent information about client identification
- Allergies
- List of medications, with the date of order and the times of administration for each
- List of intravenous fluids, with dates of infusions
- List of daily treatments and procedures
- List of diagnostic procedures ordered
- Etc…

N.B. Whether the Kardex is a written paper or computerized, it is important to have a place on it to record dates and the initials of the person reviewing or revising it.

- **FLOW SHEETS**: A Flow sheet enables nurses to record nursing data quickly and concisely and provides an easy-to-read record of the client's condition over time.

  Examples of Flow Sheets:

- **Graphic Record**: most often used to record vital signs and parameters
- **Intake and Output Record**: all routes of fluid intake and all routes of fluid loss or output are measured and recorded on this form
- **Medication Administration Record:** To record medications being administered to the client.

## 1.8 Answers to end unit assessment

**Answers to the End-unit assessment**

1) Answers to the case of Mrs. UWIMANA

a) Nursing is as profession within the health care sector focused on the care of individuals, families, and communities so they may attain, maintain, or recover optimal health and quality of life.

b) The nurses role in the scenario are:
- Patient advocator
- Teacher/educator
- Collaborator
- Caregiver
- Communicator
- Counsellor

c) Theories referred to in the scenario are:

- Florence Nightingale: the nurse received the patient in clean environment with fresh air and light.
- Jean Watson: The nurse cared for the patient immediately without any delay and gave her medications and fluids.
- Hildegard Peplau: The nurse took time to listen to the patient issue of payment and clothes and assured her for assistance.
- Virginia Henderson: need theory: The nurse helped the patient to move to a flat bed, a clean place with fresh air, gave her fluids.
- Dorothea Orem: The nurse helped the patient who was unconscious.

2) Three periods of nursing evolution are:

- Early Christian age
- Middle age
- The dawn of modern Nursing

3) 1. d
2. c
3. b
4. a

4)
1. d
2. e
3. b
4. a
5. c

## 1.9 Additional activities

### 1.9.1 Remedial Activities:

**Q 1.** Defined as a belief, policy, or procedure proposed or followed as the basis of action. It is an organized framework of concepts and purposes designed to guide the practice of nursing.

a. Nursing
b. Theory
c. Nursing theory

d. Paradigm

Q 2. What best describes nurses as a care provider?

a. Determine client's need
b. Provide direct nursing care
c. Help client recognise and cope with stressful psychological situation.
d. Works in combined efforts with all those involved in patient's care.

Q 3. The four major concepts in nursing theory are:

a. Person, environment, nurse, health.
b. Nurse, person, environment, cure
c. Promotive, preventive, curative, rehabilitative.
d. Person, environment, nursing, health.

Q 4. "Nursing is therapeutic interpersonal process". This definition was stated by:

a. Faye Glen Abdelah
b. Jean Watson
c. Hildegard Peplau
d. M. Rogers

Q 5. The act of utilising the environment of the patient to assist him in his recovery is theory by:

a. Nightingale
b. Benner
c. Jean Watson
d. Dorothea Orem.

Q 6. The unique function of the nurse it to assist the individual, well or sick in the performance of those activities contributing to health that he would perform unaided if he has the necessary strength, will and knowledge, and do this in such a way as to help him gain independence as rapidly as possible.

a. Virginia Henderson
b. Hildegard Peplau
c. Jean Watson
d. Dorothea Orem

Q 7. In Virginia Henderson's 1966 definition of nursing, a person/client has which of the following numbers of fundamental needs?

a. 7
b. 14

c. 18
d. 22

Q 8. “Nursing is therapeutic interpersonal process”. This definition was stated by:

a. Virginia Henderson
b. Hildegard Peplau
c. Jean Watson
d. Faye Glen Abdelah

Q 9. Who is the author of human caring theory?

a. Virginia Henderson
b. King Imogene
c. Jean Watson
d. Faye Glen abdelah

**Answers to remedial activities.**

| | | |
|---|---|---|
| 1 c | 4 c | 7 b |
| 2 b | 5 a | 8 b |
| 3 d | 6 a | 9 c |

### 1.9.2 Consolidation activities:

The following questions will be asked to the whole class for deep development of competences.

Q 1. Nursing practice is based on………

a. Nursing science
b. Concepts
c. Theory
d. Research

Q 2. What are concepts common in nursing theory? (Select all that apply)

a. Knowledge
b. Health
c. Nursing
d. Person/patient
e. Environment.

Q 3. Which of the following statements is related to Florence Nightingale?

a. Nursing care becomes necessary when client is unable to fulfil biological, psychological, developmental, or social needs.
b. Nursing is the science and practice that expands adaptive abilities and enhances person and environment transformation
c. Nursing is therapeutic interpersonal process
d. The role of nursing is to facilitate "the body's reparative processes" by manipulating client's environment.

Q 4. Who developed the first theory of nursing?

a. Nightingale
b. Benner
c. Jean Watson
d. Dorothea Orem.

Q 5. Florence Nightingale believed the environment to be?

a. Either a negative or positive influence on the person
b. Those aspects outside the person that affect health
c. An external force which affects the person's health
d. All of the above

Q 6. According to Nightingale's philosophy, a nurse should consider which of the following factors when caring for a person who is ill?

a. The person's emotional state
b. The environment in which the person lives
c. The person's social network
d. All of the above

Q 7. Which is an example of Dorothea Orem's theory of self-care deficit?

a. A nurse asks a patient how much she can do herself following a stroke
b. A nurse performs total care on a stoke patient to conserve patient\s energy.
c. A nurse leaves a stroke patient to walk to the bathroom and shower by herself.
d. A nurse enables a stroke patient to wash up in a bed by providing a bath wipe.

Q 8. In few words summarize what happened in the dawn of modern nursing.

Q 9. Read the case study of Mrs F., by using Virginia Henderson's theory of need, fill the table below.

Mrs. Fatuma 19 year's old female client was admitted in the medical unit, with

attempted suicide. Two weeks ago, she consumed toilet cleaner because of a family dispute. Mrs. Fatuma lived a rural area and had secondary schools. At admission time, her mother informed that her marriage was planned one week before the incident with unwilling to share the reason for her suicide according to the nurse observation and interpretation; but stated that she was worried and frustrated one day prior to attempt kill herself. Later on, her mother reported that she was impulsive and emotional person and no problem with her fiancé and the family was willing for her marriage. Her physical assessment revealed alert, oriented but depressed female. Her chief complaints were difficulty in breathing. Her medical investigations showed damaged larynx, mouth and stomach ulcers. The dietician advised liquid diet but Mrs. Fatuma a showed dislike and resisted eating. Due to her limited intake, Foley's catheter was passed for accurate record of urine and diapers to avoid to pass tools in bed. She was noncompliance towards her intake and developed dehydration, irritability and insomnia as evidenced by dry mouth, sunken eyes with dark circles around

| Virginia Henderson's 14 Needs | Mrs FATUMA findings related to 14 needs |
|---|---|
| 1. Breathing normal | |
| 2. Eat and drink adequately | |
| 3. Elimination of body wastes | |
| 4. Movement and posturing | |
| 5. Sleep and Rest | |
| 6. Select suitable clothes –dress and undress | |
| 7. Maintain body temperature | |
| 8. Keep the body clean and well groomed | |
| 9. Avoid danger in the environment | |
| 10. communication | |
| 11. Worship according to one's Faith | |
| 12. Work accomplishment | |
| 13. Play or participate in various forms of recreation | |
| 14. Learn, discover, or satisfy the curiosity | |

**Answers to Consolidation activities.**

The following are answers for Q1 to Q7

| | | | |
|---|---|---|---|
| **1c** | **3d** | **5c** | **7b** |
| **2b, c, d, e** | **4a** | **6d** | |

Q8 answers

- Nursing recognized as an official profession laid by Florence nightingale.
- Florence Nightingale initiated holism in nursing (treating the whole patient)
- Florence Nightingale opened the first nursing school (Nightingale school for nurses)
- Establishment of regulations for learning and practice of nursing.
- Setting standards of care for patients.
- Today nursing is no longer one thing, it has specialties (nurses may choose to study pediatric, cardiology, oncology, neonatology, etc.)
- Today nursing is independent (it is no longer depending to physicians).
- Today nursing is a strong field with a wide range of duties and responsibilities

Q9 answers

| Virginia Henderson's 14 Needs | Mrs FATUMA findings related to 14 needs |
|---|---|
| 1. Breathing normal | She is experiencing difficulty breathing. |
| 2. Eat and drink adequately | She shows dislikes and resisted eating |
| 3. Elimination of body wastes | Foley's catheter is in place and diapers in use. |
| 4. Movement and posturing | Her mother is there to assist her. |
| 5. Sleep and Rest | Insomnia with dark circles around |
| 6. Select suitable clothes – dress and undress | Her mother is there to assist her. |
| 7. Maintain body temperature | No signs of hyperthermia or hypothermia. |
| 8. Keep the body clean and well groomed. | She has no problem with cleanliness and grooming. |
| 9. Avoid danger in the environment | History of attempted suicide. |

| | |
|---|---|
| 10. communication | Difficult in speaking due to damaged larynx and mouth. (Her mother speaks on her behalf). |
| 11. Worship according to one's Faith | Her hope is down, she is trying to kill herself. |
| 12. Work accomplishment | Depressed, in bed, not able to work. |
| 13. Play or participate in various forms of recreation | Depressed, not able to participate in any form of recreation activity. |
| 14. Learn, discover, or satisfy the curiosity | She is depressed not able to cope with stress. |

### 1.9.3 Extended activities

Q 1. Watson's curative factors include all the following, EXCEPT:

a. Forming humanistic-altruistic value system
b. Instilling faith-hope
c. Cultivating sensitivity to self and others
d. Strengthening flexible lines of defense

Q 2. Who acted to decrease mortality by improving sanitation in the battlefields, which resulted in a decline in illness and infection?

a. Dorothea Dix
b. Lillian Wald
c. Clara Barton
d. Florence Nightingale

Q 3. Nightingale's philosophy may be credited for formulating early ideas about which of the following concepts?

a. Selflessness
b. Wholism
c. Dualism
d. Cultural competence

Q 4. According to Nightingale's philosophy, what role does nature play in illness?

a. Nature causes a person to become ill as a reaction to other factors.
b. Nature causes a person to become ill as a punishment for immoral behaviour.
c. Nature plays a role in healing.

d. Both A and C

Q 5. A group of nursing students was discussing the functions of nursing theories. Which statement below would give impression a student requires more review of the material?

a. Nursing theories help guide professional practice by interpreting evidence
b. Nursing theories have little effect on decision making in practice.
c. Nursing theories are influenced by personal values and beliefs
d. Nursing theories influence professional behaviours.

**Answers to Extended activities.**

Answers from Q1 to Q5

1d 2d 3b 4d 5b

# UNIT 2 HYGIENE AND COMFORT CARE OF THE CLIENT/PATIENT

## 2.1 Key unit competence

Perform the Nursing care procedures related to hygiene and comfort of the client/ patient.

## 2.2 Prerequisites (knowledge, skills, attitudes and values)

The leaners should have learnt the human anatomy and physiology of the integumentary, musculoskeletal, digestive, and genito-urinary systems. Learners should have also learnt the theories in nursing and should be able to respect the principles of nursing theories in nursing practice and the principles of ethics and professional code of conduct.

## 2.3 Cross-cutting issues to be addressed

### a) Inclusive education

This unit involves the hygiene and comfort care techniques these techniques requires learners to be well prepared regarding materials preparation, and procedures performance, teacher will makes groups of learners and students with lower limb disability will be mixed with other students, then during the time of performance they will work as team and being supported by their colleagues.

### b) Gender education

The learners should be treated equally regardless theirs gender, they can present and report during group activities. Give a role model who are successful in real life without considering their gender, make sure that during the implementation of the procedure both boys and girls shares and participates equally.

### c) Environment and sustainability

Learners get basic knowledge from environment, they understand that the good environment can lead to good life, they have the attitude of keeping cleanness environment in order to prevent infection transmission. Help the learners to know maximum skills and attitudes on the environmental sustainability and to be responsible in caring for patients' environment.

## 2.4 Guidance on the introductory activity

This introductory activity will engage learners in the hygiene and comfort of the client and invite the learners to follow the next lessons.

**Teacher's activity:**

- Put learners into small groups of 5 students and ask them to observe the images and discuss the given questions
- Provide guidance to each group during their discussion
- Request each group to have one member who presents their findings
- Note that students may not be able to provide the right answers, encourage them to think more.

**Expected answers to the introductory activity**

1) If handwashing facilities are not available; hand sanitizer (alcohol at least 60%) may be used for hand rubbing.
2) Comfort care that has been provided to the client are:
   - Bed making
   - Moving patient from Bed to Chair
3)
   a) The care that the nurse is providing the patient is **Complete Bed bath**
   b) Other care that may be provided to that patient are:
   - Bed making
   - Oral care
   - Positioning
   - Moving the patient from bed
   - Assist patient for voiding and elimination: assist patient to use bedpan or urinal

## 2.5 List of lessons/subheadings (including assessment)

| # | Lesson title | Learning objectives | Number of periods |
|---|---|---|---|
| 1 | **Hands hygiene and gloving** | Explain the importance of hand washing<br>List the required equipment for hand washing-Identify the WHO 5 moments of washing hands<br>Perform correctly hand washing technique<br>Apply correctly the techniques of gloves wearing | 2 |

| 2 | **Bed making** | Explain the purpose of bed making<br>List the equipment for bed making<br>Outline the principles of bed making -Explain the types of bed making<br>Make patients 'bed according to their specific status and conditions | 3 |
|---|---|---|---|
| 3 | **Complete bath** | Demonstrate empathy and respect of client during the nursing care practice<br>Maintain a grooming appearance<br>and their purposes<br>explain the principles of bed bath<br>Carry out techniques of patient complete bath | 2 |
| 4 | **Partial bed bath** | Explain the principles of patient bath<br>Explain the categories of bath given to clients<br>Carry out the partial bed bath techniques | 2 |
| 5 | **Bed sores** | Define bed sores<br>Enumerate the risk factors for developing bed sores<br>Describe different stages of bed sores development<br>Explain the management of bed sores<br>Apply preventive measures of bed sores | 2 |
| 6 | **Moving and positioning patient in bed** | Explain different types of patient's positions in bed , their indications/ contra indications and importance<br>Move and Position patients according to their status and conditions<br>Demonstrate safety precautions to prevent injuries | 3 |

| | | | |
|---|---|---|---|
| 7 | **Application of local heat and cold** | Demonstrate self- control while caring for patients<br>Define local heat and cold application<br>Explain the goals of local heat and cold application<br>Identify guidelines for local heat and cold application<br>Carry out techniques of local cold and heat application<br>Describe the techniques of local heat and<br>cold application, their indications and contraindications | 3 |
| 8 | **Assisting patient to eliminate** | Respect patient's privacy during nursing care provision Demonstrate responsibility and accountability<br>Perform correctly hygiene of stomies<br>Define Enema<br>Explain the types of enema<br>Identify indications and contra-indications of enema<br>Describe the complications of enema | 3 |
| 9 | **Skills lab** | Correctly demonstrate procedures taught in unit 2 (all procedures)<br>Demonstrate empathy while caring for patient<br>Understand the needs of the patient while providing care<br>Demonstrate communication and collaboration skills towards patients, care givers and staff | 23 |
| 10 | **End unit assessment (OSCE + Theory)** | Perform Nursing care procedures related to hygiene and comfort of the client/patient | 7 |

## Lesson one. *Hands hygiene and gloving*

This first lesson of the UNIT 2: and will be taught in one period (40 minutes). However, it has got practical part of hand hygiene (Hand washing and hand rubbing) and hand gloving (non-sterile and sterile hand gloving); students will get additional time in skills lab hours to self-practice more.

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Explain the importance of hand washing
- List the required equipment for hand washing-Identify the WHO 5 moments of washing hands
- Perform correctly hand washing technique
- Apply correctly the techniques of gloves wearing

**b) Teaching resources**

Teaching videos, simulation lab materials, projectors, screen, Hand washing facility (soap, water, towel), alcohol based sanitizer, non-sterile gloves and sterile gloves

**c) Prerequisites/Revision/Introduction**

The main objective of this lesson is to equip learners with the knowledge, skills and attitude of hand hygiene as a way of preventing contamination and infections through systematic procedures of hand washing and/or rubbing and gloving. Learners should be knowing the importance of hand hygiene.

**d) Learning activities 2.1.**

**Guidance**

Before introducing the first lesson, the teacher should have introduced the whole unit. After introducing the whole unit, the teacher has to introduce this lesson starting from the learning activity 2.1.:

- Teacher prepare the skills lab with hand washing station, hand rubbing materials, projector, non-sterile gloves and sterile gloves.
- Teacher makes small groups of 6 students and provide the copies of images of WHO five moment of hand washing, hand rubbing steps, hand washing steps and the scenario of Mr Paul (patient) and Mrs Mary (nurse) from the **learning activity 2.1.**
- Teacher instructs students to observe and read these copies to attempt the given questions
- Each group appoints one member to present what they have discussed and perform handwashing or rubbing steps as mentioned on the shared images

and try to wear proper gloves. The teacher will allow learners to first present/demonstrate while encouraging learners to compare their responses among groups.

- The teacher should base on the answers provided by the student and build from what they know to make way of new knowledge and skills.

**Answers to learning activity 2.1.**

1)
   a. **Hand washing**: is the act of cleaning hands using soap and clean water to removes harmful germs (viruses, bacteria, and other germs), dirt, grease, or other harmful and unwanted substances stuck on the hands. After washing the hands should be dried.

   b. **Hand rubbing**: Is the act of cleaning hands using an alcohol-containing preparation (liquid, gel or foam) designed for application to the hands to inactivate microorganisms and/or temporarily suppress their growth.

2) Five moments of handwashing by WHO are:
   - Before touching a patient
   - Before performing any procedure
   - After performing a procedure or being exposed to body fluids
   - After touching a patient
   - After touching patient's surrounding

3) The technique of handwashing and hand rubbing

The teacher refers to the techniques mentioned by the figures and provide correction to steps based on the checklist provided in students book while also referring to what student know about hand hygiene.

4) The importance of wearing gloves are:
   - To prevent infectious micro-organisms transmission by
     - Protecting nurses' hands when exposed to patient's body fluids or handling contaminated substances.
     - Reducing the likelihood of transmitting micro-organisms from nurses to the patients and vice versa
     - Reducing the possibility of transmitting from one patient to the other.

**Answers to self-assessment 2.1.**

1) The answer is **a. Rationale:** hand washing should precede any procedure. In addition wearing gloves does not mean skipping washing hands.

2) Hand washing and hand rubbing are all measures to ensure the hand hygiene, however they are different. The table below summarize the difference

| Aspect | Hand washing | Hand rubbing |
|---|---|---|
| Time | 40-60 seconds | 20-30 seconds |
| Material used | Soap, water and towel | Alcohol based sanitizer |
| Effect on germs | Effectively remove dirt, microbes and chemicals | More precise at killing bacteria and most viruses |
| Preference | When hands are soiled | When hands are clean |
| Drying | Need of single use paper dryer | No need of single use paper dryer |

**WHO five moments of hand washing.**

**Moment 1 - before touching a patient**: Perform hand hygiene on entering the patient's zone before touching the patient in order to protect the patient against acquiring harmful germs from the hands of the nurse

**Moment 2 - before a procedure**: Immediately before a procedure. Once hand hygiene has been performed, nothing else in the patient's environment should be touched prior to the procedure starting. The aim is to protect the patient from potential pathogens (including their own) from entering their body during a procedure

**Moment 3 - after a procedure or body fluid exposure risk:** Hand hygiene should be done immediately after a procedure or body fluid exposure risk as hands could be contaminated with body fluid. Even if you have had gloves on you should still perform hand hygiene after removing them as gloves are not always a complete impermeable barrier. Hands may also have been contaminated in the process of removing the gloves.

The aim is to protect yourself and the healthcare surroundings from becoming contaminated with potential pathogens

**Moment 4 - after touching a patient:** Hand hygiene should be done after touching a patient. Perform hand hygiene before you leave the patient zone in order to protect yourself and the healthcare surroundings from becoming contaminated with potential pathogens.

**Moment 5 - after touching a patient's surroundings:** Hand hygiene should be done after touching a patient's surroundings even when the patient has not been touched.

Always ensure hand hygiene before leaving the room to protect yourself and the healthcare surroundings from becoming contaminated with microorganisms.

1) The nurse should wash his or her hands or perform an alcohol-based hand rub and then wear clean gloves **to prevent the transmission of infections**

2) The Answer is **a. RATIONALE:** hand rubbing is the fastest and greatest reduction in microbial counts on the skin.

**e) Skills lab**

During the skills lab practices, the teacher work with the skills lab based staff and other teacher to facilitate the independent practices of students. There will be printed procedural techniques checklists as written in the student's books, and the skills lab will be informed one day before the practice for they can prepare accordingly.

Teacher and teaching team will set more than two stations depending the availability of materials. The hand hygiene (hand washing, hand rubbing) and hand gloving will practiced in **one period.**

## Lesson two. *Bed making*

As a continuation of UNIT 2: from the hand hygiene and gloving, bed making is also one of the basic skills that a nurse should possess and hygiene of the bed contribute largely to the comfort and safety of the client.

a) Learning objectives

At the end of this lesson, learner should be able to:

- Explain the purpose of bed making
- List the equipment for bed making
- Outline the principles of bed making -Explain the types of bed making
- Make patients 'bed according to their specific status and conditions

b) Teaching resources

Teaching videos, simulation lab materials, mannequins, projectors, screen, bed making equipment (bed linens, pillow cases, blanket, whipping towel, and kidney dish) privacy materials, hand hygiene facilities and non-sterile gloves.

c) Prerequisites/Revision/Introduction

Hygiene of the bed where the client sleep is of great importance for both the client

himself and the health care givers. The teacher ask the student what they believe as benefits of bed making to the client/Patient and build from that to introduce the **learning activity**

d) Learning activities 2.2.

**Guidance**

- Teacher prepare the skills lab with hand washing station, hand rubbing materials, projector, non-sterile gloves and bed making equipment.
- Teacher makes small groups of 6 students and provide the copies of image from the question one and the scenario of question two from the **learning activity 2.2.**
- Teacher instructs students to observe and read these copies to attempt the given questions
- Each group present their findings, and the teacher will allow 2 from the 5 groups to demonstrate unoccupied bed making while allowing learners to discuss.
- The teacher should base on the answers provided by the student and build from what they know to make way of new knowledge and skills.
- Teacher identifies the weaknesses with students and using the checklist try to address them while correcting them.
- The teacher will also introduce the technique of occupied bed making by simulating a bed occupied by mannequin and ask student to make it while teacher providing guidance.

**Answer to leaning activity 2.2.**

**Question one**

1) Purpose of bed making are:
    - To provide comfort to the client
    - To facilitate movement of the patient
    - To alleviate pain
    - To conserve patient's energy and to maintain current health status
    - To reduce risk of infection
    - To prevent bed sores
2) Materials and equipment observed in the image
    - Hospital beds
    - Pillow+
    - Trolley

- Clean linens
- chairs

3) Difference between images
   - **Image A:** two nurses making a bed, one nurse making an occupied bed, two nurses making occupied bed and one unoccupied bed.
   - **Image B:** an unoccupied bed which is well made.
   - **Image C**: an unoccupied bed being made by the Nurse
   - **Image D:** shows an unoccupied bed which is not made (disorganized)
4) The students tries to do bed making while teacher providing guidance using the checklist from the student book.

**Question Two**

5) Yes is possible to change KARINGANIRE's Bed sheets because no contraindication for bed making, every patient required to be in good environment

**Answers to 1) and 3) are in the table below**

| Materials | Its role |
|---|---|
| – *Trolley or/and a chair* | **Trolley** is used for preparing the materials that will be used for bed making if a trolley is not available a tray may be used<br>**Chair** is used to keep cleans linens that will be used |
| – *Two Bed sheets : Bottom sheet and Top sheet,* | For changing the bed sheets to ensure client comfort and hygiene |
| – *Pillow and Pillow cover* | For changing the pillow to ensure client comfort and hygiene |
| – *Mackintosh* | To protect the bottom sheet from being soiled |
| – *Draw sheet* | Should be over the mackintosh |
| – *Blanket* | To cover the patient and to protect him from humidity |
| – *Water in basin* | To clean the bed |
| – *Sponge cloth.* | Material used to clean the bed |
| – *one Kidney dish* | To receive the waste from the bed |
| – *Laundry bag or Bucket* | To keep the soiled linens |
| – *proper gloves* | For protection, to prevent infection |

**Answers to self-assessment 2.2.**

1) The answer is **c. Rationale:** soiled linen should not be shaken in air so as to prevent the microorganisms spread in the air.

2) The answer is **a. Rationale:** of course the bed is occupied by the patient. When the bed is unoccupied, patient is not in bed.

3) The answer is **b. Rationale:** when removing soiled linens, remove them at once not one piece.

4) The answer is **b. Rationale:** to protect yourself from the body fluid**.**

5) The items are:

- Trolley or and chair
- Two bed sheets: bottom and top bedsheet
- Pillow and pillow cover
- Mackintosh
- Draw sheet
- Blanket
- Water in basin
- Sponge cloth
- One kidney dish
- Laundry bag or bucket

6) The student will demonstrate the technique of occupied bed making according to the checklist

e) Skills lab

During the skills lab practices, the teacher work with the skills lab based staff and other teacher to facilitate the independent practices of students. There will be printed procedural techniques checklists as written in the student's books, and the skills lab will be informed one day before the practice for they can prepare accordingly.

Teacher and teaching team will set more than two stations depending the availability of materials. The techniques to practice are *Unoccupied bed making* and *occupied bed making* and they will be practiced f**or two periods.**

## Lesson three. *Complete Bed Bath*

Bathing client is actually not done in sequences; when it should be done for the whole body "*complete bed bath*"*.* However, depending on different circumstances, a patient might need to wash one part of the body *"partial bed bath".* Complete bed bath will be covered in this lesson and the partial bed bath in the following lesson.

Teacher should always remind learners that partial bed bath is not the option to complete bath.

a) Learning objectives

At the end of this lesson, learner should be able to:

- Demonstrate empathy and respect of client during the nursing care practice
- Maintain a grooming appearance and their purposes
- explain the principles of bed bath
- Carry out techniques of patient complete bath

b) Teaching resources

Teaching videos, simulation lab materials, mannequins, projectors, screen, bed bath and bed making equipment (basins, soap, water, towel, bed linens, pillow cases and blanket), water boiler and none sterile gloves.

c) Prerequisites/Revision/Introduction

The skin as the first barrier to microorganisms, should be care for; bathing the body cleanses the waste and promote the comfort of the client. Prior to the introduction of the **learning activity 2.3.1.,** the teacher asks the learners why would bathing client be of great importance, and from that he will introduce the learning activity.

d) Learning activities 2.3.1.

**Guidance**

- Teacher prepare the skills lab with hand washing station, hand rubbing materials, projector, non-sterile gloves and bed bath equipments.
- Teacher makes small groups of 6 students and provide the copies of scenario of from the **learning activity 2.3.1.**
- Teacher instructs students to read carefully and  attempt the given questions
- Each group present their findings while the teacher is basing on the answers provided by the student and build from what they know to make way of new knowledge and skills.
- Teacher identifies the weaknesses with students and using the checklist try to address them while correcting them.
- The teacher will also introduce the technique of bed bath by simulating a bed occupied by mannequin and ask student to perform complete bed bath while teacher is providing guidance.

**Answers to leaning activity 2.3.1.**

1) Purpose of bed bath are:
    - To stimulate the functions of the skin and increase circulation
    - To cleanses the body of dirt, bacteria, dead skin cells, sweat and odors
    - To assess the skin for lesions
    - To make the patient comfortable and relaxed
    - To enhance sleep and rest
    - To improve patient's self esteem
    - To establish nurse-patient relationship
2) Material needed in bed bath are:
    - Two bassins
    - 2 pair of proper gloves
    - Soap
    - Body lotion
    - Clean cloth or hospital gown
    - Bath blanket
    - Bed sheets
    - 2 cloth wash
    - Macintosh
    - 1 bath towel
3) Indications of bed bath:
    - Patient who are physically or mentally impaired
    - Unconscious or semiconscious patients
    - Postoperative patients
    - Patient with strict bed rest
    - Paraplegic patients
    - Orthopedic patients in plaster, cast and traction
    - Severely ill patients
4) The student perform the techniques of bed bathing in skills lab following all steps in the check list

**Answers to Self-assessment 2.3.1.**

1) The answer is **a Rationale:** Cold water is not comfortable to the client; dirty and soapy water should be changed to optimise hygiene
2) The answer is **a. Rationale:** genital are intime parts that should not be exposed to ensure the dignity of the patient
3) The answer is **c. Rationale:** whatever the situation, the care provided must be patient centred; it is always recommended to refer to what the client prefers and decide accordingly.
4) Answers:
   - Provide privacy
   - Maintain safety
   - Maintain warmth
   - Promote independency
   - Anticipate needs

e) Skills lab

During the skills lab practices, the teacher work with the skills lab based staff and other teacher to facilitate the independent practices of students. There will be printed procedural techniques checklists as written in the student's books, and the skills lab will be informed one day before the practice for they can prepare accordingly.

Teacher and teaching team will set more than two stations depending the availability of materials. The technique to practice is complete bed bath for two period.

## Lesson four. *Partial bed bath*

a) Learning objectives

At the end of this lesson, learner should be able to:

- Explain the principles of patient bath
- Explain the categories of partial bath given to clients
- Carry out the partial bed bath techniques (perineal care, shampooing, oral care ,foot care and therapeutic bath )

b) Teaching resources

Teaching videos, simulation lab materials, mannequins, projectors, screen, bed bath and bed making equipment (basins, soap, water, towel, bed linens, pillow cases and blanket), water boiler and non-sterile gloves

c) Prerequisites/Revision/Introduction

As introduced from the previous lesson, partial bed bath may not replace the complete bed bath but may be chosen depending the client's needs.

d) Learning activities 2.3.2.

**Teacher's activity**

- Teacher prepare the skills lab with hand washing station, hand rubbing materials, projector, non-sterile gloves and bed bath equipments.
- Teacher makes small groups of 6 students and provide the copies of scenario of from the **learning activity 2.3.2.**
- Teacher instructs students to read carefully and attempt the given questions
- Each group present their findings while the teacher is basing on the answers provided by the student and build from what they know to make way of new knowledge and skills.
- Teacher identifies the weaknesses with students and using the checklist try to address them while correcting them.
- The teacher will also introduce the technique of perineal bed bath by simulating a bed occupied by mannequin and ask student to perform perineal bed bath while teacher is providing guidance using the checklist.

**Answers to learning activity 2.3.2.**

1) Oral Hygiene will help to :
   - To keep the mucosa clean, soft, moist and intact,
   - To keep the lips clean, soft, moist and intact,
   - To prevent oral infections,
   - To remove food debris as well as dental plaque without damaging the gum,
   - To alleviate pain, discomfort and enhance oral intake with appetite and
   - To prevent halitosis or relieve it and freshen the mouth.
2) Benefits of shampooing the hair are the following:
   - It helps to maintain personal hygiene of the client,
   - to increase circulation to the scalp and hair,
   - To promote growing of hair and to make him/her feel refreshed.
3) The image A correspond to the scenario since Mr. MUKANEZA is female and the diagram A represent female genitalia

4) The arrow in the image A represents the movement of cleaning female genitalia from pubis towards anus in order to prevent infections from perineal to the genitourinary track.

5) The Image A shows three orifices: Urinary meatus, Vagina and anus. Those orifices are very close. If fecal materials gain access to the genitals, would cause infections. In addition, the perineal and genitals are warm and not well ventilated which favours the growth of microorganism, thus the hygiene is needed.

**Answers to Self-assessment 2.3.**

1) When providing peri care always wash from CLEAN to DIRTY. **Rationale**: to prevent moving microorganisms from where they are to where they are not or less

2) The answer is **b. Rationale:** perineal care refers to washing the external genitalia and surroundings including the anus**.**

3) The answer is **a. Rationale:** retracting the foreskin exposes the glans for better cleaning.

4) The answer is **a. Rationale:** this is to protect yourself and the client.

5) Warm water on the perineal area may stimulate the need to urinate

6)
   - To keep cleanliness of perineal area
   - To prevent from infection in the perineal area
   - To improve the client comfortable

7) The answer is **d. Rationale:** placing your fingers in the mouth of unconscious person is not safe, he/she could bite you. It is recommended to use tongue depressor.

8) The answer is **c. Rationale:** to prevent aspiration

9) Purpose of foot care are:
   - To maintain the skin integrity of the feet
   - To prevent feet infection
   - To prevent feet odours
   - To assess or monitor foot problem

10) The purpose of Sitz bath are:
   - Clean and treat certain problems in the anal area
   - Relax the muscles

- Relieve pain or itching in the anal and genital area
- To increase blood flow to the perineal area

11) The answer is d. **Rationale:** the right time for the medication to take effect is 20 to 30 minutes.

**e)** Skills lab

During the skills lab practices, the teacher work with the skills lab based staff and other teacher to facilitate the independent practices of students. There will be printed procedural techniques checklists as written in the student's books, and the skills lab will be informed one day before the practice for they can prepare accordingly.

Teacher and teaching team will set more than two stations depending the availability of materials. The techniques to practice are *perineal care, shampooing, footing and oral care* for **one period each.**

## Lesson five. *Bed sores*

a) Learning objectives

At the end of this lesson, learner should be able to:

- Define bed sores
- Enumerate the risk factors for developing bed sores
- Describe different stages of bed sores development
- Explain the management of bed sores
- Apply preventive measures of bed sores

b) Teaching resources

Teaching videos, simulation lab materials, projectors, screen, and mannequin with different stages of bedsores or printed paper illustrating pressure sores stages.

c) Prerequisites/Revision/Introduction

From the circulatory (cardio-vascular) system, students have learnt that nutrients and oxygen are distributed in the body by the use of blood; if blood vessels are compressed and prevented from carrying blood to tissues, these tissues ( tissue: group of cells with similar structure and function) dies and result into *"pressure sores/pressure ulcers/decubitus ulcers/bed sores".*

d) Learning activities 2.4.

**Guidance**

- Teacher prepare the classroom/skill's lab with the mannequin simulating different stages of bedsores.

- Teacher makes small groups of 5-6 students and provide the copies of **learning activity 2.4.**
- Teacher instructs students to read these copies and discuss in group while attempting the questions given in **learning activity 2.4.**
- Each group appoint one member to present their answers.
- The teacher should base on the answers provided by the student and build from what they know to make way of new knowledge and skills.

**Answers to learning activity 2.4.**

1) Risk factors of bed sores are:
    - friction and shearing force,
    - immobility and inactivity, inadequate nutrition,
    - fecal and urinary incontinence,
    - decreased mental status,
    - diminished sensation,
    - Excessive body heat,
    - Advanced age and the presence of certain chronic conditions.
2) Action Mr. KWIZERA will do to prevent bedsores:
    - To provide adequate body hygiene by making bed bath
    - Bed making by keeping the bed dry
    - Turning and repositioning the patient every two hours
    - Advocate for adequate nutrition
    - Provide back rub
3) Mrs. MUKANKUBITO has first stage of bedsores characterized by persistent redness

**Answers to Self-assessment activity 2.4.**

1) The answer is **c. Rationale:** these area are very prominent and wear much weight especially in prone position
2) The answer is **a. Rationale:** reskin is intact with non blanchable readiness.
3) The answer **b. Rationale:** physical exercises promotes circulation to the whole body.
4) The answer is **d. Rationale:** wrinkled linens, soiled linen and dragging friction may all cause ulcers.

5) Stages of bed sores are:

I: Intact skin with no blanchable redness of a localized area over a bony prominence

II: Partial-thickness skin loss involving epidermis, dermis, or both

III: Full-thickness with tissue loss

IV: Full-thickness tissue loss with exposed bone, tendon, or muscle

## Lesson six. *Moving and positioning patient in bed*

This lesson will help the learners to gain knowledge and skills on patient's need of changing position or being transferred and how these should be done with comfort and safety of the client and the nurse are promoted.

a) Learning objectives

At the end of this lesson, learner should be able to:

- Explain different types of patient's positions in bed , their indications/contra indications and importance
- Move and Position patients according to their status and conditions
- Demonstrate safety precautions to prevent injuries

b) Teaching resources

Teaching videos, simulation lab materials, mannequins, projectors, screen, hand hygiene equipments, chair, bed sheets/linens, transfer board, pillows, blanket and non-sterile gloves.

c) Prerequisites/Revision/Introduction

Patient mobility and proper alignment of the body are crucial especially for the patient whose musculoskeletal system is impaired or are severely sick. The teacher asks the students the importance of body movement and good positioning. As possible answers, body movement serves in mobility, good blood circulation, prevention of joint stiffness etc. and good positioning promotes the lungs ventilation, blood circulation and prevent deformities etc.

d) Learning activities 2.5.1 and 2.5.2

**Guidance**

- Teacher prepare the skills lab with the projector, well-made bed occupied by mannequin and make copies of the learning activity 2.5.1 and 2.5.2
- Teacher make 6 groups and give to 3 groups the copies of the larning activity 2.5.1.The remaining 3 groups given the copies of learning activity 2.5.2.

- Teacher ask the learners to read and discuss while responding to questions asked 10 minutes.
- Each group appoint one member to present their answers.
- The teacher should base on the answers provided by the student and build from what they know to make way of new knowledge and skills.
- The teacher simulate the scenario of a client lying in supine position using mannequin and ask students to think about how to turn client into lateral position.

**Answers to learning activity 2.5.1**

1) 1→D

   2→C

   3→E

   4→B

   5→A

2) The appropriate position to Mr. RKUNDO is Trendelenburg, this position improves the venous return to the heart and the brain thus increasing the brain perfusion and the cardiac output.

   This position increases venous return to the heart and therefore cardiac output by shifting the intravascular volume from the lower extremities. Trendelenburg is used as an immediate intervention to improve hypotension and hypovolemic shock. E.g. Heavy bleeding causes hypovolemic shock, thus leading to the hypoperfusion of the brain; this position will help.

3) The suitable position for a Mrs. MUGWANIZA is lateral position. The lateral position will provide comfort and will prevent aspiration. In this position, the head should be elevated a little bit.

**Expected Answers to learning activity 2.5.2**

1) As shown the figure, the patient is being assisted to move from bed to wheelchair. Purposes of moving from bed to wheelchair are many:
   - Ambulatory purpose
   - Toileting purpose
   - Medical procedures (surgery)
   - Investigations (x-rays, Ultrasound, CT scan, ECG..)
   - Moving from one ward to the other

There might be many reasons to move the patient, Just stimulate students to think more that the provided above.

2) As shown the figure, the patient is being moved from bed to the stretcher. Note that stretcher is indicated to patient who moves in supine position. Purposes of moving from bed to stretcher are many:

- Ambulatory purpose
- Medical procedures (surgery)
- Investigations (x-rays, Ultrasound, CT scan, ECG..)
- Moving from one ward to the other

There might be many reasons to move the patient, Just stimulate students to think more that the provided above

If student mention the toileting purpose, don't disqualify it Because later, she will discover that instead of moving patient for toileting purpose, you can do it while in bed (*bed bath and Assisting with bed pan and urinal*)

3) The chronological steps from the image above are **A→C→B.** As it is seen on the image, client was sitting in wheelchair, you can see, his arms where on wheels as if he were moving by himself; reaching on the bed, he needed someone to help him to move from the wheelchair to the bed. Someone came though he is looking unprofessional (no uniform) and helped him.

The one sitting, will use his arm muscles. The one who is standing will use group of muscles not only to be able to assist the client but also prevent himself getting injured. He has to position himself in a way he does not twist his backbone, his hips, knee and ankle joints are flexed to increase the stability and balance.

**Answers to Self-assessment activity 2.5**

1) Since Mr. MUNYAKAYANZA is not breathing well and his abdomen is distended, he cannot be positioned in prone positions

Possible positions are:

- **Lateral positions:** this position will help to relieve pressure on sacrum and heels while also not affecting his breathing. This position, most of the body weight is distributed to the lateral aspect of the lower scapula, the lateral aspect of the ilium, and the greater trochanter of the femur

- **Semi fowler's position:** this position will pull the gravity downward allowing the diaphragm to expand freely thus allowing him to breath well
- **Sim's position:** Support proper body alignment in Sims' position by placing a pillow underneath the patient's head and under the upper arm to prevent internal rotation. Place another pillow between legs. However, depending on how the abdomen is extended, it may depend on how the patient tolerate this position.

2) The contraindicated positions for Mr. MUNYAKAYANZA are all positions which can worsen his conditions; ***prone position*** will place his weight on his abdomen (extended) pressing the stomach and worsening vomiting; pressing the diaphragm and thoracic cavity thus prevent lungs to expand.
3) Since Mr. MUNYAKAYANZA can turn and sit, a nurse would use the stretcher and the wheelchair; however, the easiest way to move Mr. MUNYAKAYANZA would be using Wheelchair since the client himself can drive it. Nurses should be there to assist.
4) The indications of wheelchair depends on the need of the person, however, and individual who is not able to walk by himself but can sit such as people with: *paralysis, musculoskeletal issues, broken bones or injury to the legs or feet, neurological issues, balance or gait problems* and *inability to walk long distances* can benefit from wheel chair.

   The wheelchair is contraindicated to all people who cannot sit or their condition may be worsened if they sit. These are people with *trunk weakness, postural defect, disk and nerve root compression, low back pain, ischial decubitus ulcer, postoperative of the pelvis and its fractures, vertebral fractures and fractures of the proximal part of the femur*

### e) Skills lab

During the skills lab practices, the teacher work with the skills lab based staff and other teacher to facilitate the independent practices of students. There will be printed procedural techniques checklists as written in the student's books, and the skills lab will be informed one day before the practice for they can prepare accordingly.

Teacher and teaching team will set more than two stations depending the availability of materials. The techniques to practice are *moving and turning patient in bed (positioning), transferring patient from bed to chair or wheel chair, transferring patient from bed to stretcher* for **four periods.**

## Lesson seven. *Application of local heat and cold*

Application of local heat and cold lesson will help learners to gain knowledge and skills on why, when and how local heat and cold can be applied.

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Demonstrate self-control while caring for patients
- Define local heat and cold application
- Explain the goals of local heat and cold application
- Identify guidelines for local heat and cold application
- Carry out techniques of local cold and heat application
- Describe the techniques of local heat and cold application, their indications and contraindications

**b) Teaching resources**

Teaching videos, simulation lab materials, mannequins, projectors, screen, water boiler, non-sterile gloves, Hot water bag, Water container, Hot water bag cover / small towel to cover, Vaseline or oil for applying on the skin in case there is redness, Bath towel, Ties, tape, or rolled gauze and Mackintosh.

**c) Prerequisites/Revision/Introduction**

Prior to this lesson, the learners should have learnt the cardiovascular system, the skin and its accessories and should at least know the effects the heat and the cold may bring on these systems.

**d) Learning activity** Error! Reference source not found.

**Guidance**

- Teacher prepare the skills lab with the projector, well-made bed occupied by mannequin and instruct students to read **Learning activity** Error! Reference source not found.
- Teacher make groups of 6 students and instruct them to attempt questions given in the **Learning activity** Error! Reference source not found.
- Each group appoint one member to present their answers.
- The teacher should base on the answers provided by the student and build from what they know to make way of new knowledge and skills.

**Answers to Learning activity 2.6**

1) **Vasoconstriction reduces blood flow to injured body part, preventing oedema formation; reduces inflammation**

2) The other alternative to user in spite of ice bag are:

- *Crushed ice*
- *Towel or cotton cloth*
- *Cold compress*
- *Cold soaks*
- *Cold packs*

**Answers Self-assessment 2.6**

1) Indications and contraindications of the heat and cold application

**Indications of heat**

**Muscle spasm**: Relaxes muscles and increases their contractility.

**Inflammation:** heat increases blood flow, softens exudates.

**Pain:** heat relieves pain, possibly by promoting muscle relaxation, increasing circulation, and promoting psychological relaxation and a feeling of comfort; acts as a counterirritant.

**Contracture:** heat reduces contracture and increases joint range of motion by allowing greater distention of muscles and connective tissue.

**Joint stiffness:** Heat reduces joint stiffness by decreasing viscosity of synovial fluid and increasing tissue distensibility.

**Indication of cold**

***Muscle spasm***: Cold relaxes muscles and decreases muscle contractility.

***Inflammation***: Vasoconstriction resulted to cold decreases capillary permeability, decreases blood flow, slows cellular metabolism.

***Pain:*** Cold decreases pain by slowing nerve conduction rate and blocking nerve impulses; produces numbness, acts as a counterirritant, increases pain threshold.

***Traumatic injury***: cold decreases bleeding by constricting blood vessels; decreases oedema by reducing capillary permeability

### Contraindications for heat and cold

***Neurosensory impairment***: Individuals with sensory impairments are unable to perceive that heat is damaging the tissues and are at risk for burns, or they are unable to perceive discomfort from cold and are unable to prevent tissue injury.

***Impaired mental status:*** individuals who are confused or have an altered level of consciousness need monitoring and supervision during applications to ensure safe therapy.

***Impaired circulation:*** Individuals with peripheral vascular disease, diabetes, or congestive heart failure lack the normal ability to dissipate heat via the blood circulation, which puts them at risk for tissue damage with heat applications. Cold applications are contraindicated for these individuals.

***Open wounds***: Tissues around an open wound are more sensitive to heat and cold.

**Contraindications for heat**

***The first 24 hours after traumatic injury***: Heat increases bleeding and swelling.

***Active haemorrhage***: Heat causes vasodilation and increases bleeding.

***Non inflammatory oedema***: Heat increases capillary permeability and oedema.

***Skin disorder that causes redness or blisters***: Heat can burn or cause further damage to the skin.

***Contraindication for cold***

***Open wounds***: Cold can increase tissue damage by decreasing blood flow to an open wound.

***Impaired circulation***: Cold can further impair nourishment of the tissues and cause tissue damage. In clients with Raynaud's disease, cold increases arterial spasm.

***Allergy or hypersensitivity to cold:*** Some clients have an allergy to cold that may be manifested by an inflammatory response, for example, erythema, hives, swelling, joint pain, and occasional muscle spasm. Some react with a sudden increase in blood pressure, which can be hazardous if the person is hypersensitive.

2) In skills lab using the checklist, students will demonstrate the technique of local cold application.

#### e) Skills lab

During the skills lab practices, the teacher work with the skills lab based staff and other teacher to facilitate the independent practices of students. There will be printed procedural techniques checklists as written in the student's books, and the skills lab will be informed one day before the practice for they can prepare accordingly.

Teacher and teaching team will set more than two stations depending the availability of materials. The techniques to practice are *application of cold and application of heat* for **one period.**

## Lesson eight. *Assisting the patient to eliminate*

#### a) Learning objectives

- Respect patient's privacy during nursing care provision
- Demonstrate responsibility and accountability
- Perform correctly hygiene of stomies
- Define Enema
- Explain the types of enema
- Identify indications and contra-indications of enema
- Describe the complications of enema

#### b) Teaching resources

Teaching videos, simulation lab materials, mannequins, projectors, screen, bed bath and bed making equipment (basins, soap, water, towel, bed linens, pillow cases, blanket), complete enema kit, water boiler and sterile gloves

#### c) Prerequisites/Revision/Introduction

**Before** this lesson, the learners should have covered the digestive and the urinary system to be able to know why clients' eliminations is of great importance.

#### d) Learning activities 2.7.

**Guidance**

- The teacher prepares the skills lab with eliminations assisting materials, projector, screen, and the bed occupied by mannequin.
- The teacher instructs students to attempts questions on the **learning activity 2.7.** and each group present their answers.
- The teacher should base on the answers provided by the student and build from what they know to make way of new knowledge and skills
- Teacher prepares the materials of assisting urination and defecation and simulate the scenario for urinal elimination. Teacher

**Answers to the Learning activity 2.7**

1) Different ways of human eliminations:
    - **Skin:** excrete sweats
    - **Liver:** breaks down many substances in the blood and excrete bilirubin
    - **Large intestine:** excrete faeces
    - **Lungs:** lungs are responsible for the excretion of gaseous wastes, primarily carbon dioxide from cellular respiration in cells throughout the body. Exhaled air also contains water vapour and trace levels of some other waste gases
    - **Kidney:** urines: the kidney are part of the urinary system , which also includes the ureters , urinary bladder and urethra
2) Consequences if the gastrointestinal elimination is disturbed:
    - Diarrhoea
    - Constipation
    - Stool incontinence
    - Abdomen distension
    - Fecaloma
3) Consequences of urinary incontinence
    - Soiled bed
    - Bad odor in patient room
    - Poor body hygiene
    - Acceleration of bedsores development
    - Patient is not comfortable
    - Urinary tract infection
    - Perineal irritation

**Answers to the self-assessment 2.7.**

1) The answer is **d. Rationale:** The nurse should use a urinal, which is a cylindrical container for collecting urine, for a client who is confined to the bed. Clients who can ambulate should be assisted to the bathroom to use the toilet. Clients confined to bed use a urinal or bedpan

2) The answer is **a. Rationale:** To remove a faecal impaction, the nurse needs to lubricate his or her finger and then insert it inside the rectum of the client. Placing the client in a Sims' position facilitates access to the rectum, but it does not ease the insertion of the finger into the rectum. Lubricating the rectal tube or warming the cleansing solution is not required here because it done when inserting a rectal tube and performing an enema respectively

3) The answer is **d. RATIONALE**: To facilitate digital manipulation of the stool, the nurse should insert the lubricated finger to the level of the hardened mass of stool. Moving the finger slowly and carefully facilitates the removal or voluntary passage. Placing the client in Sims' position facilitates access to the rectum but does not facilitate digital manipulation of the stool. Lubricating and inserting the finger periodically provides rest and restores patency to the lower bowel.

4) The answer is **a. RATIONALE:** the wheelchair is used to move the person (ambulation) in a sitting position, it is not used for elimination.

**5)** **A stoma** is an artificial opening in the abdominal wall. **An ileostomy** is a surgical opening in the ileum. **A colostomy** is a surgical opening in the colon.

6) The complications of excessive rectal manipulation:
   - Can cause irritation to the mucosa
   - Can cause bleeding
   - Can cause stimulation of the vagus nerve, which results in a reflex slowing of the heart rate)

7) The primary action of enema is that enemas provide temporary relief of constipation, emptying the bowel before diagnostic tests, and bowel training

8) The purpose of using diaper for adult patient is to provide patient comfort, prevent infection and bed sores by keeping the clean skin.

### e) Skills lab

During the skills lab practices, the teacher work with the skills lab based staff and other teacher to facilitate the independent practices of students. There will be printed procedural techniques checklists as written in the student's books, and the skills lab will be informed one day before the practice for they can prepare accordingly.

Teacher and teaching team will set more than two stations depending the availability of materials. The techniques to practice are: *assisting elimination using urinal (**one period**); assisting elimination using bed pan (**one period**); enema (**two period**); elimination by stomy and stomy care (**two period**); and manual removal of faecaloma (**one period**).*

## 2.6 Summary of the unit

Hygiene and comfort care of the client/patient are fundamental nursing care of individual that help to restore and promote health. Hygiene and comfort care help to relieve pain and boost healing process. To keep effective hand hygiene is the most important aspect in clinical settings to control and prevent cross infections. Health care provider have to wear gloves any time they are exposed to human body fluids and dirty substances to protect themselves and to reduce the possibility of transmitting infections from one patient to another.

Basic hygiene care such as bed making and bed bath are essentials in clinical settings as they are key in promoting patient comfort and preventing bedsores that is favorized by poor patient hygiene. Nurses have to master all techniques of bed making and bed bath in order to be able assist all the patients in need.

Positioning a patient in good body alignment and changing position carefully and systematically are essential aspect of nursing practice that promote comfort and help to prevent bed sores that mostly due to prolonged immobility. For patients who are not able to move themselves from bed to chair, wheelchair or stretcher nurses have to encourage them to move and provide the required and appropriate assistance.

Heat and cold application are used to treat sprains muscle, arthritic joints or local infections; heat and cold stimuli create different physiological responses. The choices of heat or cold therapy depends on local responses desired. The nurses should assess carefully the patient's physical condition for signs of potential intolerance to heat and cold. Assessment of area to be treated by application of heat or cold is essential as help to find any alteration in skin integrity that may increase the patient's risk of injury.

Bowel and urinary elimination are fundamental physiologic need of each individual; in hospital settings, patients may have different conditions and disease process that

impair bowel and urinary elimination. Bed ridden patients who are very sick with normal bowel and urinary function may need assistance for elimination. Health care provider should know different techniques to assist patients with elimination such as; use of bed ban and urinals. Patients with different bowel diversion ostomies such as ileostomy or colostomy need special care of hygiene to promote comfort.

## 2.7 Additional information for teachers

### Bed sores

Although in course syllabi they are four stages of bed sores; they 2 types of bed sores that may exist:

- **Unstageable pressure injury: depth unknown**

Characterized by full thickness tissue loss in which the base of the pressure injury is covered by slough (yellow, tan, grey, green or brown) and/or eschar (tan, brown or black) in the pressure injury bed. Until enough slough/eschar is removed to expose the base of the pressure injury, the true depth, and therefore the stage cannot be determined. Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as the body's natural biological cover and should not be removed.

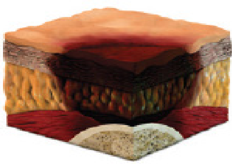
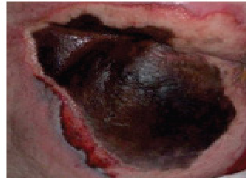



*Figure 1 Unstageable pressure injury: Depth unknown*

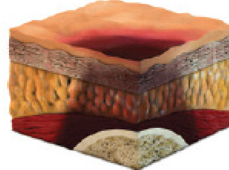
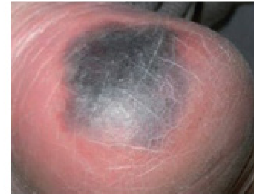



*Figure 2 Suspected deep tissue injury: Depth unknown*

- **Suspected deep tissue injury: depth unknown**

Characterized by **purple or maroon localised** area or discoloured, intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared with adjacent tissue. Deep tissue injury may be difficult to detect in individuals with dark skin tone. Evolution may include a thin blister over a dark wound bed. The pressure injury may further involve and become covered by a thin eschar. Evolution may be rapid, exposing additional layers of tissue even with optimal treatment

### Bed sores risk assessment tools

Bed sores risk assessment is key to prevention of bed sores. Several risk assessment tools are available that provide the nurse with systematic means of identifying people at high risk of pressure ulcer development. One of these is Braden Scale for predicting pressure sores risk (*see Figure 3*)

- **Braden Scale for Predicting Pressure Sore Risk**

This is the most used pressure sore risk assessment tool, it was published in 1987 by Bergstrom, Braden, Laguzza and Holman. This scale consists of six subscales: *sensory perception, moisture, activity, mobility, nutrition*, and *friction*; and shear a total of 23 points is possible. The scores from the six categories are added, and the total score indicates a patient's risk for developing a pressure injury based on these ranges: An adult who scores below 18 points is considered at risk (*Mild risk: 15-18; Moderate risk: 13-14; High risk: 10-12; Severe risk: less than 9*)

# BRADEN SCALE FOR PREDICTING PRESSURE SORE RISK

Patient's Name ____________________ Evaluator's Name ____________________

| | | | | | Date of Assessment | | | |
|---|---|---|---|---|---|---|---|---|
| **SENSORY PERCEPTION**<br>Ability to respond meaningfully to pressure-related discomfort | **1. Completely limited:**<br>Unresponsive (does not moan, flinch or grasp) to painful stimuli, due to diminished level of consciousness or sedation,<br>OR<br>limited ability to feel pain over most of body surface. | **2. Very limited:**<br>Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness,<br>OR<br>has a sensory impairment which limits the ability to feel pain or discomfort over 1/2 of body. | **3. Slightly limited:**<br>Responds to verbal commands but cannot always communicate discomfort or need to be turned,<br>OR<br>has some sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities. | **4. No impairment:**<br>Responds to verbal commands. Has no sensory deficit which would limit ability to feel or voice pain or discomfort. | | | | |
| **MOISTURE**<br>Degree to which skin is exposed to moisture | **1. Constantly moist:**<br>Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned. | **2. Moist:**<br>Skin is often but not always moist. Linen must be changed at least once a shift. | **3. Occasionally moist:**<br>Skin is occasionally moist, requiring an extra linen change approximately once a day. | **4. Rarely moist:**<br>Skin is usually dry; linen requires changing only at routine intervals. | | | | |
| **ACTIVITY**<br>Degree of physical activity | **1. Bedfast:**<br>Confined to bed. | **2. Chairfast:**<br>Ability to walk severely limited or nonexistent. Cannot bear own weight and/or must be assisted into chair or wheelchair. | **3. Walks occasionally:**<br>Walks occasionally during day but for very short distances, with or without assistance. Spends majority of each shift in bed or chair. | **4. Walks frequently:**<br>Walks outside the room at least twice a day and inside room at least once every 2 hours during waking hours. | | | | |
| **MOBILITY**<br>Ability to change and control body position | **1. Completely immobile:**<br>Does not make even slight changes in body or extremity position without assistance. | **2. Very limited:**<br>Makes occasional slight changes in body or extremity position but unable to make frequent or significant changes independently. | **3. Slightly limited:**<br>Makes frequent though slight changes in body or extremity position independently. | **4. No limitations:**<br>Makes major and frequent changes in position without assistance. | | | | |
| **NUTRITION**<br>Usual food intake pattern | **1. Very poor:**<br>Never eats a complete meal. Rarely eats more than 1/3 of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Takes fluids poorly. Does not take a liquid dietary supplement,<br>OR<br>is NBM and/or maintained on clear liquids or IVs for more than 5 days. | **2. Probably inadequate:**<br>Rarely eats a complete meal and generally eats only about 1/2 of any food offered. Protein intake includes only 3 servings of meat or dairy products per day. Occasionally will take a dietary supplement,<br>OR<br>receives less than optimum amount of liquid diet or tube feeding. | **3. Adequate:**<br>Eats over half of most meals. Eats a total of 4 servings of protein (meat, dairy products) each day. Occasionally will refuse a meal, but will usually take a supplement if offered,<br>OR<br>is on a tube feeding or TPN regimen, which probably meets most of nutritional needs. | **4. Excellent:**<br>Eats most of every meal. Never refuses a meal. Usually eats a total of 4 or more servings of meat and dairy products. Occasionally eats between meals. Does not require supplementation. | | | | |
| **FRICTION AND SHEAR** | **1. Problem:**<br>Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheets is impossible. Frequently slides down in bed or chair, requiring frequent repositioning with maximum assistance. Spasticity, contractures or agitation leads to almost constant friction. | **2. Potential problem:**<br>Moves feebly or requires minimum assistance. During a move skin probably slides to some extent against sheets, chair, restraints or other devices. Maintains relatively good position in chair or bed most of the time but occasionally slides down. | **3. No apparent problem:**<br>Moves in bed and in chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position in bed or chair at all times. | | | | | |
| | | | | Total Score | | | | |

*Figure 3 Braden scale*

**Positioning patient**

There are other positions apart from what has been covered:

- **Orthopneic or tripod (***See* Figure 4*)*: patient in sitting position on one side of the bed with an overbed table in front to lean on and several pillows on the table to rest on. It provides Maximum lung expansion. Patients who are having difficulty breathing are often placed in this position because it allows maximum expansion of the chest. It helps in exhaling. Orthopneic position is particularly helpful to patients who have problems exhaling because they can press the lower part of the chest against the edge of the overbed table.
- **Sims' position** or **semi-prone position (**Figure 5) is when the patient assumes a posture halfway between the lateral and the prone positions. The lower arm is positioned behind the client, and the upper arm is flexed at the shoulder and the elbow. The upper leg is more acutely flexed at both the hip and the knee, than is the lower one. Prevents aspiration of fluids. Sims' may be used for unconscious clients because it facilitates drainage from the mouth and prevents aspiration of fluids. Reduces lower body pressure. It is also used for paralyzed clients because it reduces pressure over the sacrum and greater trochanter of the hip.
- **Lithotomy position (**Figure 6)**:** a patient position in which the patient is on their back with hips and knees flexed and thighs apart. Lithotomy position is commonly used for vaginal examinations and childbirth.
- **Reverse Trendelenburg (**Figure 7)**:** a patient position wherein the head of the bed is elevated with the foot of the bed down. It is the opposite of Trendelenburg's position. Reverse Trendelenburg is often used for patients with gastrointestinal problems as it helps minimize esophageal reflux. Patients with decreased cardiac output may not tolerate rapid movement or change from a supine to a more erect position. Watch out for rapid hypotension. It can be minimized by gradually changing the patient's position.
- **Knee-Chest Position (**Figure 8**)**: Knee-chest position, can be in lateral or prone position. In lateral knee-chest position, the patient lies on their side, torso lies diagonally across the table, hips and knees are flexed. In prone knee-chest position, the patient kneels on the table and lower shoulders on to the table so chest and face rests on the table. Knee-chest position can be lateral or prone.
- **Jack-knife Position** (Figure 9): also known as **Kraske**, is wherein the patient's abdomen lies flat on the bed. The bed is scissored so the hip is lifted and the legs and head are low. Frequently used for surgeries involving the anus, rectum, coccyx, certain back surgeries, and adrenal surgery.

- **Kidney Position (**Figure 10): the patient assumes a modified lateral position wherein the abdomen is placed over a lift in the operating table that bends the body. Patient is turned on their contralateral side with their back placed on the edge of the table. Contralateral kidney is placed over the break in the table or over the kidney body elevator (if attachment is available). Kidney positions allows access and visualization of the retroperitoneal area. A kidney rest is placed under the patient at the location of the lift.

*Figure 4 Orthopneic position*

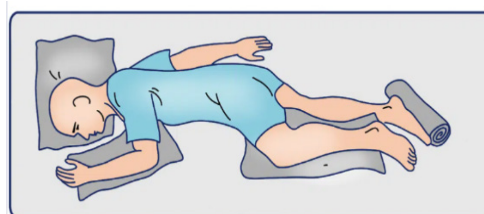


*Figure 5 Sim's Position*

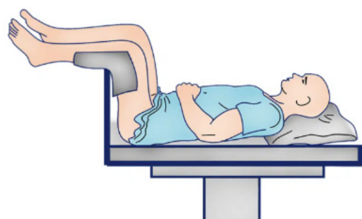


*Figure 6 Lithotomy position*

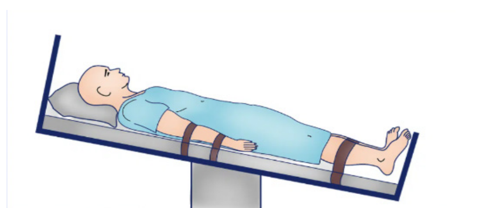


*Figure 7 Reverse Trendelenburg*

*Figure 8 Knee-Chest position*

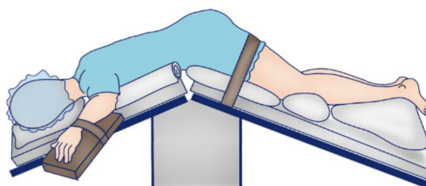


*Figure 9 Jack-Knife position*

*Figure 10 Kidney position*

## 2.8 Answers to end unit assessment

**Answers to End-unit assessment.**

**Answers to Question I**

1) The nurse can suggest the client undergo partial bathing. A partial bath means washing only those body areas subject to greatest soiling or that are sources of body odor: generally the face, hands, axillae, and perineal area. Partial bathing is done at a sink or with a basin at the bedside.

2) When providing perineal care, the nurse must:
   - Prevent direct contact between him- or herself and any secretions or excretions by wearing clean gloves
   - Clean so that he or she removes secretions and excretions from less soiled to more soiled areas
   - Use these principles to help prevent the transfer of infectious microorganisms to the nurse and to uncontaminated areas on or within the client

**Answers to Question II**

Unless contradicted by their condition, clients with hypoxia are placed in the high Fowler's position. This position eases breathing by allowing the abdominal organs to descend away from the diaphragm. As a result, the lungs have the potential to fill with a greater volume of air

**Answers to Question III**

1) Before planning to turn and move the client, the nurse should assess the client and the situation as follows:
   - Assess for risk factors that may contribute to inactivity.
   - Determine the time of the client's last position change.
   - Assess his or her own physical, mental, and emotional ability to assist in turning, positioning, or moving.
   - Inspect for drainage tubes and equipment.

2) As part of planning before moving the client, the nurse should consider the following:
   - Explain the procedure to the client.
   - Remove all pillows and current positioning devices.
   - Raise the bed to a suitable working height.

- Secure two or three additional caregivers, positioning and moving devices as needed.
- Close the door or draw the bedside curtain.

**Answers to Question IV**

1) To break the chain of infection, a nurse should acknowledge and follow the measures or principles of medical asepsis presented here:
   - Microorganisms exist everywhere except on sterilized equipment.
   - Frequent handwashing and maintaining intact skin are the best methods for reducing the transmission of microorganisms.
   - Blood, body fluids, cells, and tissues are considered major reservoirs of microorganisms.
   - Personal protective equipment, such as gloves gowns, masks, goggles, and hair and shoe covers, serves as a barrier to microbial transmission.
   - A clean environment reduces microorganisms.
   - Certain areas—the floor, toilets, and insides of sinks—are more contaminated than others; therefore, cleaning should be done from cleaner to dirtier areas.
2) Antimicrobial agents are chemicals that destroy or suppress the growth of infectious microorganisms.
3) The nurse should use antimicrobial agents such as antiseptics, disinfectants, and anti-infective drugs. Antiseptics, also known as *bacteriostatic agents,* inhibit the growth of but do not kill microorganisms. Some are also used as cleaning agents. Disinfectants, also called *germicides* and *bactericides,* destroy active microorganisms but not spores. They are used to kill and remove microorganisms from equipment, walls, and floors. Anti-infective drugs are used to combat infections.

**Answers to Question V**

1) The nurse applies the cold compress to reduce the temperature of the client.
2) Before applying the compress, the nurse soaks in tap water or medicated solution at the appropriate temperature and then wrings out excess moisture. To maintain the moisture and temperature, a piece of plastic or plastic wrap is used to coverthe compress, and the area is secured in a towel. As the compress material cools or warms outside the range of the intended temperature, the nurse removes it and reapplies it if necessary.

**Answers to Question VI**

1) Risk factors that predispose a patient to pressure ulcer formation
   a. Impaired sensory perception
   b. Impaired mobility
   c. Alteration in level of consciousness
   d. Shear
   e. Friction
   f. Moisture
2) Stages of bed sore development are
   i. Intact skin with non blanchable redness of a localized area over a bony prominence
   ii. Partial-thickness skin loss involving epidermis, dermis, or both
   iii. Full-thickness with tissue loss
   iv. IV. Full-thickness tissue loss with exposed bone, tendon, or muscle

## 2.9 Additional activities

### 2.9.1 Remedial Activities:

**Q1**: Define hygiene

**Q2**: Give 5 principles of bed making

**Q3**: What are the precautions of donning disposal clean gloves?

**Q4**: Outline 4 risk factors of developing bed sores

**Q5**: what is the procedure done when the nurse needs to cleanse the lower bowel, to evacuate the stool or flatus of the patient?

**Answers to the remedial activities**

**Q1:** ***Hygiene*** *is defined as the science of health and its maintenance is very important for better health. Hygiene includes bathing, toileting, general body hygiene and grooming.*

**Q2**:

1. *Arrange bed coverings in order of use*
2. *Wash hands thoroughly after handling a patient's bed linen*
3. *Hold soiled linen away from uniform*
4. *Linen used for one client is never placed on another client's bed*

5. *Soiled linen is placed directly in a portable linen hamper or a pillow case before it is gathered for disposal.*
6. *Soiled linen is never shaken in the air because shaking can disseminate secretions and excretions and the microorganisms they contain.*
7. *When undressing and making a bed, conserve time and energy by undressing and making up one side as completely as possible before working on the other side.*
8. *Keep your back straight as you work for preventing back injury*
9. *To avoid unnecessary movement to the linen supply area, gather all needed linen before starting to make a bed.*
10. *While tucking bedding under the mattress the palm of the hand should face down to protect your nails.*

***Q3:*** *the precautions of donning lean gloves are the one's hands must be dry, finger nails cut short and jewellery removed to prevent tearing gloves*

***Q4:*** *Friction and shearing force, immobility and inactivity, inadequate nutrition, fecal and urinary incontinence, decreased mental status, diminished sensation, excessive body heat, advanced age and the presence of certain chronic conditions.*

***Q5:*** *Enema*

### 2.9.2 Consolidation activities:

**Q1:** Match the below items:

| Physiological response | The goal of Heat or cold application |
|---|---|
| 1. Vasodilation | a. Promotes blood coagulation at injury site |
| 2. Increased tissue metabolism | b. Promotes movement of waste products and nutrients |
| 3. Increased capillary permeability | c. Improves blood flow to injured body part; promotes delivery of nutrients and removal of wastes; lessens venous congestion in injured tissues. |
| 4. Reduced cell metabolism | d. Reduces oxygen needs of tissues |
| 5. Increased blood viscosity | e. Increases blood flow; provides local warmth |

*Q2: What the stage of bedsores characterised by characterized by full thickness tissue loss?*

*Q3: explain briefly the prevention and management of bedsores*

*Q4: Differentiate the 4 types of enema*

**Answers to consolidation activities**

**Q1:** 1→C; 2→E; 3→B, 4→D; 5→A

**Q2**: Stage 3

**Q3:** *Early identification of risk factors is key to prevention and management of bed sores. Prevention of bedsores consist of providing* ***adequate body hygiene*** *by keeping the skin clean and dry and keeping the bed tiny and dry;* ***turning and repositioning the client*** *every two hours prevent bedsores; and a****dequate nutrition*** *with enough calories, vitamins, minerals, fluids and protein help to prevent bedsores and accelerate healing process of sores.*

Management of the wound depend on the stage of bedsores; consist of wound cleaning, removing the damaged, infected or dead tissue(debridement) and transplanting healthy skin to the wound area (skin grafts). Administration of antibiotics may be necessary to treat infection that may associated with bedsores.

**Q4:**

***1) Cleansing enema***

*The goal of cleansing enemas is* ***to remove feces****. Cleansing enemas have two sub category:* ***high*** *or* ***low****. A* ***high enema*** *requires large volume (i.e., 500 to 1,000 mL) for adult and is provided to cleanse as much as possible the colon. The* ***low enema*** *requires a small volume (90 to 120 mL) and is used to clean the rectum and sigmoid colon only. The client maintains a left lateral position during administration.*

***2) Carminative enema***

*A carminative enema is given mainly to expel flatus (intestinal gas). The solution instilled into the rectum remove gas. For an adult, 60 to 80 mL of fluid is instilled*

***3) Retention enema***

*A retention enema tends to introduce the oil or medication into the rectum and sigmoid colon. The liquid is retained for a relatively long period for 1 to 3 hours. The goal is to soften the faces, lubricate the rectum and anal canal, hence facilitating passage of the feces*

***4) Return-flow enemas***

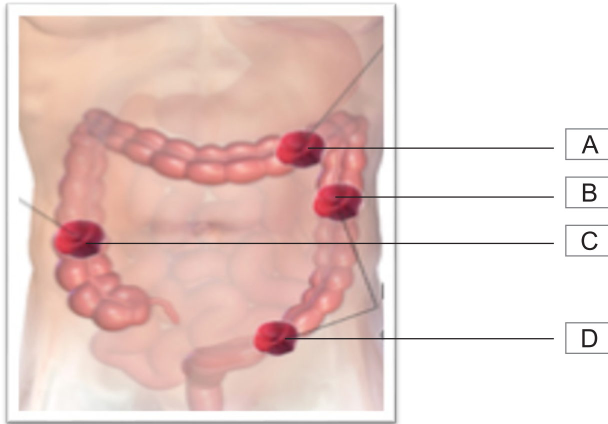
*A return-flow enema, also called a Harris flush, is occasionally used to expel flatus. Alternating flow of 100 to 200 mL of fluid into and out of the rectum and sigmoid colon stimulates peristalsis. This process is repeated five or six times until the flatus is removed and abdominal distention is relieved.*

### 2.9.3 Extended activities

**Q1:** When washing the upper extremities why do you start from the far arm and why do you wash each arm from wrist to shoulder and axilla?

**Q2:** What is the relevant information shall you document after turning patient to prone position?

**Q3:** Look the below image; what does image stand for?  Name each orifice (ABC) localised to the large intestine.




**Answers to extended activities**

**Q1:** Washing the far arm first prevents dripping bath water into a clean area.

Washing from wrist to shoulder and axilla improve circulation by facilitating venous return

**Q2**

- Time and change of position moved from and position moved to
- Any signs of pressure areas
- Use of support devices
- Ability of client to assist in moving and turning
- Response of the client to moving and turning (e.g., anxiety, discomfort, dizziness)

**Q3**: The image stands for the types of **colostomy**

A: Transverse colostomy

B: Descending Colostomy

C: Ascending colostomy

D: Sigmoid colostomy

# UNIT 3 VITAL SIGNS AND PARAMETERS

## 3.1 Key unit competence

Interpret correctly the measured vital signs and parameters

## 3.2 Prerequisites (knowledge, skills, attitudes and values)

To be successful in this unit, the learners should have been taught the biology subject and acquired knowledge related to the anatomical structure and functioning of the circulatory and respiratory systems as well as body temperature regulation. As a teacher you will ask some questions to learners related to these prerequisites before starting the lesson. Moreover, within the unit itself, learners are required to learn first the pulse measurement before moving to blood pressure and learn respiration and pulse first before shifting to oxygen saturation (pulse oximetry) in order to acquire requisite knowledge and skills that will enable learners to easily understand one topic to another in a coherent manner. As the learners will be practicing the acquired skills on human being, learners should have been taught the Ethics and Professional code of conduct in order to be aware of the ethical principles and the code of professional conduct that will guide them during their daily nursing practice.

## 3.3 Cross-cutting issues to be addressed

### a) Inclusive education

This unit involves learning the procedures/techniques which require hearing ability especially for the measurement of blood pressure which requires hearing for the Korotcoff sounds while measuring it using the stethoscope. This may be challenging to students with special educational needs such as students with hearing impairment. However, the teacher can assist the students with this special educational needs in the following ways:

- Avail to the concerned students the electronic blood pressure machine to be used for blood pressure measurement or if not available use another alternative of measuring the blood pressure using palpation method.
- Every important point is written on the chalkboard or flip charts or printed depending on available resources. The written points help students with hearing impairment to understand what is spoken.
- Help students with hearing impairment sit in front and use loud voice during teaching and presentations
- Advocate for hearing aids for concerned students.

- Though having hearing impairment, the students can speak. So, the concerned students have to be involved in group activities and allow them opportunities to present

**b) Gender education**

Historically, there was a belief that Nursing profession was for females. In the past, the Nursing Education was more predominated by females than males. Even the pioneer of Nursing is a female (Florence Nightingale, the mother of Nursing). The nature of nursing played also an influence regarding the female domination in nursing education. Nowadays, there is an improved understanding that everyone regardless of the gender can be a nurse. In today's nursing education, there is a big number of males undertaking the nursing profession. The learners should be told that the nursing education is for every one regardless of the gender and everyone being a male of female can perform it very well. It is for this reason, during the teaching all students (boys and girls) will be considered the same as having the same potentials and be given equal opportunities during all learning activities irrespective of their gender.

**c) Environment and sustainability**

As a facilitator, emphasize to the learners that environmental factors affect the vital signs. Among them we can give an example of extremes in environmental temperatures which can affect a person's temperature regulatory systems. If the temperature is assessed in a very warm room and the body temperature cannot be modified in different ways such as by convection, conduction, or radiation, the temperature will be elevated. The same, if the patient has been outside in extremely cold weather without suitable clothing, the body temperature may be low.

Therefore, learners should know that vital signs are measured when the patient is at rest and the environment is controlled for comfort and accurate results.

## 3.4 Guidance on the introductory activity

Before starting teaching the first lesson of this unit titled "Vital signs and parameters", engage learners in the introductory activity. This activity aims to relate the unit with learners' daily life experience to raise their curiosity and discovery and draw their attention while undertaking the next unit's lessons.

**Teacher's activity:**

- Print the page with images on introductory activity under unit 3. Vital signs and parameters or prepare a presentation slide of this introductory activity. The questions and the unit title must not appear on the printed copies or on the presentation slide. Use only images.

- Distribute the printed copies of the introductory activity to all learners or use a projector and present the images of the introductory activity on the white screen.
- Ask each learner to carefully observe the images on the printed copies or on the white screen and allow learners one minute to think and make reflection about the images.
- Then ask questions from the students' book under introductory activity to the learners. Ask the first question and get the learners' views before moving to the second question and so forth.
- Don't judge any learner's response instead motivate learners and make the class more active by involving every learner in the introductory activity.
- End the introductory activity by contextualizing the learners' responses and relate them to the unit to be taught to the learners.

**Expected answer s to the introductory activity**

1) The person A has fallen down and got a serious injury which resulted into severe bleeding.
2) The health condition of the person A is in danger. He is in critical condition that requires urgent medical help to save his life.
3) The nurse is measuring the body temperature, blood pressure, pulse and respiration of the person A. (The nurse is taking the vital signs of the person A).
4) Changes in body functions following the injury may not be reflected or detected and this may lead to inadequate management of the person A. Thus, his health status may become worse

## 3.5 List of lessons/subheadings (including assessment)

| # | Lesson title | Learning objectives | Number of periods |
|---|---|---|---|
| 1 | Introduction to vital signs | Define the vital signs<br>List the cardinal vital signs<br>Identify times/moments for vital signs assessment<br>Explain guidelines for vital signs measurement | 2 |

| 2 | Body temperature overview | Define body temperature<br>Differentiate the core and surface body temperature<br>Recognize the normal range values of body temperature<br>Explain the factors that affect the body temperature variation<br>Identify the routes/methods of body temperature assessment<br>List the indications and contraindications of each route/method of body temperature assessment.<br>Enumerate the advantages and disadvantages of body temperature assessment routes<br>Explain the alterations of body temperature<br>Outline the Nursing interventions for a patient with body temperature alterations (fever, hypothermia) | 2 |
|---|---|---|---|
| 3 | Body temperature measurement | Recognize the required equipment for body temperature measurement<br>Measure the oral, axillary, rectal, tympanic membrane and temporary artery body temperature<br>Convert degree Fahrenheit to Celsius<br>Interpret the body temperature readings<br>Demonstrate empathy and respect towards clients during body temperature measurement<br>Demonstrate safety precautions to prevent injuries while measuring body temperature | 3 |

| | | | |
|---|---|---|---|
| 4 | | Maintain a grooming appearance while taking body temperature<br>Demonstrate communication and collaboration skills towards patients, care givers and staff during body temperature assessment<br>Respect patient's privacy during body temperature measurement<br>Demonstrate responsibility and accountability during body temperature assessment | |
| 4 | Pulse measurement (overview and procedure | Define Pulse<br>Understand the normal and abnormal values of pulse.<br>Identify Factors affecting Pulse.<br>Localize Sites of pulse palpation.<br>Describe how to assess the pulse rate.<br>Explain Basic nursing interventions during abnormal pulse.<br>Identify required equipment to assess the pulse<br>Measure correctly the pulse<br>Interpret the pulse rate<br>Demonstrate safety precautions to prevent injuries while measuring pulse<br>Maintain a grooming appearance while assessing pulse<br>Demonstrate communication and collaboration skills towards patients, care givers and staff during pulse measurement<br>Respect patient's privacy during pulse measurement<br>Demonstrate responsibility and accountability during pulse measurement | 2 |

| | | | |
|---|---|---|---|
| 5 | Blood pressure measurement (overview and procedure) | Define blood pressure<br>Differentiate systolic and diastolic blood pressure<br>Explain the determinants of blood pressure<br>Recognize the normal and abnormal values of blood pressure<br>Explain the alterations of blood pressure (hypertension and hypotension)<br>Outline the nursing interventions during blood pressure alterations (hypertension, hypotension)<br>Recognize the required equipment for blood pressure measurement<br>Measure the blood pressure<br>Interpret the blood pressure results<br>Demonstrate empathy and respect towards clients during blood pressure measurement<br>Demonstrate safety precautions to prevent injuries to clients while measuring blood pressure<br>Maintain a grooming appearance while taking blood pressure<br>Demonstrate communication and collaboration skills towards patients, care givers and staff during blood pressure assessment<br>Respect patient’s privacy during blood pressure measurement<br>Demonstrate responsibility and accountability towards blood pressure assessment | 2 |

| 6 | Measurement of respirations (overview and procedure) | Define Respiration.<br>Understand the normal and abnormal values of Respiration.<br>Explain the Pathological variations of Respiration.<br>Identify Factors affecting Respiration.<br>Localize Sites of Respiration rate.<br>Outline the Basic nursing interventions during abnormal respiration or in case of respiration alterations.<br>Identify required equipment for respiration measurement<br>Measure correctly the Respiration rate<br>Interpret the respiratory rates<br>Demonstrate safety precautions to prevent injuries while measuring respiration<br>Maintain a grooming appearance while measuring respiration<br>Demonstrate communication and collaboration skills towards patients, care givers and staff during respiration measurement<br>Respect patient's privacy during respiration measurement<br>Demonstrate responsibility and accountability during respiration measurement | 2 |
|---|---|---|---|
| 7 | Measurement of oxygen saturation (overview and procedure) | Define oxygen saturation (pulse oximetry)<br>Recognize the normal and abnormal values of oxygen saturation<br>Select the required equipment for oxygen saturation measurement<br>Measure the oxygen saturation | 2 |

| | | | |
|---|---|---|---|
| | | Interpret the oxygen saturation results<br>Demonstrate empathy and respect towards clients during oxygen saturation measurement<br>Maintain a grooming appearance while assessing oxygen saturation<br>Demonstrate communication and collaboration skills towards patients, care givers and staff during oxygen saturation assessment<br>Respect patient's privacy during oxygen saturation measurement<br>Demonstrate responsibility and accountability during assessment of oxygen saturation | |
| 8 | Weight and height measurement (overview and procedure | Define the two parameters (Height and Weight)<br>Provide the Importance of measuring Height and Weight.<br>Explain the Specific reasons for weighing both a child and an adult.<br>Identify material /equipment used to measure weight and Height<br>Measure correctly the Weight and Height of both an adult person and a child<br>Demonstrate safety precautions to prevent injuries while measuring client's weight and height<br>Maintain a grooming appearance while measuring weight and height<br>Demonstrate communication and collaboration skills towards patients, care givers and staff during weight and height measurement<br>Respect patient's privacy during weight and height measurement | 2 |

| | | | |
|---|---|---|---|
| | | Demonstrate responsibility and accountability during weight and height measurement | |
| 9 | Skills Lab (Self practice | Measure correctly the vital signs and parameters (Body temperature, pulse, blood pressure, respiration, oxygen saturation, weight and height)<br>Interpret the findings of measured vital signs and parameters<br>Demonstrate empathy and respect of client during the vital signs and parameters measurement<br>Demonstrate safety precautions to prevent injuries while measuring vital signs and parameters<br>Maintain a grooming appearance during vital signs and parameters measurement<br>Demonstrate communication and collaboration skills towards patients ,caregivers and staff during vital signs and parameters measurement<br>Respect patient's privacy during vital signs and parameters measurement<br>Demonstrate responsibility and accountability while taking vital signs and parameters<br>Demonstrate self-control while measuring vital signs and parameters | 8 |
| 10 | Assessment (End unit assessment and OSCE) | Interpret correctly the measured vital signs and parameters | 4 |

## Lesson one. *Introduction to vital signs*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define the vital signs
- List the cardinal vital signs
- Identify times/moments for vital signs assessment
- Explain guidelines for vital signs measurement

### b) Teaching resources

Student book, Fundamentals of Nursing book, Computer (Laptop), projector, white screen, Illustrations indicating a nurse measuring vital signs

### c) Prerequisites/Revision/Introduction

The learners will learn better the vital signs if they have prior understanding of the functioning of the heart, the lungs and the circulatory system. As a facilitator, ask the learners some questions related to heart and lungs functioning as well as the circulatory system to test their prior understanding of the heart, lung and circulatory system function

### d) Learning activities 3.1.

**Guidance**

Before introducing the lesson, introduce first the whole unit by engaging actively the all learners in the introductory activity as it is guided above. Then after engage learners in the activity 3.1 of the first lesson.

As a facilitator, help learners get engaged in the learning activity 3.1 of the above lesson by doing the following:

- Facilitate the learners to form groups and choose the group leaders; 4-6 learners per each group
- Provide the Fundamentals of Nursing books to all groups. The Fundamentals of Nursing books in soft copies may be used for a group which has a laptop.
- Request learners to open the Fundamentals of Nursing books or their students' books, read the materials on vital signs and make a summary note about the items mentioned in the learning activity 3.1
- Allow learners time to read the materials on vital signs and make the summary note as requested in the activity.
- Move around to each group to provide any needed assistance.

- Choose 2 groups and 2 presenters randomly in order to present their work in class.
- During the presentations, the facilitator will request the presenters to engage all learners during the presentation and the groups will support each other.
- As a facilitator, support learners during class presentations, harmonize the lesson through their findings, respond to questions in which learners failed to respond, make clarification where needed and conclude the lesson by asking some questions related to the lesson.
- At the end, ask the questions under **self assessment 3.1** to assess the learners' understanding of the lesson and the achievement of the intended learning objectives.

**Answers to self-assessment 3.1.**

1) The vital signs are:
   - Body temperature
   - Pulse
   - Blood pressure
   - Respiration
   - Oxygen saturation
2) Vital signs reflect changes in body function that otherwise might not be observed and they are very often used:
   - To establish the diagnoses of the patients: The disruption of one or several vital signs can orient the diagnosis because it can be the first sign of disease
   - To prescribe treatments and for medical follow-up: They permit to have a control on the patient's general state. That means that they are used to evaluate the success of the implementation and good evolution of prescribed treatment (recovery, relapse of the illness).
   - To establish nursing care plan
3) There is normally no fixed right time to measure the vital signs. When and how often to assess a specific patient's vital signs are chiefly nursing judgements, depending on the patient's health status. Though a patient's vital signs may be recorded on a routine basis as part of an identified care plan, however if there is a change in the patient's condition then the vital signs may need to be recorded more frequently. Below, are examples of times (moments) to assess vital signs:
   - On patient admission in consultation room

- On patient admission in hospitalization
- According to prescription
- In case of changes of the patient's state
- Before and after surgical intervention or an invasive procedure
- Before and/or after the administration of a medication that could affect the respiratory or cardiovascular systems, for example, before giving Digoxin
- Before and after any nursing intervention that could affect the vital signs (e.g. mobilizing a patient who has been on bed rest)

4) It is important for the nurse to know the patient's usual range of vital signs because the patient's usual values of vital signs serve as a baseline for comparison with later findings. Thus, you can be able to detect a change in condition over time.

## Lesson two. *Body temperature overview*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define body temperature
- Differentiate the core and surface body temperature
- Recognize the normal range values of body temperature
- Explain the factors that affect the body temperature variation
- Identify the routes/methods of body temperature assessment
- List the indications and contraindications of each route/method of body temperature assessment.
- Enumerate the advantages and disadvantages of body temperature assessment routes
- Explain the alterations of body temperature
- Outline the Nursing interventions for a patient with body temperature alterations (fever, hypothermia)

### b) Teaching resources

Student book, Fundamentals of Nursing books, Computer (Laptop), projector, white screen, Figures showing the routes of body temperature assessment (from the student book or the Fundamentals of Nursing book), Figure of a thermometer (from the student book or the Fundamentals of Nursing book) showing the alterations of body temperature.

**c) Prerequisites/Revision/Introduction**

The learners should have understanding of the body temperature regulation taught in Biology subject for better understanding of this lesson. As a facilitator, request the learners to explain the body temperature regulation before you start this lesson. The detail about the mechanism of body temperature regulation is provided in this teacher guide under additional information.

**d) Learning activities 3.2.1**

**Guidance**

As a facilitator, involve the learners in the learning activity 3.2.1 of the above lesson and do the following:

- Facilitate the learners to form groups and choose the group leaders; 4-6 learners per each group
- Provide the Fundamentals of Nursing books to all groups. The Fundamentals of Nursing books in soft copies may be used for a group which has a laptop.
- Request learners to open the Fundamentals of Nursing books or their students' books, read the materials on body temperature and make a summary note about the items mentioned in the learning activity 3.2.1
- Allow learners time to read the materials on body temperature and make the summary note as requested in the activity.
- Move around to each group to provide any needed assistance.
- Choose 2 groups and 2 presenters randomly in order to present their work in class.
- During the presentations, as a facilitator you will request the presenters to engage all learners during the presentation and make the presentations more interactive.
- During the presentations, let the groups support each other, other groups members respond to the questions asked by the presenters, and the facilitator provide clarification where needed.

**Answers to the learning activity 3.2.1.**

1) Body temperature: is defined as the balance between the heat produced by the body and the heat lost from the body, measured in heat units called degrees either Fahrenheit or Celsius
2) Difference between the core and surface temperature: The core temperature is the temperature of the deep tissues of the body, such as the abdominal cavity and pelvic cavity while the surface temperature is the temperature of the skin, the subcutaneous tissue, and fat. Core temperature remains relatively constant but the surface temperature rises and falls in response to the environment.

3) Normal values of body temperature: The normal range for adults is considered to be between **36°C and 37.5°C (96.8°F to 99.5°F**) with the average being 98.6°F**(37°C)**.The core temperature is generally **1°F to 2°F (0.6°C to 1.2°C**) higher than surface (skin) temperature

4) Factors affecting body temperature are: *age, hormones, rest and sleep, physical execises, time of the day, stress, digestion, climate,*

5) Route of body temperature assessment: *Axially, oral, tympanic, temporal and rectal*

- After the presentations, the facilitator will make a clear summary of the lesson and ask the questions under self-assessment 3.2.1 to learners in order to assess the learners' understanding of the lesson and the achievement of the intended learning objectives.

**Answers to self-assessment 3.2.1**

**1)** **The core temperature** is the temperature of the deep tissues of the body, such as the abdominal cavity and pelvic cavity while the **surface temperature** is the temperature of the skin, the subcutaneous tissue, and fat. Core temperature remains relatively constant but the surface temperature rises and falls in response to the environment.

2) iii) Axillary

3) i) The body temperature of 1030F.

To convert Fahrenheit to Celsius: subtract 32 from Fahrenheit reading and multiply by 5/9.

$^{0}C=(F-32^{0})\times 5/9$

$^{0}C= (103-32^{0})\times 5/9$

$103^{0}F=39.4^{0}C$

Mr. TA's body temperature is high. **He is having fever or hyperthermia**

ii) Appropriate nursing interventions for Mr. TA:

- Remove excess clothes and bedclothes to Mr. TA, but do not allow the him to become chilled
- Provide plenty of water and other fluids to replace fluid lost in sweating
- Provide adequate food and fluids (e.g. 2,500-3,000 ml per day) to meet the increased metabolic demands and prevent dehydration
- Measure intake and output for Mr. TA
- Reduce physical activity to Mr. TA to limit heat production

- Administer antipyretics to Mr. TA as ordered.
- Provide oral hygiene to Mr. TA to keep the mucous membranes moist.
- Provide a tepid sponge bath to increase heat loss through conduction
- Ventilation of Mr. TA' s room( room aeration) by opening the windows and the door
- Provide dry clothing and bed linen to Mr. TA.
- Monitor vital signs of Mr. TA
- Treat the cause of fever for Mr. TA

## Lesson three. *Lesson Three. Body Temperature measurement/ assessment*

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Recognize the required equipment for body temperature measurement
- Measure the oral, axillary, rectal, tympanic membrane and temporary artery body temperature
- Convert degree Fahrenheit to Celsius
- Interpret the body temperature readings
- Demonstrate empathy and respect towards clients during body temperature measurement
- Demonstrate safety precautions to prevent injuries while measuring body temperature
- Maintain a grooming appearance while taking body temperature
- Demonstrate communication and collaboration skills towards patients, care givers and staff during body temperature assessment
- Respect patient's privacy during body temperature measurement
- Demonstrate responsibility and accountability during body temperature assessment

**b) Teaching resources**

Student book, Fundamentals of Nursing books, Equipment for body temperature measurement:

- Thermometers
- Glass mercury thermometer

- Plastic non-mercury thermometer (digital thermometer)
- Electronic contact thermometer.
- Infrared (tympanic) thermometer
- Infrared temporal artery thermometer
- Disposable probe covers
- Non sterile gloves
- Cleaned and disinfected tray
- Swabs and disinfectant
- Kidney dish and bowl
- Additional Personal Protective Equipment (PPE),as indicated
- Toilet tissue, if needed
- Pencil or pen, paper or flow sheet, computerized record
  - Procedural guides (axillary, oral, rectal, tympanic membrane and temporary artery body temperature)
  - Mannequin for rectal temperature measurement
  - Computer (Laptop), projector, white screen
  - Videos about body temperature measurement if available or downloaded to You tube.
  - Speakers if available
  - Images showing the routes of body temperature assessment (from the student book or the Fundamentals of Nursing book).

**c) Prerequisites/Revision/Introduction**

Before practicing the procedure of body temperature measurement, the learners should have a revision on the routes/methods of body temperature measurement, their indications and contraindications. As a facilitator, you will assist the learners to recall on the routes/methods of body temperature measurement, their indications and contraindications by asking them the related questions

**d) Learning activities 3.2.2.**

**Guidance**

This is a practical lesson which requires much attention by learners and their active involvement in practicing the procedure. This lesson will take place in the skills laboratory and it should be well organized.

As a facilitator, involve the learners in the learning activity 3.2.2. of the above lesson and do the following:

- Book the skills laboratory 48 hours before the due date of the lesson.
- Prepare the stations in the skills laboratory in accordance with the number of groups you have and this preparation should ideally be done before the due time of the lesson.
- Avail all the required equipment for body temperature measurement (axillary, oral, rectal, tympanic membrane and temporal artery ) at each station and label them.
- Avail the procedural guides for body temperature measurement at each station (axillary, oral, rectal, tympanic membrane and temporal artery body temperature measurement)
- Facilitate the learners to form groups and choose the group leaders; 4 learners per each group
- Before starting the practice, assist the learners to recall on the routes/methods of body temperature measurement, their indications and contraindications by asking them the related questions.
- Show the learners the required equipment to be used for body temperature measurement and allow them to touch them and read the label.
- Request the learners to use the provided procedural guides and read the steps of body temperature measurement starting from axillary, then oral, rectal, tympanic membrane and temporal artery.
- If the videos on body temperature measurement are available, play the video and request learners to watch the video carefully before starting the practice.
- After reading and understanding the steps, let them start practicing the procedures. In a group, 2 learners will pair and each one will measure the body temperature of his/her colleague, communicate the results, interpret and document them vice versa. N.B. For rectal body temperature measurement, learners will practice the procedure on mannequins.
- During practice, move around to each group at each station to provide any needed assistance to learners.
- After practicing, request the learners to arrange the materials.

**Self-assessment 3.2.2.**

In order for the learners to master the technique of measuring body temperature, add more time so that each learner will measure one more time the body temperature of his/her partner, record the findings, interpret them and communicate the results to the partner. As a facilitator, you will be moving around and observe/assess each learner while carrying out the procedure.

## Lesson four. *Pulse measurement (overview and procedure)*

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Define Pulse
- Understand the normal   and abnormal values of pulse.
- Identify Factors affecting Pulse.
- Localize Sites of pulse palpation.
- Describe how to assess the pulse rate.
- Explain Basic nursing interventions during abnormal pulse.
- Identify required equipment to assess the pulse
- Measure correctly the pulse
- Interpret the pulse rate
- Demonstrate safety precautions to prevent injuries while measuring pulse
- Maintain a grooming appearance while assessing pulse
- Demonstrate communication and collaboration skills towards patients, caregivers and staff during pulse measurement
- Respect patient's privacy during pulse measurement
- Demonstrate responsibility and accountability during pulse measurement

**b) Teaching resources**

Computer and teaching videos (CD), projectors, screen, Images of the circulatory system, the heart in particular from Anatomy and Physiology (Atlas), Medical stethoscope, pens and papers

**c) Prerequisites/Revision/Introduction**

The learners will learn better the Pulse measurement if they have prior understanding of the functioning of the circulatory system especially the functioning of the heart. As a facilitator, ask the learners some questions related to the heart to test their prior understanding of the heart physiology. Among the questions to be asked will be the kind of knowing the parts of the heart how a heartbeat is initiated.  By engaging learners in this learning process; it will be easier for the teacher to relate the student's prior knowledge with the new lesson of Pulse overview and measurement

**d) Learning activities 3.3.**

**Guidance**

The teacher will provide textbook of Fundamentals of Nursing to read under the vital signs unit, Pulse rate measurement and materials for taking Pulse are provided.

First of all, students will form two big groups A and Band select a representative and rapporteur for each group. Each group will read on a number of identified sub-headings and will come up with a summary on those sub-headings. The task sharing is as follows: group A will read on: Definition of Pulse; Normal and abnormal values of Pulse and Factors affecting Pulse.

Group B will read on: Sites of Pulse, Different methods of how to assess Pulse and Basic nursing interventions during abnormal pulse.

For the sake of demonstration, the facilitator will measure the pulse rate of one student by recalling the important steps for the procedure as it is mentioned in the Student Book.(see Implementation using the procedural guide for peripheral pulse measurement under Learning activity 3.3)

Students will be reminded to observe the images of pulse taking for their guidance. (Fig .48 to Fig.55).

Students will work in Pairs when it comes time of pulse rate measurement procedure and share responsibility as follows using materials for measuring pulse rate:

- Each student in the group will measure pulse rate for his/her partner,

Each partner interprets results of each other and communicate between them those results. So students will work collaboratively on the task and both boys and girls participate actively. At the end of the lesson, two sessions self-assessment will be done in the following order: the first session will address the overview part of the lesson while the second session will concern the pulse measurement as practical part of it.

**Answers to Self-assessment .3.3**

***About section (a) Overview:***

1) Normal values of pulse: The normal range of pulse rate for adults is **60 to 100 beats/min (bpm).**

2) Explanation of the three abnormalities or variations of Pulse:

   **Tachycardia** is an abnormally elevated HR (Heart Rate), above 100 beats/min or a pulse greater than 100 bpm in adults.

   **Bradycardia** is a slow rate, below 60 beats/min in adults or a pulse less than 60 bpm

   **Dysrhythmia:** is an abnormal rhythm when the intervals between beats vary enough to be noticeable.

3) Eight peripheral pulse sites include the following: Temporal, Carotid, Brachial, Radial, Femoral, Popliteal, Posterior tibialis, and Dorsalis pedis.

4) This is how the Peripheral Pulses Assessment is done:

- Make sure the client is resting while you assess the pulse.
- Count for 15 or 30 seconds if the pulse is regular; count for 60 seconds if it is irregular.
- For normal, healthy adults, you can determine the rate of a regular heart rhythm by counting the pulse for 15 seconds and multiplying the result by 4.
- Note pulse rate, rhythm, and quality.
- Compare pulses bilaterally.

**This is how the Apical Pulse Assessment is done:**

- Assessing the apical rate requires a stethoscope.
- Position the patient supine or sitting.
- Palpate and place the stethoscope at the 5th intercostal space at the midclavicular line.
- Count for 60 seconds.
- Note pulse rate, rhythm, and quality and the S1 and S2 heart sounds.

5) Seven Nursing strategies that address dysrhythmias, regardless of cause , include the following:

- Closely monitor the patient’s VS (Vital Signs)
- Monitor the patient’s activity tolerance
- Collect and assess laboratory data as prescribed
- Help determine the cause of the dysrhythmia.
- Administer anti-dysrhythmic medications.
- Provide emotional support.

***About section (b) of Pulse Measurement procedure;***

It is about students to measure pulse of his/her partner one more time for the mastering of the technique of Pulse rate taking where each student is required to do four things namely: Measure correctly the pulse rate of partner, Record the results, interpret them and Communicate results to the partner.

## Lesson five. *Blood pressure*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define blood pressure
- Differentiate systolic and diastolic blood pressure
- Explain the determinants of blood pressure
- Recognize the normal and abnormal values of blood pressure
- Explain the alterations of blood pressure (hypertension and hypotension)
- Outline the nursing interventions during blood pressure alterations (hypertension, hypotension)
- Recognize the required equipment for blood pressure measurement
- Measure the blood pressure
- Interpret the blood pressure results
- Demonstrate empathy and respect towards clients during blood pressure measurement
- Demonstrate safety precautions to prevent injuries to clients while measuring blood pressure
- Maintain a grooming appearance while taking blood pressure
- Demonstrate communication and collaboration skills towards patients, care givers and staff during blood pressure assessment
- Respect patient's privacy during blood pressure measurement
- Demonstrate responsibility and accountability towards blood pressure assessment

### b) Teaching resources

Student book, Fundamentals of Nursing books ,Computer (Laptop), projector, white screen, Equipment for blood pressure measurement:(Stethoscope, Sphygmomanometer, Blood pressure cuff of appropriate size, Electronic blood pressure machine, Pencil or pen, paper or flow sheet, Alcohol swab, Personal Protective Equipment )(PPE), as indicated, Procedural guide for blood pressure measurement, Videos about blood pressure measurement if available or downloaded to You tube., Speakers if available

### c) Prerequisites/Revision/Introduction

For better understanding of this lesson, the learners should have prior knowledge related to the functioning of the heart and the circulatory system as taught in Biology subject. In addition, the learners should first learn how to measure the pulse before learning the blood pressure measurement. As a facilitator, ask some questions to learners to assess for these prerequisites

**d) Learning activities 3.4.**

**Guidance**

As a facilitator, involve first the learners in the learning activity 3.4., section (a) on blood pressure overview and then proceed with the second learning activity 3.4., section (b) about blood pressure measurement.

**For the learning activity 3.4., section (a) you will do the following:**

- Teacher Facilitate the learners to form groups and choose the group leaders; 4-6 learners per each group
- Provide the Fundamentals of Nursing books to all groups. The Fundamentals of Nursing books in soft copies may be used for a group which has a laptop.
- Request learners to open the Fundamentals of Nursing books or their students' books, read the materials on blood pressure and make a summary note about the items mentioned in the learning activity 3.4.
- Allow learners time to read the materials on blood pressure and make the summary note as requested in the activity.
- Move around to each group to provide any needed assistance.
- Choose 2 groups and 2 presenters randomly in order to present their work in class.
- During the presentations, as a facilitator you will request the presenters to engage all learners during the presentation and make the presentations more interactive.
- During the presentations, let the groups support each other, other groups members respond to the questions asked by the presenters, and the facilitator provide clarification where needed.
- After the presentations, the facilitator will make a clear summary of the what was presented and answer to students' questions before proceeding to the practice of blood pressure measurement.

**For the learning activity 3.4., section (b) on blood pressure measurement you will do the following:**

- Book the skills laboratory 48 hours before the due date of the lesson.
- Prepare the stations in the skills laboratory in accordance with the number of groups you have and this preparation should ideally be done before the due time of the lesson.
- Avail all the required equipment for blood pressure measurement at each station and label them.

- Avail the procedural guide for blood pressure measurement at each station
- Facilitate the learners to form groups and choose the group leaders; 4 learners per each group
- Show the learners the required equipment to be used for blood pressure measurement and allow them to touch them and read the label.
- Request the learners to use the provided procedural guide and read the steps of blood pressure measurement.
- If the videos on blood pressure measurement are available, play the video and request learners to watch the video carefully before starting the practice.
- After reading and understanding the steps, let them start practicing the procedure. In a group, 2 learners will pair and each one will measure the blood pressure of his/her colleague, communicate the results, interpret and document them vice versa. The learners will use both the manual sphygmomanometer and the electronic blood pressure machine.
- During practice, move around to each group at each station to provide any needed assistance to learners.
- After practicing, request the learners to arrange the materials.

**Answers to Self-assessment a 3.4.**

To end the lesson, as a facilitator you will first request the learners to respond to the questions under the self-assessment 3.4., section (a) in order to assess their understanding of this lesson. Below are the answers of the self-assessment 3.4., section

**For blood pressure overview**

1) **Systolic blood pressure** is the pressure exerted by the blood flow on the arterial wall at the time of the systole: that means that when the left ventricle of the heart contracts throws blood in the circulation, the arteries are then to their maximum of tension. Diastolic blood pressure is the pressure exerted by blood on the arteries during the diastole. That means that at the time of the laxity of the ventricle (at rest). Thus, the Diastolic blood pressure is the minimal pressure exerted against the arterial wall at all times.
2) The 5 determinants of blood pressure are:
   - The pumping action of the heart
   - The peripheral vascular resistance (the resistance supplied by the blood vessels through which the blood flows)
   - The blood volume

- Blood viscosity
- Elasticity of vessels

3) C) Patient 3: 148/82, 148/78, 134/86
4) The blood pressure increases with age because in elderly people, elasticity of the arteries is decreased. The arteries are more rigid and less yielding to the pressure of the blood. This produces an elevated blood pressure for the elderly.

**For section (b) about blood pressure measurement procedure;**

In order for the learners to master the technique of measuring blood pressure, let learners return back to their respective groups in the skills laboratory and request each learner to measure one more time the blood pressure of his/her partner, record the findings, interpret them and communicate the results to the partner. As a facilitator, you will be moving around and observe/assess each learner while carrying out the procedure.

## Lesson six. *Respiration (Overview and Measurement procedure)*

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Define Respiration.
- Understand the normal and abnormal values of Respiration.
- Explain the Pathological variations of Respiration.
- Identify Factors affecting Respiration.
- Localize Sites of Respiration rate.
- Outline the Basic nursing interventions during abnormal respiration or in case of respiration alterations.
- Identify required equipment for respiration measurement
- Measure correctly the Respiration rate
- Interpret the respiratory rates
- Demonstrate safety precautions to prevent injuries while measuring respiration
- Maintain a grooming appearance while measuring respiration
- Demonstrate communication and collaboration skills towards patients, caregivers and staff during respiration measurement
- Respect patient's privacy during respiration measurement
- Demonstrate responsibility and accountability during respiration measurement

**b) Teaching resources**

Computer and teaching videos (CD), projectors, screen, Medical stethoscope, Wristwatch with second hand or digital display, Pen and vital sign flow sheet or electronic health record (EHR).

**c) Prerequisites/Revision/Introduction**

The learners will learn better the Respiration measurement if they have prior understanding of the functioning of circulatory system and the respiratory system especially the Anatomy and Physiology of the lungs. As a facilitator, ask the learners some questions related to the mechanism of the act of breathing as far as the intake of air into the lungs and the movement of gases from the lungs to the atmosphere are concerned. The facilitator will ask students to recall the meaning of terms such as: Inhalation or inspiration, Exhalation or expiration.

By engaging learners in this learning process; it will be easier for the teacher to relate the student's prior knowledge with the new lesson of Respiration overview and measurement.

Another very important prerequisite is that learner will lean better to measure the respiration rate if he/she has acquired very well the radial pulse measurement skills

**d) Learning activities 3.5.**

**Guidance**

The teacher will provide textbook of Fundamentals of Nursing to read under the vital signs unit, Respiration rate measurement and materials for taking Respiration are provided.

First of all, students will form two big **groups A and B** and select a representative and rapporteur for each group. Each group will read on a number of identified sub-headings and will come up with a summary on those sub-headings. The task sharing is as follows: **group A** will read on: Definition of Respiration, Normal and abnormal values of Respiration, Pathological variations of Respiration.

**Group B** will read on: Factors affecting Respiration, Sites of Respiration, Different methods of Respiration taking or How to assess the Respiration, Basic nursing interventions during abnormal respiration or in case of respiration alterations. Students will work in Pairs when it comes time of Respiration rate measurement and share responsibility as follows using materials for measuring Respiration rate.

For the sake of demonstration, the facilitator will measure the respiration rate of one student by recalling the important steps for the procedure as it is mentioned in the Student Book.(see Box 3.5. and Respiratory rate assessment procedure checklist). The teacher will remind students to observe the image of a nurse assessing the respiration of a patient (Fig.59) under learning activity 3.5.

Attention will be focused on how the nurse is positioning the patient's arm across his or her chest or abdomen and pretending to take the radial pulse and hold the pulse site while you assess first the respirations and then the radial pulse.

Each student in the group will measure Respiration rate for his/her partner. Each partner interprets results of each other and communicate between them those results. So students will work collaboratively on the task and both boys and girls participate actively in the groups.

**Answers to Self-assessment 3.5.**

***For Overview:***

1) The normal values or acceptable ranges of respiration rate for: - new-born, Infant (6 months), Toddler, Child, adolescent and Adult are summarized in this table;

| **Age** | **Rate(Breaths/min)** |
|---|---|
| Newborn | 35-40 |
| Infant(6 months) | 30-50 |
| Toddler (2 years) | 25-32 |
| Child | 20-30 |
| Adolescent | 16-20 |
| Adult | 12-20 |

2) a) Bradypnea describes a respiratory rate below 12 respirations per minute and Tachypnea describes the rate exceeding 20 respirations per minute.

   b) **Apnea** is when respirations cease or are absent.

   **Dyspnea**: when an individual is having labored or difficult breathing, he/she is said to be having dyspnea and **Orthopnea** is an abnormal condition in which a person must sit or stand to breathe deeply or comfortably.

3) Four abnormal Respiratory patterns: orthopnea, Cheyne-Stokes respirations, Kussmaul's respirations, Biot's respirations.

4) At least five factors affecting Respiratory rate: they may be chosen among these factors: Fever, age, exercise, pain, stress, fear, anxiety, Medications such as narcotics and sedatives, Respiratory diseases such as Asthma, emphysema, etc.…

5) Definition of the terms:

a) **Respiration** is the interchange of oxygen (O 2) and carbon dioxide ($CO_2$) between the atmosphere and the body and involves both external respiration and internal respiration.

b) **External respiration** is the exchange of these gases between the lungs' alveoli and the blood found in the capillaries that surround the alveoli.

c) **Internal respiration** is the process of exchanging gases between the circulating blood and the tissue cells that make up the body.

4) Sites used for Respiration rate taking: **chest** (counting how many times the chest rises),**chest wall** (observing degree of chest wall movement), **posterior thorax** (auscultating posterior thorax …)

***For measurement procedure;***

It is about students to measure Respiration rate of his/her partner one more time for the mastering of the technique of Respiration rate taking where each student is required to do the five things namely: Measure correctly the Respiration rate of his/her partner, Record the result, interpret them and communicate results to his/her partner.

## Lesson seven. *Oxygen saturation (Pulse Oximetry).*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define oxygen saturation (pulse oximetry)
- Recognize the normal and abnormal values of oxygen saturation
- Select the required equipment for oxygen saturation measurement
- Measure the oxygen saturation
- Interpret the oxygen saturation results
- Demonstrate empathy and respect towards clients during oxygen saturation measurement
- Maintain a grooming appearance while assessing oxygen saturation
- Demonstrate communication and collaboration skills towards patients, care givers and staff during oxygen saturation assessment
- Respect patient's privacy during oxygen saturation measurement
- Demonstrate responsibility and accountability during assessment of oxygen saturation

**b) Teaching resources**

Student book, Fundamentals of Nursing books, Computer (Laptop), projector, white screen, Equipment for blood pressure measurement: (Pulse oximeter, Pencil or pen, paper or flow sheet, Alcohol swab, Personal Protective Equipment (PPE), as indicated.) Procedural guide for pulse oximetry measurement, Videos about pulse oximetry measurement if available or downloaded to You tube. Speakers if available.

**c) Prerequisites/Revision/Introduction**

The learners should first learn the pulse and the respiration before learning oxygen saturation. This will help the learners to better understand the pulse oximetry. As a facilitator, before starting this lesson you will assist the learners to recall about the pulse and respiration by asking them some related questions.

**d) Learning activities 3.6.**

**Guidance**

As a facilitator, you will involve the learners in this learning activity 3.6. as follow:

- Facilitate the learners to form groups and choose the group leaders; 4-6 learners per each group
- Provide the Fundamentals of Nursing books to all groups. The Fundamentals of Nursing books in soft copies may be used for a group which has a laptop.
- Request learners to open the Fundamentals of Nursing books or their students' books, read the materials on oxygen saturation/pulse oximetry and make a summary note about the items mentioned in the learning activity 3.6.
- Allow learners time to read the materials on pulse oximetry and make the summary note as requested in the activity.
- Move around to each group to provide any needed assistance.
- Choose 2 groups and 2 presenters randomly in order to present their work in class.
- During the presentations, as a facilitator you will request the presenters to engage all learners during the presentation and make the presentations more interactive.
- During the presentations, let the groups support each other, other groups members respond to the questions asked by the presenters, and the facilitator provide clarification where needed.

After the presentations, the facilitator will make a clear summary of the topic and then bring the learners in the skills laboratory to do the practice of pulse oximetry. In the skills laboratory, the facilitator will do the following:

- Book the skills laboratory 48 hours before the due date of the lesson.
- Prepare the stations in the skills laboratory in accordance with the number of groups you have and this preparation should ideally be done before the due time of the lesson.
- Avail all the required equipment for oxygen saturation measurement at each station and label them.
- Avail the procedural guide for oxygen saturation measurement at each station
- Facilitate the learners to form groups and choose the group leaders; 4 learners per each group
- Show the learners the required equipment to be used for pulse oximetry measurement and allow them to touch them and read the label.
- Request the learners to use the provided procedural guide and read the steps of pulse oximetry measurement.
- If the video on pulse oximetry measurement is available, play the video and request learners to watch the video carefully before starting the practice.
- After reading and understanding the steps, let the learners start practicing the procedure. In a group, 2 learners will pair and each one will measure the pulse oximetry of his/her colleague, communicate the results, interpret and document them vice versa.
- During practice, move around to each group at each station to provide any needed assistance to learners.
- After practicing, request the learners to arrange the materials.

**Answers Self-assessment 3.6.**

1) c) Verify that the oximeter sensor is intact and the skin under the sensor is dry

2) The factors that affect oxygen saturation readings are:
   - Hemoglobin
   - Circulation
   - Activity
   - Carbon monoxide poisoning

## Lesson eight. *Parameters*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define the two parameters (Height and Weight)
- Provide the Importance of measuring Height and Weight.
- Explain the Specific reasons for weighing both a child and an adult.
- Identify material /equipment used to measure weight and Height
- Measure correctly the Weight and Height of both an adult person and a child
- Demonstrate safety precautions to prevent injuries while measuring client's weight and height
- Maintain a grooming appearance while measuring weight and height
- Demonstrate communication and collaboration skills towards patients, caregivers and staff during weight and height measurement
- Respect patient's privacy during weight and height measurement
- Demonstrate responsibility and accountability during weight and height measurement

### b) Teaching resources

Computer and teaching videos(CD),projectors, screen,

Weighing scale tape measure and height scale; pens and papers

### c) Prerequisites/Revision/Introduction

For learners to understand well the lesson of Weight and Height measurement; they would have been taught Milestones of growth and development in infants and children. But also they should have learned and understood well signals of possible onset of alterations indicating illness in all age groups.

By asking such questions about milestones of growth and development in infants and children ….., the teacher will be testing the understanding and knowledge about the health status of a person. It will be easier for the facilitator to relate that prior knowledge with the new lesson of Weight and Height measurement.

### d) Learning activities 3.7.

**Guidance**

Firstly, the teacher will provide textbook of Fundamentals of Nursing to students and tell them to read under the vital signs and parameters unit, the sub-topic of Weight and Height measurement. The teacher will tell them to pay attention to the images provided in their textbooks under that very sub-topic of weight and Height measurement.

In order to engage every student in the learning process; the facilitator will ask students to form two bigger groups  A and Band select a representative and rapporteur for each group. Each group will read on a number of identified sub-headings and will come up with a summary on those sub-headings.  They will share the task as follows:  group A will read on: Definition of two parameters (Height and Weight) and Importance of Measuring Height and Weight.

Group B will read on specific reasons for weighing both a child and an adult and Identify material /equipment used to measure weight and Height.

Each group will be asked to present the summary of their identified sub-headings while the rest of students of the same will be free to provide any missing information and the teacher will be there to clarify   the summary notes of each group and thank them for the work done.

Secondary; as it was done for the lessons on Pulse rate measurement and Respiration rate measurement; the teacher will again ask students each one to pair with his/her partner for the practical component of the lesson and pay attention to what the facilitator is going to demonstrate. The facilitator will measure the weight and height of one student by following the important steps for the procedure as it is mentioned in the Student Book.

Students will be working in pairs when it comes time to practice the procedure and share responsibility using materials and equipment provided for weight and height measure-ment.  So at the end of that demonstration, each student will be able to perform the following: position or put the partner in right position; Measure his/her weight and height and vice-versa then compare their results.

At the end of the lesson, two sessions self-assessment will be done in the following order: the first session will address the section (a) Overview part of the lesson while the second session will concern the section (b): Measurement of Weight and Height procedure as practical part of our lesson.

**Answers to the self-assessment 3.7.**

**For Overview: Section (a)**

1) **Weigh**t is the quantitative expression of body that indicates the state of growth and health   measured in kg or grams.
2) **Height** or **size** is the measurement from head to toe that indicates the state of growth and health and is commonly expressed in centimetres (cm), or meters (m).
3) The Purpose of weight measurement is to obtain accurate weight of the patient; to aid in accurate diagnosis of the patient's condition and to evaluate the patient's response to treatment.

4) The specific reasons for weighing in a child are the following: to follow up a good growth, to appreciate the nutritional state, to follow the evolution of an illness and to calculate some doses of medicine.

   In an adult person; the specific reasons for weighing are: to evaluate the patient's general state, help in the orientation of the diagnosis, inform on the evolution of the illness, to calculate doses of some medicines, to follow up the evolution of treatment and to follow up the pregnant woman.

5) a) Materials /equipment used for weight for adult: well weighing scale, a pen and weight recording flow sheet. For height measurement: A scale for measuring height, a standing weight scale, the metal rod, Pen and Height recording flow sheet.

   b) Materials/equipment used for Weight and Height measurement for children: Baby Weighing Machine or Salter balance, a pen and weight recording flow sheet. For height measurement: the same as for adult.

**For Weight and Height Measurement Procedure: Section (b)**

Students have to practice by measuring Weight and Height of his/her partner one more time for the mastering of the procedure itself where each student is required to do the three things namely: Position his/her partner in position, Measure correctly Weight and Height of his/her and vice-versa then after, Compare your results.

## 3.6 Summary of the unit

Vital signs measurement includes the physiological measurements of temperature, pulse, blood pressure, respiration, and oxygen saturation. Parameters measurement includes body weight and height measurement. Vital signs reflect changes in body function that otherwise might not be observed. Vital signs are measured as part of a complete physical examination or in an episodic review of a patient's condition. Measure vital signs when your patient is at rest and the environment is controlled for comfort. Evaluate vital sign changes with other physical assessment findings using clinical judgment to determine measurement frequency. Knowledge of the factors influencing vital signs helps to determine and evaluate abnormal values. Changes related to aging influence vital sign measurement and nursing interventions for older adults.

Vital signs provide a basis for evaluating response to nursing interventions. Changes in one vital sign often influence characteristics of the other vital signs.

Body temperature is the balance between heat produced by the body and heat lost from the body. Factors affecting body temperature include age, diurnal variations, exercise, hormones, stress, and environmental temperatures. Common routes of body temperature assessment include axillary, oral, rectal, tympanic membrane and temporal artery routes.

Pulse rate and volume reflect the stroke volume output, the compliance of the client's arteries, and the adequacy of blood flow. Normally, the peripheral pulse reflects the client's heartbeat, but it may differ from the heartbeat in clients with certain cardiovascular diseases; in these instances, the nurse takes an apical pulse reading and compares it with the peripheral pulse. Many factors may affect a person's pulse rate: age, sex, exercise, presence of fever, certain medications, hypovolemia, stress, position changes, and disease.

Respirations are normally quiet, effortless, and automatic and are assessed by observing respiratory rate, depth, rhythm, quality, and effectiveness. Blood pressure reflects cardiac output and peripheral vascular resistance. Among the factors influencing blood pressure are age, exercise, stress, obesity, sex, medications, sodium intake, diurnal variations, and medical conditions. Ways to maintain a healthy blood pressure include maintaining a healthy diet, reducing sodium intake, participating in regular physical activity, reducing alcohol consumption, maintaining a healthy BMI, smoke cessation, and practising stress management. During blood pressure measurement, the artery must be held at heart level.

Pulse oximetry is a noninvasive means of measuring the percentage of hemoglobin saturated with oxygen. A normal SpO2 result is 95% to 100%. Body weight is measured for several reasons such as to evaluate the patient's general state ( if he gets thinner or put on weight ), orientation to the diagnosis , evaluation of the nutritional status, evaluate the evolution of the illness , calculate doses of some medicines , follow up the evolution of treatment and follow up a good growth. The measurement of height serves also to follow up a good growth and evaluate the nutritional status.

## 3.7 Additional information for teachers

### 3.7.1 Pain as the sixth vital sign

Beside the five traditional vital signs: blood pressure, temperature, pulse, respirations, and oxygen saturation; currently in many Fundamentals of Nursing textbooks; pain assessment has been added as the sixth vital sign.

**Pain** is defined as an unpleasant and highly personal experience that may be imperceptible to others, while consuming all parts of the person's life. The best definition of pain comes from Margo McCaffery, an internationally known nurse

expert on pain. Her often quoted definition of pain says "**pain is whatever the person says it is, and exists whenever he says it does**" This definition certainly portrays how subjective pain is.

Another widely agreed-on definition of pain is **"an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage".**

Pain is normally assessed using a **pain scale of 0 to 10** (or other facility-approved scale) for adults and a scale using a series of facial expressions for children.

**Types of Pain**: Pain may be described in terms of location, *duration, intensity, and etiology.*

- **Duration:**

When pain lasts only through the expected recovery period, it is described as

**Acute pain,** whether it has a sudden or slow onset, regardless of its intensity.

**Chronic pain**, also known as persistent pain, is prolonged, usually recurring or lasting 3 months or longer (APS, 2008), and interferes with functioning

- **Intensity:**

Most practitioners classify intensity of pain by using a *standard scale:*

0 (no pain) to 10 (worst possible pain) scale. Linking the rating to health and functioning scores, pain in the 1 to 3 range is deemed:

- **Mild pain**, a rating of 4 to 6 is:
- **Moderate** pain, and pain reaching 7 to 10 is deemed:
- **Severe pain** and is associated with the worst outcomes.

- **Etiology:**

Designating types of pain by etiology can be done under the broad categories of nociceptive pain and neuropathic pain.

### 3.7.2 Body temperature

While teaching fever as one of the alterations of body temperature; the student may ask why the person experiences chills, shivers, and feels cold even though the body temperature is rising. This may lead you to explain the mechanism of fever occurrence and the clinical manifestation of fever as detailed below.

**Mechanism of fever occurrence:**

The hypothalamic integrator is the centre that controls the core temperature and it is located in the preoptic area of the hypothalamus. A comfortable temperature is the " **set point**" at which a heating system operates and it is normally set at 370 C. The presence of viruses, bacteria, fungi or bacterial endotoxins in the circulation stimulates the immune system.  Stimulation of the immune mechanism triggers the production of antibodies and the activation of the inflammatory response. As a result of these processes substances such as prostaglandins, interleukins and interferon are formed, which act as internal pyrogens, which stimulate the temperature – regulating centers and **increase body temperature**.

**A Pyrogen:** Any substance that can cause a rise in body temperature such as bacteria, virus, prostaglandins, interleukin, chemicals. Mild temperature elevations up to 390C enhances the body's immune system. During a febrile episode, white blood cell production is stimulated. Increased temperature reduces the concentration of iron in the blood plasma, suppressing the growth of bacteria. The increased body temperature that occurs in pyrexia also enhances the host defense mechanisms ( i.e increased phagocytosis rate). Fever also fights viral infections by stimulating interferon, the body's natural virus-fighting substance. Thus, fever is a controlled increase in body temperature that is part of the body's defense mechanisms against infection.

**Clinical manifestation of fever:**

The clinical signs of fever vary with **the onset, course and abatement stages** of the fever. These signs occur as a result of changes in the set point of the temperature control mechanism regulated by the hypothalamus. Under normal conditions, whenever the core temperature rises above 370 C, the rate of heat loss is increased, resulting in a fall in temperature toward the sent point level. Conversely, when the core temperature falls below 370 C, the rate of heat production is increased, resulting in a rise in temperature toward the set point.

During a raised temperature the set-point of the hypothalamic thermostat changes suddenly from the normal level to a higher than normal level (e.g. 39.50 C) as a result of the effects of tissue destruction, pyrogenic substances, or dehydration on the hypothalamus. Although the set point changes rapidly, the core body temperature (i.e. the blood temperature) reaches this new set point only after several hours. During this interval, the person experiences chills, shivers, and feels cold, even though the body temperature is rising. In this case, physiological heat production mechanisms are activated to raise the core temperature for achieving the new set point. **(Onset, cold or chill stage).** When the core temperature reaches the new set point, the person feels neither cold nor hot and no longer experiences chills (The chill phase resolves when the new set point, a higher temperature is achieved).

Nursing measures during the chill phase are designed to help the patient **decrease heat loss**. At this time, the body's physiological processes are attempting to raise the core temperature to the new set-point temperature.

When the core temperature reaches the new set point, the person feels neither cold nor hot and no longer experiences chills. Depending on the degree of temperature elevation, other sign may occur. (Course stage or plateau phase). Very high temperatures, such as **41 to 42 $^{0}$C,** damage the cells throughout the body, particularly in the brain where destruction of neuronal cells is irreversible. Damage to the liver, kidneys and other body organs can also be great enough to disrupt functioning and eventually cause death.

When the cause of the high temperature is suddenly removed, the set point of the hypothalamic thermostat is suddenly reduced to a lower value, perhaps even back to the original normal level. In this instance, the hypothalamus now attempts to lower the temperature to 370 C, and the usual heat loss responses causing a reduction of body temperature occur: excessive sweating and a hot, flushed skin due to sudden vasodilatation. (**Abatement stage or defervescent stage).**

Though the terms **fever and hyperthermia** are often used interchangeably, it is important for the teacher to clearly understand the difference between fever and hyperthermia. In many cases, hyperthermia, or pyrexia, indicates fever, but not always. Fever is a regulated rise in core body temperature or change in temperature set point, which is regulated by the hypothalamus, the body's thermostat. Hyperthermia, in contrast, is an unregulated rise in body temperature caused by the body's inability to eliminate heat adequately, such as in the case of heat stroke.

**Four common types of fever:**

Four common types of fevers are **intermittent, remittent, relapsing, and constant**. During **intermittent fever**, the body temperature alternates at regular intervals between periods of fever and periods of normal or subnormal temperatures. This occurs, for example, with malaria. During a **remittent fever,** there is a wide range of temperature fluctuations (more than 2°C) which occurs in 24 hours, and all of which are above normal. Examples of conditions with this type of fever are **cold or influenza**. In a **relapsing fever,** short febrile periods of a few days are interspersed with periods of 1 or 2 days of normal temperature. During a **constant fever,** the body temperature fluctuates minimally but always remains above normal. This can occur with **typhoid fever**. A temperature that rises to fever level rapidly following a normal temperature and then returns to normal within a few hours is called a fever spike. This often happens in bacterial blood infections.

### 3.7.3 Blood pressure

#### a) Hypotension

Hypotension which is one of the blood pressure alterations is described in the student text book. However, the teacher should also have understanding on **orthostatic (postural) hypotension** since the students may ask a related question.

**Orthostatic (postural) hypotension**: is a drop of 20 mmHg or more in systolic blood pressure and of 10 mmHg in diastolic blood pressure when the client rises from a lying or sitting position to a standing position.

Orthostatic hypotension is a common result of immobilization. Under normal conditions, sympathetic nervous system activity causes automatic vasoconstriction in the blood vessels in the lower half of the body when a mobile person changes from a horizontal to a vertical posture. Vasoconstriction prevents pooling of the blood in the legs and effectively maintains central blood pressure to ensure adequate perfusion of the heart and brain. During any prolonged immobility, this reflex becomes dormant. When immobile person attempts to sit or stand, this reconstructing mechanism fails to function properly in spite of adrenalin output. The blood pools in the lower extremities, and central blood pressure drops. Cerebral perfusion is seriously compromised, and the person feels dizzy or light headed and may even faint. This sequence is usually accompanied by a sudden and marked increase in heart rate, the body's effort to protect the brain from an inadequate blood supply.

#### b) Blood pressure sites

Usually the blood pressure is taken in the arm using the **brachial artery** unless there is some damage to the arm. If it is impossible to take the blood pressure on arms, for example because of cast, burn, lesions or various traumatism, the blood pressure will be taken **on thigh (popliteal artery**), but it is necessary to have a long sphygmomanometer to suit the thigh.

In adults, the systolic pressure in the popliteal artery is usually 20-30 mm Hg higher than that in the brachial artery because of use of a larger bladder; the diastolic pressure is usually the same.

#### c) Common Errors in Assessing Blood Pressure

Some reasons for erroneous blood pressure readings are given below:

**Creating a false high reading:**

- Having a cuff that is too narrow or too short
- Having a cuff that is too loose
- Deflating the cuff too slowly (false-high diastolic reading)

- Having the arm below the heart level
- Having the arm unsupported
- Assessing immediately after a meal or while client smokes or has pain

**Creating a false low reading:**

- Having a cuff that is too wide
- Having a cuff that is too tight
- Deflating the cuff too quickly (false-low systolic and false-high diastolic reading)
- Having the arm above the heart level

**Creating a false diastolic reading**

- Deflating the cuff too slowly (false-high diastolic reading)
- Having a stethoscope that fits poorly in the examiner's ears (false-high diastolic reading)
- Inflating the cuff too slowly (false-high diastolic reading)
- Stethoscope applied too firmly against antecubital fossa; False-low diastolic reading

**Creating a false systolic reading:**

- Deflating the cuff too quickly (false-low systolic and false-high diastolic reading)
- Repeating assessments too quickly: False-high systolic reading or low diastolic reading

**d) Variation:** Obtaining Blood Pressure by the Palpation Method

If it is not possible to use a stethoscope to obtain blood pressure (auscultatory method), or if Korotkoff sounds cannot be heard, palpate the radial or brachial pulse site as the cuff pressure is released. The manometer reading at the point where the pulse reappears is an estimate of systolic value (Palpation method).

### 3.7.4 Body weight and height

Maintaining a healthy or ideal body weight requires a balance between the expenditure of energy and the intake of nutrients. Generally, when energy requirements of an individual equate with the daily caloric intake, the body weight remains stable. Ideal body weight (IBW) is the optimal weight recommended for optimal health. To determine an individual's approximate IBW, the nurse can consult standardized tables or can quickly calculate the Body Mass Index (BMI).

Many health professionals consider the body mass index to be a more reliable indicator of a person's healthy weight. For people older than 18 years, the body

mass index (BMI) is an indicator of changes in body fat stores and whether a person's weight is appropriate for height, and may provide a useful estimate of malnutrition.

However, the results must be used with caution in people who have fluid retention (e.g., ascites or edema), athletes, or older adults.
To calculate the BMI: **Formula of BMI calculation**

1. Measure the person's height in meters, e.g., 1.7 m
2. Measure the weight in kilograms, e.g., 72 kg
3. Calculate the BMI using the following formula:

**BMI** = ***weight in kilograms*** divided by ***(height in meters)²***

***or***

$$BMI = \frac{\boldsymbol{Weight}\ in\ Kilograms}{(\boldsymbol{Height}\ in\ meters)^2}$$

**Example**: Height: 1.7m ; Weight: 72 kg. Apply the formula now.

$$\textbf{BMI}=\frac{\boldsymbol{72kg}}{(\boldsymbol{1.7m}\times 1.7\text{m})}= \mathbf{24.9}$$

**BMI interpretation**

| **Status** | **BMI(kg/m²)** |
|---|---|
| Underweight | < 18.5 |
| Normal | 18.5-24.9 |
| Overweight | 25.0-29.9 |
| Obesity | 30.0-34.9 class I |
| | 35.0-39.9 class II |
| **Extreme obesity** | 40.0 class III |

N.B. People with extreme obesity have a risk of developing Disease such as Diabetes 2 type, Hypertension and cardiovascular disease.

## 3.8 Guidance on Skills laboratory

In this lesson, the skills laboratory will be used in three categories: (1) Skills lab use within the lessons (2) Skills lab use during students' self-practice (3) Skills lab use during practical assessment.

### 1) Skills lab use within the lessons

Within the lessons, the practical components of the lessons will be implemented in the skills laboratory. For lessons which have the practical components to be done in the skills lab, the practice will immediately follow the theoretical overview of the topic covered in classroom.

The teacher will therefore do the following to organize the skills lab teaching:

- Book the skills laboratory 48 hours before the due date of the lesson.
- Work collaboratively with the skills lab officer to organize the skills lab before the due time of the lesson. The stations in the skills laboratory will be prepared; 4 students per each station and this should be done before the due time of the lesson.
- All required equipment for the procedure must be prepared and label at each station.
- The procedural guide related to the lesson to be taught has to be availed at each station.
- Students will be requested to read the steps of the procedure including the required material in the procedural guide before they start practicing the technique. In case the video is available, the students will watch it also before starting practicing.
- After reading and understanding the steps, or after watching the video, the students will start practicing the procedure themselves while the teacher moving around to each station to provide the needed support. In a group of 4 students, 2 students will pair and each one will measure the vital signs of his/her colleague, communicate the results, interpret and document them vice versa. But for the rectal body temperature measurement, the students will practice it on mannequins.
- After practicing, the students will be responsible to rearrange the skills lab and ensure everything in the skills lb is in order.

### 2) Skills lab use during students' self-practice

After the learners have practiced the technique in the skills lab within the lesson, they will then get opportunity to use more time the skills lab for self-practice of the learnt skills in order to develop the hands on skills. The teacher will work collaboratively with the skills lab officer and make booking for self-practice in skills lab before the due date planned on the timetable. Stations will be prepared and each station will accommodate 4 students. At each station, 2 students will pair and each one will measure the vital signs of his/her partner. The teacher will be around during the self-practice so that he will be providing the needed assistance. Always, at the end of the self-practice, students will be responsible to rearrange the skills lab and put everything in order.

3) **Skills lab use during practical assessment.**

To ensure if the students have mastered the procedures and met the practical learning objectives of the lesson, the Objective Structured Clinical Evaluation (OSCE) will be conducted. The teacher will request a support of additional staff (professional nurse teachers) from the School administration to assist him in conducting the OSCE. The teacher will make the OSCE plan and communicate it as earlier as possible to all students and the staff who will be involved in the OSCE activity. As the 5 vital signs and the parameters will be evaluated during the OSCE, the six (6) stations will be prepared in the skills lab and each student will rotate in all the 6 stations. Students will be briefed about how the OSCE will be conducted and each student will spend five (5) minutes in each station and move from one station to another until he/she crosses all the six (6) stations. In each station, the clear instructions of what to do will be available for the students and for each station the teacher will be inside to monitor and grade the student while he/she is practicing the technique.

## 3.9 Answers to end unit assessment

**Answers to End-unit assessment 3.**

**Question one**

1) Use of correct hand washing techniques before and after assessing Mr. K.

   Use of gloves while assessing Mr. K

2) The tympanic or axillary route can be used. Because the client is nauseated, the oral route could stimulate the gag reflex and the rectal route is not indicated due to diarrhea. The tympanic route is the ideal as it reflects the core body temperature.

3) Vomiting and diarrhea may lead to hypovolemia which in turn may result into blood pressure dropping and increased pulse rate.

   Age and gender

**Question two**

1) The abnormal findings for Mr. K are body temperature, pulse, respiration, oxygen saturation and weight/height.

   Body temperature is high (102.20F=390 C): It is identified as fever or hyperthermia

   Pulse is elevated (>100 bpm). It is called tachycardia.

Respiration is high with irregular rhythm (>20bpm). It is tachypnea

Oxygen saturation (SP02) is slightly low(<95-100%): It is mild hypoxia

Weight is not correlating with height (BMI=17.5). Mr. K is underweight.

2) The correct order of the steps of blood pressure measurement using the two-step method is: **5, 2, 8, 4, 1, 7, 3, 6**

## 3.10 Additional activities

### 3.10.1 Remedial Activities:

1) Match the pulse sites in column Ato Reasons for use in Column B

| Pulse sites | Reasons for use |
|---|---|
| 1. Radial | a) Used during cardiac arrest /shock in adults |
| 2. Temporal | b) Readily accessible |
| 3. Carotid | c) Used when radial Pulse is not accessible |
| 4. Apical | d) Routinely used for infants and children up to 3 years of age |
| 5. Popliteal | e) Used to determine circulation to the lower leg |

**Answers to the remedial activities**

Answer: 1. b; 2.c; 3.a; 4.d; 5. E

### 3.10.2 Consolidation activities:

1) Describe the procedure of measuring an infant's height if the procedure is carried out by:

a) Two nurses,

b) One nurse

**Answer:** a) **Procedure of measuring an infant's height if the procedure carried out** by two nurses

The first nurse holds the infant still and the other to measure the length.

The other nurse places the infant on a firm surface and extends the knees, with the feet at right angles to the table.

Then the free nurse Measures the distance from the vertex (top) of the head to the soles of the feet with a measuring tape.

**b) Procedure carried out by one nurse:**

If the nurse performs the measurement without assistance:

- An object should be placed at the infant's head,
- The infant's knees should be extended, and a second object should be placed at the infant's feet.
- Then Lift the infant and measure the distance between the two objects.

2) Explain the "tripod position" indicated for patients with Dyspnea.

**Answer:**

Patients with dyspnea experience more distress when lying flat. They should be placed in a semi-Fowler or Fowler position to facilitate a better respiratory pattern. But in order for patients gain Maximal lung expansion it will be achieved by having the patient assume a sitting position, leaning forward over a raised bedside table, with arms resting on the table. This is what is called the tripod position.

### 3.10.3 Extended activities

1) It is said that the older adult usually decreases in height; explain the reason of that situation.

Answer: The older adult usually decreases in height as a result of a gradual loss of muscle mass and changes in the vertebrae that occur in condition such as osteoporosis which is a process in which reabsorption exceeds accretion of bone.

2) The client L is a 35-year-old accountant who works for a firm in a nearby office building. He tells you that he has been under a lot of stress and is worried about his blood pressure. But also he says that he's feeling very cold. You measure his blood pressure as 160/130 mm Hg and the body temperature taken is 39.8ºc.

   a) Interpret these vital signs of your client.

   b) What advice should you offer to Mr. L?

Answers:

a) His blood pressure of 160/130 mmHg is abnormal because it is Hypertension. T°39.8°c is also abnormal because it is Hyperthermia.

b) The advice to offer to him is that he should seek urgently for a medical treatment but also he will come back for regular medical check-up.

c) For the life style; he should take rest in his busy day in order to avoid stress. He should have a balanced diet by eating fruits, vegetables and no salt.

# UNIT 4 NOSOCOMIAL INFECTION CONTROL AND PREVENTION

## 4.1 Key unit competence

Apply correctly the infection prevention and control techniques for nosocomial infections

## 4.2 Prerequisites (knowledge, skills, attitudes and values)

The learners have general overview on hygiene. Furthermore, they learnt hygiene and comfort care of the client in fundamental of nursing. This will lead them to understand specifically the nosocomial infection unit. Ask them to identify the importance of general hygiene.

## 4.3 Cross-cutting issues to be addressed

**a) Gender education**

Gender education is addressed through inviting both girls and boys to make presentation.

**b) Environment and sustainability**

Learners get basic knowledge from environment, they understand that the good environment can lead to good life, they have the attitude of keeping cleanness environment in order to prevent infection transmission. Help the learners to know maximum skills and attitudes on the environmental sustainability and to be responsible in caring for patients' environment.

## 4.4 Guidance on the introductory activity

With reference of the pictures A and B of this introductory activity, the teacher will help students to find out by observation of those pictures, that there is a difference in terms of material preparation and nurse's organization.

Asks students to observe carefully the pictures A and B and answer related asked questions in student book, introductory activity of unit 4

**Teacher's activity:**

- Put learners into small groups of 5 students and ask them to observe the images and discuss the given questions
- Provide guidance to each group during their discussion
- Request each group to have one member who presents their findings

- Note that students may not be able to provide the right answers, encourage them to think more.

**Expected answers to the introductory activity 4**

1) No, it is not perfect to maintain the patient room dirty
2) 
   - Nurse in room A should remove used gloves, wear new gloves and arrange the bed of patient, arrange the patient environment
   - The nurse in room B is in a good working in standardized manner
3) Potentials risks associated to this kind of patient arrangement in Room A:
   - Risks infection and contamination
   - Risk of injury
   - Transmission of communicable diseases like HIV, Hepatitis

## 4.5 List of lessons/subheadings (including assessment)

| # | Lesson title | Learning objectives | Number of periods |
|---|---|---|---|
| 1 | Overview on nosocomial infection | Define the concept of nosocomial infections<br>Explain the causes; risk factors and mode of transmission of nosocomial infections | 2 |
| 2 | Concepts of Asepsis and Antisepsis | Explain the concepts of asepsis and antisepsis<br>Differentiate Medical and Surgical asepsis<br>Discuss the levels of asepsis (Cleaning, Disinfection and Sterilization) | 3 |
| 3 | Prevention and control of nosocomial infections | Describe the standard precautions of infection control<br>Apply correctly the techniques of infection control and prevention Respect the WHO standard precautions of infection control<br>Demonstrate empathy while caring for the patient | 3 |

| 4 | Overview on Hand hygiene | Respect patient ‘privacy<br><br>Maintain a groom in appearance<br><br>Apply correctly the techniques of infection control and prevention | 3 |
|---|---|---|---|
| 5 | Personal protective equipment (PPE) | Maintain a groom in appearance | 3 |
| 6 | Respiratory hygiene and cough etiquette | Maintain a groom in appearance<br><br>Demonstrate empathy while caring for the patient | 2 |
| 7 | Sharps Safety/ Safe Injection Practices | Demonstrate safety precautions to prevent injuries and infection transmission | 2 |
| 8 | Sterilization and Disinfection of Patient-Care Items and Devices | Explain the concept of sterilization and disinfection of Patient-Care Items and Devices | 3 |
| 9 | Clean and disinfect environmental surfaces. | Demonstrate safety precautions to prevent injuries and infection transmission | 3 |
| 10 | Safe handling of linens | Demonstrate safety precautions to prevent injuries and infection transmission | 3 |
| 11 | Hazardous wastes management (collection, recycling, treatment, transportation and disposal) | Demonstrate safety precautions to prevent injuries and infection transmission<br><br>Apply correctly the techniques of infection control and prevention | 3 |
| 12 | Skills lab | Integration time for skills lab | 8 |
| 13 | End unit assessment | Understand and respond correctly questions of assessment | 2 |

## Lesson one. *Overview on nosocomial infection*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define the concept of nosocomial infections
- Explain the causes; risk factors and mode of transmission of nosocomial infections

**b) Teaching resources**

Textbooks, Computer and projector, Student books, pictures and Printed activity 4.1 in student book

**c) Learning activities 4.1.**

**Guidance**

- Activity 4.1requires that learners observe the pictures and answer the asked questions.
- Distribute the activity on printed paper in group of students.
- Request the groups to do the activity 4.1
- Pass around the groups, guiding and facilitating them.
- Select 1 or 2 groups which will present answers to the whole class.
- Ask other groups to add the missing information if they have it.
- Enable students to ask for clarification from what the groups have presented and explain what the groups have not highlighted.
- Write the lesson summary on the blackboard, PowerPoint and share it with the students.
- At the end, assess students with self-assessment or formulate your own assessment questions that must be answered by each learner.

**Answers to learning activity 4.1.**

1) Picture A: Patient is lying in dirty bed sheets and this can facilitate the transmission of infection from dirty bed sheets to the patient and to other person who can touch on them

   **Picture B:** A health professional (nurse) sits in the patient's bed during tour round (visit); there is a risk of patient to get infections from clothes of nurse who was caring other clients, and there is also the risk of nurse to get infections from patient's bed sheets.

   **Picture C:** Two patients in different beds are greeting each other. This act can facilitate the transmission of infection from one patient to another.

2) Dirty hospital environment can spread infectious diseases in the sens of hazardous waste that can transmit communicable diseases like HIV , Hepatitis and other diseases

**Answers to self-assessment 4.1.**

1) Nosocomial infections also known as healthcare-associated infections (HCAI) or hospital acquired infections are defined as localized or system infection, occurring at least 48 hours after hospital admission, that was not present or incubating at the time of admission. They are those infections that occur in patients or healthcare workers either as a direct result of healthcare intervention (such as medical or surgical treatment) or from being in contact with a healthcare setting
2) The most common pathogens that cause nosocomial infections are Staphylococcus aureus, Pseudomonas aeruginosa, and E. coli. Nosocomial infections are not just limited to bacteria; certain fungi such as Candida albicans and aspergillus, as well as, viruses such as Respiratory Syncytial Virus and influenza have also been implicated in a number of hospital acquired infections
3) The risk factors for nosocomial infection include hospitalized patients with underlying disease like diabetes, high blood pressure, HIV/AIDs, malnutrition, etc.; age particularly elderly and young aged people, invasive devices and procedures such as IV lines, surgery, intensive care; emergency hospital admission , previous exposure to some drugs and previous hospital admission add to the risk.
4) Nosocomial infections are transmitted through direct or indirect contact from the hospital staff, other patients or visitors; inadequately sterilized instruments; disease vector carrying and transmitting an infectious pathogen, or blood; aerosol droplets from other ill patients or even the food or water provided at hospitals

## Lesson two. *Concepts of asepsis and antisepsis*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Explain the concepts of asepsis and antisepsis
- Differentiate Medical and Surgical asepsis

### b) Teaching resources

Teaching videos, projectors, screen, Printed activity 4.2 in student book, chemical solution (disinfectants) such as alcohol, material for maintaining aseptic procedure such mask, gown, gloves, water and soap, sterile field, sterile forceps, machines for physical sterilization

### c) Learning activities 4.2.

**Guidance**

- Activity 4.2 requires that learners observe the pictures and answer the asked questions
- Distribute the activity on printed paper in group of students
- Request the groups to do the activity 4.2
- Pass around the groups, guiding and facilitating them.
- Select 1 or 2 groups which will present answers to the whole class.
- Ask other groups to add the missing information if they have it.
- Enable students to ask for clarification from what the groups have presented and explain what the groups have not highlighted.
- Write the lesson summary on the flipchart, PowerPoint and share it with the students.
- Enter in skills lab with students
- Allow every student to prepare and manipulate the sterile field
- Allow every student to prepare the clean patient environment
- At the end, assess students with self-assessment or formulate your own assessment questions that must be answered by each learner.

**Answer to leaning activity 4.2.**

1) The activity is hand washing. Importance of hand washing is to remove germs, avoid getting sick, and prevent the spread of germs to others.
2) The people in picture B are wearing gown, masks, and gloves.
3) They are wearing like that in order to respect aseptic procedure so that they prevent transmitting infection to the patient

**Answers to self-assessment 4.2.**

1) Asepsis means the absence of germs, such as bacteria, viruses, and other microorganisms that can cause disease. Healthcare professionals use aseptic technique to protect patients from infection While Antisepsis is the practice of using antiseptics (substance that stops or slows down the growth of microorganisms) to eliminate the microorganisms that cause disease.
2) Levels of asepsis are: Cleaning, Disinfection and Sterilization

## Lesson three. *Prevention and control of nosocomial infections.*

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Describe the standard precautions of infection control
- Apply correctly the techniques of infection control and prevention
- Respect the WHO standard precautions of infection control
- Demonstrate empathy while caring for the patient

**b) Teaching resources**

Teaching videos, Computer and projector, Printed activity 4.3 in student book, appropriate disinfectant such as alcohol, material for maintaining aseptic procedure such mask, gown, gloves, water and soap, sterile field, sterile forceps and machines for physical sterilization

**c) Learning activities 4.3.**

**Guidance**

- Activity 4.3 requires that learners read the scenario and answer the related questions.
- Teacher will distribute the activity on printed paper in group of students
- Request the groups to do the learning activity 4.3
- Pass around the groups, guiding and facilitating them.
- Select 1 or 2 groups which will present answers to the whole class.
- Ask other groups to add the missing information if they have it.
- Enable students to ask for clarification from what the groups have presented and explain what the groups have not highlighted.
- Write the lesson summary on the blackboard, PowerPoint and share it with the students.
- At the end, assess students with self-assessment or formulate your own assessment questions that must be answered by each learner.

**Answers to leaning activity 4.3.**

1)

- Identify and gather the proper Personal protective equipment to wear (masks, gloves, gown, boots, shield or goggles)
- Ensure choice of gown size is correct (based on training).
- Perform hand hygiene using hand sanitizer.
- Put on isolation gown. Tie all of the ties on the gown.

- Room aeration (Open windows)
- Remember to prepare safety box and dustbin

**Answers to Self-assessment 4.3.**

1) D
2) A and B
3) Standards precautions protect the health-care worker from possible transmission of illnesses spread through contact with infected blood, such as hepatitis B, hepatitis C, and HIV. They also protect patients from the possible spread of pathogens from one patient to another

## Lesson four. *Overview on Hand hygiene*

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Respect patient privacy
- Maintain a grooming appearance
- Apply correctly the techniques of infection control and prevention

**b) Teaching resources**

Teaching videos, Computer and projector, Printed activity 4.4 in student book, alcohol for hand rubbing, water and soap for hand washing and towels and dustbin

**c) Learning activities 4.4.**

**Guidance**

- Activity 4.4 requires that learners observe the pictures and answer the asked questions
- Allow every student to prepare and manipulate the sterile field
- Allow every student to perform procedures of hand rubbing and hand washing and provide correction on procedures performed
- Distribute the activity on printed paper in group of students
- Request the groups to do the activity 4.4
- Pass around the groups, guiding and facilitating them.
- Select 1 or 2 groups which will present answers to the whole class.
- Ask other groups to add the missing information if they have it.
- Enable students to ask for clarification from what the groups have presented and explain what the groups have not highlighted.

- Write the lesson summary on the blackboard, PowerPoint and share it with the students.
- At the end, assess students with self-assessment or formulate your own assessment questions that must be answered by each learner.

**Answers to learning activity 4.4.**

1)
   - Similarities: Picture A and B are doing hand hygiene, they are cleaning hands
   - Differences: Picture A: a person is using alcohol in cleaning hands while the person in picture B is using soap and water in cleaning hands.
2) The action which is done in picture A and b is hand hygiene. It helps to avoid the transmission of harmful germs between people and prevent health care-associated infections

**Answers to Self-assessment 4.4.**

1) Benefits associated with hand washing are that the hand hygiene is the most important measure to avoid the transmission of harmful germs between people and prevent health care-associated infections.
2) Moments of hand washing are:
   - Before touching a patient
   - Before a procedure
   - After a procedure or body fluid exposure risk
   - After touching a patient
   - After touching a patient's surrounding
3) The difference between hand rubbing and hand washing is that hand rubbing is a hand hygiene technique with alcohol-based formulation (antiseptic hand rubbing) while hand washing is an action of performing hand hygiene using soap and water for the purpose of physically or mechanically removing dirt, organic material, and/or microorganisms

**e) Skills lab**

Refer to Unit 2, Lesson 1.

## Lesson five. *Personal protective equipment (PPE)*

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Maintain a groom in appearance
- Apply correctly the techniques of infection control and prevention

**b) Teaching resources**

Teaching videos, projectors, screen, Computer and projector, PPE materials such as gloves, gown and apron, masks, eye wearing ( goggles, face shield ),boots, printed activity 4.5 in student book, alcohol for hand rubbing, water and soap for hand washing and Towels and dustbin

**c) Learning activities 4.5.**

**Guidance**

- Activity 4.5 requires that learners observe the pictures and answer the asked questions
- Put students in group and give them activity 4.5
- Distribute the activity on printed paper in group of students
- Request the groups to do the activity 4.5
- Pass around the groups, guiding and facilitating them.
- Select 1 or 2 groups which will present answers to the whole class.
- Ask other groups to add the missing information if they have it.
- Enable students to ask for clarification from what the groups have presented and explain what the groups have not highlighted.
- Write the lesson summary on the flipchart, PowerPoint and share it with the students.
- Enter in skills lab
- Allow every student to don and doff the full PPE respecting chronological order under teacher's supervision
- At the end, assess students with self-assessment or formulate your own assessment questions that must be answered by each learner.

**Answers to learning activity 4.5.**

1) On the image there are: gloves, gown, goggles, masks, and boots

2) Importance:

- Gloves: they protect hands from infection and contamination.
- Gowns: They serve to protect patients from microorganisms carried by the surgical team or patients themselves and protecting healthcare providers from contact with infectious microorganisms harbored by the patient.
- Masks: They help protect clients and healthcare personnel from respiratory infections and certain communicable diseases.
- Goggles/Face protection: Safety goggles are important because they protect health care providers from accidental entry of blood and other microorganisms in the eyes. They also allow the wearer to handle potentially harmful chemicals and biological without fear of damaging their eyes. Safety goggles can also help to protect an individual from harm to the eye from physical trauma.
- Boots: Protective footwear worn in the workplace is designed to protect the foot from physical hazards such as falling objects, stepping on sharp objects, heat and cold, wet and slippery surfaces, or exposure to corrosive chemicals.

**Answers to Self-assessment activity 4.5.**

1) D

2)

**Step 1: D**

**Step 2: C**

**Step 3: B**

**Step 4: E**

**Step 5: A**

3)

**Step 1: A**

**Step 2: C**

**Step 3: D**

**Step 4: E**

**Step 5: B**

## Lesson six. *Respiratory hygiene and cough etiquette*

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Maintain a groom in appearance
- Demonstrate empathy while caring for the patient

**b) Teaching resources**

Computer and projector, Printed activity 4.6 in student book, notes books, pens, flipchart and markers

**c) Learning activities 4.6.**

**Guidance**

- Activity 4.6 requires that learners observe the pictures and answer the asked questions
- Distribute the printed activity 4.6
- Then put students in group and give them activity 4.6
- Distribute the activity on printed paper in group of students
- Request the groups to do the activity 4.6
- Pass around the groups, guiding and facilitating them.
- Select 1 or 2 groups which will present answers to the whole class.
- Ask other groups to add the missing information if they have it.
- Enable students to ask for clarification from what the groups have presented and explain what the groups have not highlighted.
- Write the lesson summary on the flipchart, PowerPoint and share it with the students.
- At the end, assess students with self-assessment or formulate your own assessment questions that must be answered by each learner.

**Answers to learning activity 4.6.**

1) Picture A : a person is sneezing and covers his nose and mouth with hygienic tissue

   Picture B: a person is sneezing and covers his nose and mouth with facial mask

   Picture C: a person is sneezing and covers his nose and mouth with elbow

2) Similarities: All person are covering nose and mount when sneezing

   Differences: They are covering nose and mount with different means: tissues, mask and elbow

**Answers to Self-assessment activity 4.6.**

1) D
2) Respiratory hygiene and cough etiquette are very important components to protect self and others from the transmission of respiratory illness

## Lesson seven. *Sharps Safety/ Safe Injection Practices.*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Demonstrate safety precautions to prevent injuries and infection transmission

### b) Teaching resources

Teaching videos, projectors, screen,Computer and projector, Safety boxes, syringes and needles, gloves, alcohol and sterile gauze and Printed activity 4.6 in student book

### c) Learning activities 4.7.

**Guidance**

- Activity 4.7 requires that learners observe the pictures and answer the asked questions
- Distribute the printed activity 4.7
- Then put students in group and give them activity 4.7
- Distribute the activity on printed paper in group of students
- Request the groups to do the activity 4.7
- Pass around the groups, guiding and facilitating them.
- Select 1 or 2 groups which will present answers to the whole class.
- Ask other groups to add the missing information if they have it.
- Enable students to ask for clarification from what the groups have presented and explain what the groups have not highlighted.
- Write the lesson summary on the flipchart, PowerPoint and share it with the students.
- Show all students required materials for safety injection
- Allow every student to prepare and manipulate all material needed for safe injection
- At the end, assess students with self-assessment or formulate your own assessment questions that must be answered by each learner.

**Answers to learning activity 4.7.**

1) Picture A: show a nurse throwing a used syringe and needle in a safety box

   Picture B: shows dustbins with disorganized used syringes and mixed with other wastes such as gloves

2) The consequences associated with picture B: Mixture of medical waste are associated with unsafe injection practices which can transmit Hepatitis B, Hepatitis C, Human immunodeficiency virus (HIV) and other blood borne pathogens

**Answers Self-assessment activity 4.7.**

1) D,
2) D,

## Lesson eight. *Lesson Eight. Sterilization and disinfection of patient-care items and devices*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Show all students required materials for safety injection
- Allow every student to prepare and manipulate all material needed for safe injection

### b) Teaching resources

Teaching videos, projectors, screen, computer, disinfectants such as alcohol, machines for sterilization such as autoclave, proper field to prepare materials for sterilization, gloves, bassins or kidney dish to put in forceps which need to be disinfected before sterilization, and printed activity 4.8 in student book

### c) Learning activities 4.8.

**Guidance**

- Activity 4.8 requires that learners observe the pictures and answer the asked questions
- Put student in small group of 3 to 5 students
- Distribute the activity on printed paper in group of students
- Request the groups to do the activity 4.8
- Pass around the groups, guiding and facilitating them.
- Select 1 or 2 groups which will present answers to the whole class.
- Ask other groups to add the missing information if they have it.

- Enable students to ask for clarification from what the groups have presented and explain what the groups have not highlighted.
- Write the lesson summary on the flipchart, PowerPoint and share it with the students.
- Enter in skills lab
- Show all students required materials for disinfection and sterilization
- Allow every student to prepare and manipulate all material needed for disinfection and sterilization
- At the end, assess students with self-assessment or formulate your own assessment questions that must be answered by each learner

**Answers to the learning activity 4.8.**

1) Picture A: A nurse is cleaning a stethoscope with a towel using a disinfectant in a bottle
2) Picture B: A nurse wearing gloves is putting materials in sterilization machine

**Answers to the self-assessment 4.8.**

1) C
2) Importance of:

   **Disinfection:** disinfection helps to prevent the spread of germs that may cause illness. The importance of respecting the proper disinfection is that it will reduce infections associated with contaminated patient-care items.

   **Sterilization:** aims to eliminate or kills all microorganisms on medical items. Sterilizing each piece of equipment is critical to keeping each patient as safe and healthy as possible

## Lesson nine. *Cleaning and disinfection of environmental surfaces*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Demonstrate ability in cleaning and disinfection correctly the environmental surfaces

### b) Teaching resources

Teaching videos, projectors, screen, Computer, Disinfectants such as alcohol, machines for sterilization such as autoclave, proper field to prepare materials for sterilization, gloves, bassins or kidney dish to put in forceps which need to be disinfected before sterilization, Printed activity 4.9 in student book

c) **Learning activities 4.9.**

**Guidance**

- Activity 4.9 requires that learners observe the pictures and answer the asked questions
- Put student in small group of 3 to 5 students
- Distribute the activity on printed paper in group of students
- Request the groups to do the activity 4.
- Pass around the groups, guiding and facilitating them.
- Select 1 or 2 groups which will present answers to the whole class.
- Ask other groups to add the missing information if they have it.
- Enable students to ask for clarification from what the groups have presented and explain what the groups have not highlighted.
- Write the lesson summary on the flipchart, PowerPoint and share it with the students.
- Show all students required materials for disinfection and sterilization
- Allow every student to prepare and manipulate all material needed for disinfection and sterilization
- At the end, assess students with self-assessment or formulate your own assessment questions that must be answered by each learner

**Answers to the learning activity 4.9.**

1) Picture A: Picture: shows a person cleaning the surface/the floor

   Picture B: Showing a person disinfecting a chair using a spraying bottle containing disinfectant

2) The activity done on picture A serves to clean the floor and remove dirty

   The activity done on picture B serves to disinfect and remove potential germs on the chair using a disinfectant.

3) The similarities among the picture A and B are that both are acts of environment hygiene.

   The difference is that on the picture A ,there is cleaning using water and on picture B there is disinfection using towel and disinfectant

**Answers to the self-assessment 4.9.**

1) Environmental surfaces are more likely to be contaminated in health-care settings where certain medical procedures are performed. Therefore, these surfaces, are being cared for, must be properly cleaned and disinfected **to prevent infection transmission.**

2) **Environmental surfaces in health-care settings** include furniture and other fixed items inside and outside of patient rooms and bathrooms, such as tables, chairs, walls, light switches and computer peripherals, electronic equipment, sinks, toilets as well as the surfaces of non-critical medical equipment, such as blood pressure cuffs, stethoscopes, wheelchairs and incubators

## Lesson Ten. *Safe handling of linens*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Demonstrate safety precautions to prevent injuries and infection transmission

### b) Teaching resources

Teaching videos, projectors, screen, computer, printed activity 4.10 in student book, computer, lines and bucket leakage proof

### c) Learning activities 4.10.

**Guidance**

- Activity 4.10 requires that learners observe the pictures and answer the asked questions
- Put student in small group of 3 to 5 students
- Distribute the activity on printed paper in group of students
- Request the groups to do the activity 4.10
- Pass around the groups, guiding and facilitating them.
- Select 1 or 2 groups which will present answers to the whole class.
- Ask other groups to add the missing information if they have it.
- Enable students to ask for clarification from what the groups have presented and explain what the groups have not highlighted.
- Write the lesson summary on the flipchart, PowerPoint and share it with the students.
- Show all students required materials for disinfection and sterilization

- Allow every student to prepare and manipulate all material needed for disinfection and sterilization
- At the end, assess students with self-assessment or formulate your own assessment questions that must be answered by each learner

**Answers to the learning activity 4.10.**

1) Picture A: shows disorganized hospital bed

   Picture B: shows dirty lines

   Picture C: Disorganized bed sheets in buckets

   Picture D: shows a nurse wearing gown and gloves putting soiled lines in appropriate dustbin made in plastics bag with cover and labelled as soiled linen

   Picture E: Shows a nurse arranging proper linens in linens store

2) Similarities: Picture C and D contain soiled linens.

   Differences: Picture C: Soiled linens are placed into a non-labelled, leak container which is against standards of safe handling of linens.

   Picture D: Soiled linens are placed into a clearly labelled, leak-proof container which is respecting standards of safe handling of linens

**Answers to the self-assessment 4.10.**

1) All soiled linen should be placed into a clearly labelled, leak-proof container (e.g., bag, bucket) in the patient care area. Never transport soiled linen by hand outside the specific patient care area from where it was removed. Never carry soiled linen against the body; carefully roll up soiled linen to prevent contamination of the air, surfaces, and cleaning staff and do not shake linen

## Lesson Eleven. *Hazardous wastes management*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Demonstrate safety precautions to prevent injuries and infection transmission
- Apply correctly the techniques of infection control and prevention

### b) Teaching resources

Teaching videos, projectors, screen, computer, printed activity 4.11 in student book,

c) **Learning activities 4.11.**

**Guidance**

- Activity 4.11 requires that learners observe the pictures and answer the asked questions
- Put student in small group of 3 to 5 students
- Show all students required materials for disinfection and sterilization
- Allow every student to prepare and manipulate all material needed for disinfection and sterilization
- Distribute the activity on printed paper in group of students
- Request the groups to do the activity 4.10.
- Pass around the groups, guiding and facilitating them.
- Select 1 or 2 groups which will present answers to the whole class.
- Ask other groups to add the missing information if they have it.
- Enable students to ask for clarification from what the groups have presented and explain what the groups have not highlighted.
- Write the lesson summary on the flipchart, PowerPoint and share it with the students.
- At the end, assess students with self-assessment or formulate your own assessment questions that must be answered by each learner

**Answers to the learning activity 4.11.**

1) Disorganized and mixed hospital hazardous waste including used syringes, used gauzes, bottles, tubes, used gloves, scissors etc.
2) Risks of hazardous waste include: sharps-inflicted injuries; toxic exposure to pharmaceutical products, chemical burns arising in the context of disinfection, sterilization or waste treatment activities; air pollution arising from incineration; thermal injuries occurring in conjunction with open burning and the operation of medical waste incinerators; Radiation burns

**Answers to the self-assessment 4.11.**

1) Air pollution
2) A hazardous waste is a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment

## 4.6 Summary of the unit

The fourth unit of fundamental of nursing is nosocomial infections. This unit of nosocomial infection has different lessons which commonly aim at promoting patient care outcomes, prevent the spread of communicable diseases and improving the health care providers working conditions & environmental safety. Nosocomial are mainly transmitted through direct or indirect contact from the hospital staff, other patients or visitors; inadequately sterilized instruments; disease vector carrying and transmitting an infectious pathogen, or blood; aerosol droplets from other ill patients or even the food or water provided at hospitals.

Prevention measures of nosocomial infections include proper hand hygiene, cleaning, disinfection and sterilization of hospital materials, proper grooming of personal protective equipment, cleaning and disinfection of hospital environment and respect guidelines of injection safety and proper management of hazardous waste.

## 4.7 Additional information for teachers

To teach this unit of nosocomial infection effectively, you should know the chain of infection and some concepts frequently used in nosocomial infection

**Understanding the Chain of Infection**

The spread of an infection within a community is described as a "chain," several interconnected steps that describe how a pathogen moves about. Infection control and contact tracing are meant to break the chain, preventing a pathogen from spreading.

The spread of infection can be described as a chain with six links:

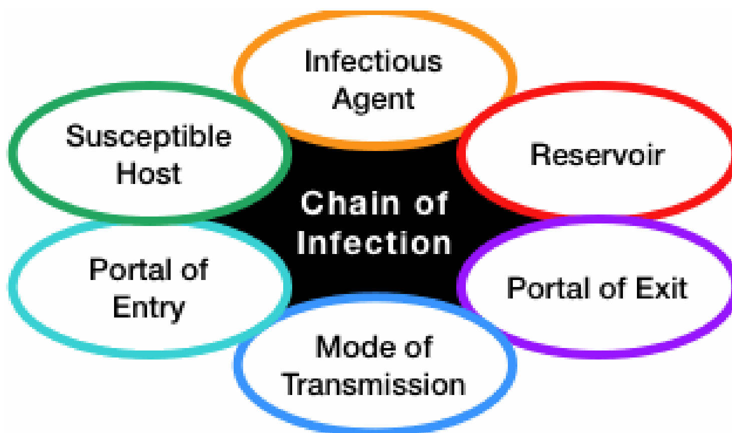



*Figure 11 Chain of Infection*

**Infectious agents**

**Infectious agents (pathogens)** include bacteria, viruses, fungi, and parasites. The virulence of these pathogens depends on their number, their potency, their ability to enter and survive in the body, and the susceptibility of the host.

**A reservoir** is any person, animal, arthropod, plant, soil or substance (or combination of these) in which an infectious agent normally lives and multiplies. The infectious agent depends on the reservoir for survival, where it can reproduce itself in such manner that it can be transmitted to a susceptible host. **Animate** reservoirs include people, insects, birds, and other animals and i**nanimate** reservoirs include soil, water, food, feces, intravenous fluid, and equipment.

**Portal of exit**

**A portal of exit is** the means by which a pathogen exits from a reservoir. For a human reservoir, the portal of exit can include blood, respiratory secretions, and anything exiting from the gastrointestinal or urinary tracts.

**Mode of transmission**

Once a pathogen has exited the reservoir, it needs a mode of transmission to transfer itself into a host. This is accomplished by entering the host through a receptive portal of entry. Transmission can be by direct contact, indirect contact, or through the air.

**Portal of Entry**

Infectious agents get into the body through various portals of entry, including the mucous membranes, non-intact skin, and the respiratory, gastrointestinal, and genitourinary tracts. Pathogens often enter the body of the host through the same route they exited the reservoir, e.g., airborne pathogens from one person's sneeze can enter through the nose of another person.

**Susceptible host**

The final link in the chain of infection is a **susceptible host**, someone at risk of infection. Infection does not occur automatically when the pathogen enters the body of a person whose immune system is functioning normally. When a virulent pathogen enters an immune-compromised person, however, infection generally follows.

Whether exposure to a pathogen results in infection depends on several factors related to the person exposed (the host), the pathogen (the agent), and the environment. Host factors that influence the outcome of an exposure include the presence or absence of natural barriers, the functional state of the immune system, and the presence or absence of an invasive device.

### Antiseptics and Disinfectants

**Disinfectants** are strong chemical agents that inhibit or kill microorganisms

**Antiseptics** are disinfecting agents with sufficiently low toxicity for host cells→can be used directly on skin, mucous membranes, or wounds

**Sterilants** kill both vegetative cells and spores when applied to materials for appropriate times and temperatures

**Ideal disinfectant:**effective at room temperature,noncorrosive and nontoxic, inexpensive, capable of killing the vegetative form of all pathogenic organisms,require limited time of exposure.

### Activities of disinfectants

| | Bacteria | | | | Viruses | | Other | | |
|---|---|---|---|---|---|---|---|---|---|
| | Gram-positive | Gram-negative | Acid-fast | Spores | Lipophilic | Hydrophilic | Fungi | Amebic Cysts | Prions |
| Alcohols (isopropanol, ethanol) | HS | HS | S | R | S | V | — | — | R |
| Aldehydes (glutaraldehyde, formaldehyde) | HS | HS | MS | S (slow) | S | MS | S | — | R |
| Chlorhexidine gluconate | HS | MS | R | R | V | R | — | — | R |
| Sodium hypochlorite, chlorine dioxide | HS | HS | MS | S (pH 7.6) | S | S (at high conc) | MS | S | MS (at high conc) |
| Hexachlorophene | S (slow) | R | R | R | R | R | R | R | R |
| Povidone, iodine | HS | HS | S | S (at high conc) | S | R | S | S | R |
| Phenols, quaternary ammonium compounds | HS | HS | ± | R | S | R | — | — | R |
| Strong oxidizing agents, cresols | HS | MS to R | R | R | S | R | R | R | R |

**Key:** HS, highly susceptible; S, susceptible; MS, moderately susceptible; R, resistant; V, variable; —, no data.

*Figure 12 Activities of disinfectants*

### Guidance on skills lab

The skills lab aim to improve the students understanding about different techniques. In this unit of nosocomial infections, you will need to assist students in performing different nursing techniques such as perform the levels of asepsis (Cleaning, Disinfection and sterilization), performing correctly hand rubbing and hand washing, perform correctly donning and doffing techniques of full PPE, perform correctly the procedures of sterilization and disinfection of Patient-Care Items and Devices,

performing correctly the cleaning and disinfection of environmental surface and perform correct manipulation of soiled and proper linens. After practice, the students will need to exercise themselves under your supervision.

## 4.8 Answers to end unit assessment

**Answers to Question I**

1) D
2) D
3) D
4) D
5) C
6) D

7) Step 1:D
Step 2:C
Step 3:B
Step 4:E
Step 5:A

8) Step 1:A
Step 2:C
Step 3:D
Step 4:E
Step 5:B

9) Nosocomial infections also known as healthcare-associated infections (HCAI) or hospital acquired infections are defined as localized or system infection, occurring at least 48 hours after hospital admission, that was not present or incubating at the time of admission. They are those infections that occur in patients or healthcare workers either as a direct result of healthcare intervention (such as medical or surgical treatment) or from being in contact with a healthcare setting.

10) The most common pathogens that cause nosocomial infections are Staphylococcus aureus, Pseudomonas aeruginosa, and E. coli. Nosocomial infections are not just limited to bacteria; certain fungi such as Candida albicans and aspergillus, as well as, viruses such as Respiratory Syncytial Virus and influenza have also been implicated in a number of hospital acquired infections

11) These infections are transmitted through direct or indirect contact from the hospital staff, other patients or visitors; inadequately sterilized instruments; disease vector carrying and transmitting an infectious pathogen, or blood; aerosol droplets from other ill patients or even the food or water provided at hospitals.

12) Asepsis means the absence of germs, such as bacteria, viruses, and other microorganisms that can cause disease. Healthcare professionals use aseptic technique to protect patients from infection and Antisepsis is the practice of using antiseptics (substance that stops or slows down the growth of microorganisms) to eliminate the microorganisms that cause disease.

13) They protect the health-care worker from possible transmission of illnesses spread through contact with infected blood, such as hepatitis B, hepatitis C, and HIV. They also protect patients from the possible spread of pathogens from one patient to another.

    Removing germs through hand washing helps prevent diarrhea and respiratory infections and may even help prevent skin and eye infections.

14) Respiratory hygiene and cough etiquette are very important components to protecting self from illness and preventing others from becoming ill. Like hand hygiene, respiratory hygiene is part of the standard precautions that should be taken to prevent the spread of disease.

## 4.9 Additional activities

### 4.9.1 Remedial Activities:

1) Hand hygiene is the best way to prevent the spread of nosocomial infection:
    a) True
    b) False
2) The first step after a needle stick or sharps injury is to
    a) Express suck the wound
    b) Inject antiseptics or disinfectants into wound
    c) Gently wash the exposed area with soap and water without scrubbing
    d) There is no correct answer
3) What is the problem associated with hazardous-waste incineration?

**Answers for remedial activities**

1) a
2) c
3) Air pollution

### 4.9.2 Consolidation activities:

1) Practices that have contributed to outbreaks and the transmission of pathogens include:
    a) Using the same syringe to administer medication to more than one patient, even if the needle was changed
    b) Using the same syringe more than once on the same patient

c) Contaminating a multi-dose medication bag or vial by accessing with a syringe already used to administer medication to a patient

d) All of the above

2) How the soiled linen should be handled in health setting

**Answers to consolidation activities**

1) d

2) All soiled linen should be placed into a clearly labelled, leak-proof container (e.g., bag, bucket) in the patient care area. Never transport soiled linen by hand outside the specific patient care area from where it was removed. Never carry soiled linen against the body; carefully roll up soiled linen to prevent contamination of the air, surfaces, and cleaning staff and do not shake linen

### 4.9.3 Extended activities

1) How should we dry our hands?

a) Lightly pat and allow hands to air dry

b) Dry our hands thoroughly

c) In circular motion covering areas of the hands and wrists

d) Wrists to fingertips in one direction

2) What is toxic waste?

a) Substance that are not poisonous

b) Substance which are toxic only when taken in large quantity

c) Substance which are toxic only when taken in small quantity

d) Substance which are work as antidote of toxic materials

3) Discuss on levels of asepsis

4) What make environmental surfaces in health-care settings?

**Answers for extended activities**

1) b

2) c

3) The levels of asepsis are cleaning, disinfection and sterilization.

- Cleaning is the process of removing unwanted substances using water and soap, such as dirt, infectious agents, and other impurities, from an object or environment. Cleaning removes dirt, dust, crumbs, and germs from surfaces or objects.

- Disinfection is a process of using chemicals (disinfectants) to kill germs on surfaces and objects. You usually need to leave the disinfectant on the surfaces and objects for a certain period of time to kill the germs. Disinfecting does not necessarily clean dirty surfaces or remove germs
- Sterilization refers to any process that removes, kills, or deactivates all forms of life of pathogen microorganism (such as fungi, bacteria, spores, unicellular eukaryotic organisms such as Plasmodium, etc). After sterilization, an object is referred to as being sterile or aseptic.

4) Environmental surfaces in health-care settings include furniture and other fixed items inside and outside of patient rooms and bathrooms, such as tables, chairs, walls, light switches and computer peripherals, electronic equipment, sinks, toilets as well as the surfaces of non-critical medical equipment, such as blood pressure cuffs, stethoscopes, wheelchairs and incubators.

# UNIT 5 DRUG ADMINISTRATION

## 5.1 Key unit competence

Administer correctly drugs through enteral, topical routes

## 5.2 Prerequisites (knowledge, skills, attitudes and values)

To effectively succeed and develop clinical skills in the unit of drug administration, the learner should had been learn the hygiene and comfort, vital signs and parameters, nosocomial infection and prevention from fundamentals of nursing module as well as code of conduct and professionalism from the module of ethics and professional code of conduct.

## 5.3 Cross-cutting issues to be addressed

Predominant cross cutting issues to be addressed in the lesson of rights of drug administration are mainly inclusive education, critical thinking as well as peace and value education

**a) Inclusive education**

This lesson will be done mostly via debates within groups. The teacher will encourage students to verbalize what they know and what they think should be important while administer medication. It can be an issue to students with hearing impairment to progress with others or students with limbs disorders who usually face challenges for displacement.

- The teacher will encourage all students to support colleagues with locomotor impairment to reach their groups
- Both teacher and students will be encouraged to speak loudly and use gestures to support learners with hearing problems.

**b) Gender education**

Inspire active participation of boys and girls in activities, not only boys. Make sure that all learners are actively involved in all learning activities. Drug administration in a professional manner is done in the same way in males and in females, reason why males and females should have equal rights to learn and practice the procedures of drug administration

**c) Environment and sustainability**

As a facilitator, emphasize to the learners that environment must be sustainably protected and kept safe. Medical waste may cause very serious injury and be a source of infectious contamination, this is way health providers including associate nurses have to be responsible for appropriate waste disposal.

**d) Peace and value education**

This lesson will involve student- teacher and student-student respectful interaction. Students will be encouraged to accommodate different ideas, to exchange speeches and to develop flexibility in order to focus on the important points of the lesson

## 5.4 Guidance on the introductory activity

Most of the time if a person is ill, he or she goes to the health centre or hospital and get medications. For medication to give expected outcomes, we should follow rights of drug administration, respect the instruction provided by the prescriber and be able to calculate and administer the dose of enteral, topic, intramuscular, subcutaneous and intradermal routes. The teacher will not expect the right answers from the very beginning, instead it is a matter of awaken their curiosity and open their mind for this upcoming unit.

**Teacher's activity:**

- The teacher will bring printed copies of the introductory activity to a pair of students to read together and answer related questions.
- The teacher will tell them to write down the best conclusion on post it.
- The teacher will visit all the groups for clarification and guidance
- Randomly, the teacher will choose two groups to present while others are listening, give details and clarifications as well as ask questions
- The teacher keeps the class on the right trajectory and put appropriate supplementary information

**Expected answers to the introductory activity**

1) Yes, Shema received necessary information as guidance while taking his anti-malaria treatment.
2) The instructions were to take 4 anti-malaria tablets orally, every 12 hours or 2 times a day for a period of three days.
3) Shema forgot to take the morning medication. This causes to break the right dose because he doubled the evening dose to recuperate the forgotten morning dose. He also breaks the right time of drug administration which dictate the respect of specified time to keep the stable level of medication in the body.

4) We have different routes of drug administration all included in enteral (by mouth or rectum) and topical (on skin or mucus membrane).

## 5.5 List of lessons/subheadings (including assessment)

| # | Lesson title | Learning objectives | Number of periods |
|---|---|---|---|
| 1 | Rights of drug administration | Explain the rights of drug administration<br>Demonstrate responsibility and accountability<br>Demonstrate self-control while caring for patients<br>Demonstrate communication and collaboration skills towards patients, care givers and staff<br>Demonstrate empathy and respect of client during the nursing care practice | 2 |
| 2 | Enteral routes of drug administration | Describe the enteral routes of drug administration their indications and contra-indications<br>Explain advantages and disadvantages of enteral drug administration routes<br>Perform the technique of enteral drug administration<br>Respect patient's privacy during nursing care provision<br>Maintain a grooming appearance | 2 |

| 3 | Topical-skin application | Develop theoretical knowledge on skin medication application, its indications and contra-indications<br><br>Explain advantages and disadvantages of skin medication application<br><br>Simulate the technique of skin medication application<br><br>Respect patient's privacy during nursing care provision<br><br>Demonstrate communication and collaboration skills towards patients, care givers and staff<br><br>Demonstrate empathy and respect of client during the nursing care practice | 2 |
|---|---|---|---|
| 4 | Topical- Eye medication administration | Describe the eye medication application route its indications and contra-indications<br><br>Explain advantages and disadvantages of eye medication application<br><br>Imitate the technique of eye medication application<br><br>Demonstrate responsibility and accountability<br><br>Demonstrate self-control while caring for patients | 2 |
| 5 | Topical- Ear medications administration | Elaborate theoretical understanding on ear drug administration its indications and contra-indications<br><br>Explicate advantages and disadvantages of ear drug administration route<br><br>Accomplish the technique of ear drug administration | 2 |

| | | | |
|---|---|---|---|
| | | Respect patient's privacy during nursing care provision<br>Demonstrate the empathy and respect of patient during nursing care practice | |
| 6 | Topical nasal drug administration | Develop theoretical understanding of nose medication application its indications and contra-indications<br>Explain advantages and disadvantages of nose medication application<br>Perform the technique of nose drug administration<br>Respect patient's privacy during nursing care provision<br>Demonstrate self-control while caring for patients<br>Demonstrate communication and collaboration skills towards patients, care givers and staff | 2 |
| 7 | Topical- Vaginal drug administration | Respect patient's privacy during nursing care provision<br>Develop theoretical knowledge on vagina drug administration, its indications and contra-indications<br>Explain advantages and disadvantages of vagina drug administration<br>Perform the technique of vagina drug administration<br>Demonstrate communication and collaboration skills towards patients, care givers and staff<br>Demonstrate empathy and respect of client during the nursing care practice | 2 |

| | | | |
|---|---|---|---|
| 8 | Dose calculation for enteral and topical drugs | Apply dose calculation formula<br>Demonstrate safety while preventing medication errors<br>Demonstrate responsibility and accountability | 2 |
| 9 | Skills lab | • Demonstrate self-control while caring for patients<br>• Demonstrate responsibility and accountability<br>Maintain a grooming appearance | 24 |
| 10 | End unit assessment (OSCE+Theory) | Administer correctly drugs through enteral and topical routes | 7 |

## Lesson One. *Rights of drug administration*

This is the first lesson of Unit 5 Drug administration. It will cover 10 right of drug administration and explain how these rights are relevant for the safety of the patient

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Explain the rights of drug administration
- Demonstrate responsibility and accountability
- Demonstrate self-control while caring for patients
- Demonstrate communication and collaboration skills towards patients, care givers and staff
- Demonstrate empathy and respect of client during the nursing care practice

### b) Teaching resources

Teaching videos, simulation lab materials, projectors, screen, Books of fundamental of nursing from library, Basavanthappa (2009) Fundamentals of Nursing 2nd Edition and Internet

### c) Prerequisites/Revision/Introduction

To effectively succeed and develop clinical skills in this lesson of right of drug administration, the learner should had been learn the hygiene and comfort, vital signs and parameters, nosocomial infection and prevention from Fundamentals of Nursing module as well as code of conduct and professionalism from the module of Ethics and Professional Code of Conduct.

**d) Learning activities 5.1.**

**Guidance**

Teacher will bring printed copies of the activity 5.1 to group of 5 students. He or she will ask the student to read the scenario, discuss on related question and answer them. Write the answers on post it papers then attach them on the front wall of the classroom. Two group presentations selected randomly, the remaining will give their comments and additions. All students will be allowed to ask questions and get feedback from their teacher.

**Answers to learning activity 5.1.**

1) Yes
2) Right patient, right medication, right dose, right time, right route, right education, right to refuse, right assessment and right documentation.
3) Yes, one drug administration right not mentioned in this case is right evaluation

**Answers to self-assessment 5.1.**

1) Drug administration is the process of giving out medication to the patient in order treat or prevent disease or complication.
2) We have 10 rights of drug administration:

a. **Right patient**: the first right in drug administration is to identify the correct patient to be given medications. A nurse must carefully verify the person's identification each time before administration of a medication. Use the names as recorded in the patient file, ask the patient if he or she is conscious and read patient identification band.

b. **Right medication: t**he ordered medication is appropriate for the patient. Nurses should not rely on memory from previous interaction with the patient because beds can be changed at any way or patent discharged and replaced.

c. **Right dose**: the dose ordered is appropriate for the patient. A nurse should be able to calculate the correct dose in accordance to the prescription and not expect to always exact doses of medication from pharmacy. E.g: a dose may be a half of a tablet, two tablets, the tenth of a bottle depending on the desired doses.

d. **Right time**: give the medication at the right frequency and at the time as ordered. Medications given within 30 minutes before or after the scheduled time are considered to meet the right time standard.

e. **Right route**: give the medication by the ordered way of administration. Make sure that the route is safe and appropriate for the person.

f. **Right education: e**explain information about the medication to the person e.g. why receiving, what to expect, any precautions.

g. **Right to refuse:** adults have the right to refuse any medication. The nurse's role is to ensure that the person is fully informed of the potential consequences of refusal and to communicate the person's refusal to the health care provider.

h. **Right assessment**: some medications require specific assessment prior to administration. E.g: Check blood pressure before giving diuretics, verify glycemia values before giving insulin. Medication orders and manufacturer instructions may indicate specific parameters. E.g: do not give if pulse is less than 60 beats per minute or do not give if systolic blood pressure less than 100 mmHg".

i. **Right documentation: d**ocument medication administration after giving it, not before. Write the name and the dose of given medication, route of administration, date and time lastly the name or initials of the administering nurse. Please, note any issue encountered during this process such as lack of the medication, vomiting after oral medication intake, any abnormal reaction

j. **Right evaluation** the nurse has to make a proper follow-up after certain time of drug administration. That follow up will answer questions such as: Was the desired effect achieved? Did the person experience any side effects or adverse reactions? If, yes what was those side effects or adverse reactions?

3) The right which was not respected is the right dose

## Lesson Two. *Enteral routes of drug administration*

This is the second lesson of Unit 5 of drug administration it will cover oral, buccal, sublingual and rectal route of drug administration

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Describe the enteral routes of drug administration their indications and contra-indications
- Explain advantages and disadvantages of enteral drug administration routes
- Perform the technique of enteral drug administration
- Respect patient's privacy during nursing care provision
- Maintain a grooming appearance

**b) Teaching resources**

Books of fundamental of nursing from library

Basavanthappa (2009) Fundamentals of Nursing 2nd Edition, Craven (2013) Fundamentals of Nursing: Human Health and Function

Internet, computer, projector, different forms of enteral medication (tablets, capsules, syrup, suppository

**c) Prerequisites/Revision/Introduction**

The students need to know different forms of medications entering the body via the gastrointestinal tract basically in the mouth and the rectum

**d) Learning activities 5.2.**

**Guidance**

- Teacher will project the images of different enteral routes and distribute reference book
- Ask the students to sit in groups of 5 to reflect and discuss on questions related to the images.
- The teacher will brainstorm answers from each group and orient their ideas toward enteral route
- First group will present the answer of first question while other groups put addition and comments and so on
- At the end the teacher will sum up student answers and then give more clarification on the enteral route
- All students will be allowed to ask questions and get feedback from their teacher

**Answer to leaning activity 5.2.**

1) No, some can be swallowed others dissolved in the oral mucus membrane and in the rectum.
2) The similarities: all the presented drugs are introduced in the gastrointestinal tract. The differences: the specific location of these tablets and their process to enter systemic circulation differ
3) Oral route is indicated for patients who can ingest and tolerate an oral form of medication

   **Sublingual route is indicated when:**

   - the drug needs to get into body system quickly
   - When patient has trouble of swallowing medication
   - When the medication doesn’t absorb very well in the stomach

- When the effects of the drug would be decreased by digestion

  **Buccal route is indicated in the treatment of local conditions of mucus membrane or when they need systemic effects**

  **Rectal route is indicated when:**

- The drug has unpleasant taste or odor, drug released at slow, steady rate provides a local therapeutic effect.
- To evacuate the bowel before surgical intervention and other investigations
- To help relieve constipation
- To introduce medications, such as antipyretic, analgesia – as long as the patient does not object to medicines via this route
- To relieve and treat hemorrhoids or anal pruritus

4) Advantages :

- **Advantages of Oral route is** most convenient, usually least expensive, safe, does not break skin barrier and administration usually does not cause stress.
- Advantage of sublingual route:

are that it is more potent than oral route because drug directly enters the blood and bypasses the liver, drug is rapidly absorbed into the bloodstream, no need to swallow the drug, easier to take for people who have problems of swallowing pills.

- Advantages of buccal route:

Buccal route of drug administration has d**isadvantages** like inactivation of drug if swallowed, drug must remain between cheek and gum until dissolved and absorbed

- Advantages of rectal route:
  - The absorption rate of the drug is not influenced by food or gastric emptying.
  - Part of the metabolism of both enteric and first-pass hepatic elimination is avoided
  - Preferred route when drugs are administered to relieve constipation or hemorrhoids.
  - Drugs administered rectal have a faster action than via the oral route and has a higher bio-availability.
  - Drug reaching the systemic circulation with less alteration on route.

- Rectal administration also reduces side-effects of some drugs, such as gastric irritation, nausea and vomiting
- Applicable in cases of nausea, vomiting, and inability to swallow (unconscious patients), as well as in the presence of diseases of the upper gastrointestinal tract that affect oral drug absorption.
- Suitable for formulations with unpleasant taste (a particularly important factor in children).
- Allows achieving rapid systemic effects by giving a drug in a suitable solution (as an alternative to injection),
- In cases of toxicity or overdose, this effect can be rapidly terminated.

**Answers to self-assessment 5.2.**

1) Buccal route of drug administration has disadvantages like inactivation of drug if swallowed, drug must remain between cheek and gum until dissolved and absorbed. Drug in buccal administration may cause stinging or irritation of the mucous membranes. This is not used in large amount of medication, inconvenient to maintain the exact site. It induces nausea and vomiting if drug has unpleasant taste.
2) If medication is accidentally swallowed it became inactivated by gastric juice.
3) The buccal route of drug administration drug is located in between the cheek and gum.
4) In rectal route of drug administration drug is disposed into rectum
5) (a)The oral route is the less expensive, require minimal equipment and training
6) The reason why we administer medication in oral route, it is less expensive, require minimum equipment and training
7) Disadvantages of oral route: some drugs have unpleasant taste, can cause irritation of the gastric mucosa, poorly absorbed from the gastrointestinal tract and may harm to the person's teeth.
8) Patient Kaneza will not take rectal suppository because she is suffering from diarrhea. The associate nurse will inform the prescriber to change the route to a convenient one such as oral route

### e) Skills lab

Just before the end of every lesson with a procedure, teach need to go with students in skills lab to perform that procedure. During this lesson 4 techniques will be studied, we have oral, buccal, sublingual and rectal medication administration.

| TECHNIQUE: ORAL/SUBLINGUAL/BUCCAL MEDICATION ADMINISTRATION |
|---|
| **STUDENT/NURSE PREPARATION** |
| Student should appear professional (in full and clean uniform) with ID Card |
| Hair tied back |
| Remove watch, jewels, and Rings |
| Wear close shoes |
| Hand washing |
| **PATIENT PREPARATION** |
| Identification of the patient |
| Self-presentation to the patient |
| Physical and psychological patient preparation |
| Assess levels of comprehension and collaboration of the patient |
| Adjust the environment of the patient as necessary. |
| Explain the procedure and purpose to the patient |
| Check for any drug allergies |
| Cleanliness or condition of the bed and surrounding environment |
| **EQUIPMENT** |
| Tray, kidney tray for waste, disposable gloves |
| Drinking water in a jug |
| Medication administration record |
| Medication cup |
| Drug prescription |
| Tablet cutter if needed |
| **IMPLEMENTATION** |
| Perform hand hygiene and put on gloves and or other PPE |
| Verify the rights of drug administration |
| Prepare the medications for one client at a time |
| Assist the patient to a comfortable position to take medications |
| Check again the Nursing Drug Record and the prepared drug. |
| Open the drug package |

| Discard any medication that falls on the floor and start over. |
|---|
| **Oral**: Offer water or fluid with the medication and check if patient appropriately swallowed the drug<br>**Sublingual**: Ask the patient to turn up the tongue and immediately place the drug under tongue, tell the patient to let the whole drug dissolved<br>**Buccal**: Ask the patient to open the mouth then place the drug in the cheek, tell the patient to let the whole drug dissolved |
| **FINISHING** |
| **Patient** |
| Position the patient comfortably and appropriately |
| Arrange personal effects and objects of the patient within his range |
| Thank the patient for his collaboration. |
| **Material** |
| Put material in order. |
| **Nurse** |
| Education/ Care-related guidance. |
| Wash hands. |
| Make a verbal or written report of Care provided and sign |
| Evaluate the patient response to medication within the appropriate timeframe. |

| **TECHNIQUE: RECTAL SUPPOSITORY INTRODUCTION** |
|---|
| **STUDENT/NURSE PREPARATION** |
| Should appear professional (in full and clean uniform) with ID Card |
| Hair tied back |
| Remove watch, jewels, and Rings |
| Wear close shoes |
| Hand washing |
| **PATIENT PREPARATION** |
| Identification of the patient |
| Self-presentation to the patient |
| Physical and psychological patient preparation |
| Assess levels of comprehension and collaboration of the patient |

| Make sure the privacy is appropriate |
| --- |
| Explain the procedure and purpose to the patient |
| Check for any drug allergies |
| Cleanliness or condition of the bed and surrounding environment |
| **EQUIPMENT** |
| Medication administration record, Nonsterile gloves, Tissue, Bed pan |
| Prescribed rectal suppository, Water-soluble lubricant, |
| **IMPLEMENTATION** |
| Perform hand hygiene and put on gloves and or other PPE |
| Close curtains around bed and close the door to the room, if possible. |
| Verify the rights of drug administration |
| Ask client if he or she needs to void. |
| Assist the patient to his left side in a Sims position. Drape accordingly to expose only the buttocks |
| Remove the suppository from its wrapper. Apply lubricant to the rounded end. |
| Lubricate the index finger of your dominant hand. |
| Separate the buttocks with your nondominant hand and instruct the patient to breathe slowly and deeply through the mouth. |
| Insert the suppository into the rectal canal beyond the internal sphincter about 4 inches (10 cm) for an adult and 2 inches (5 cm) for a child. Avoid inserting the suppository into feces. |
| Withdraw the finger and wipe the anal area with tissue. |
| Instruct the client to remain in bed for 15 minutes and to resist urge to defecate. |
| Remove gloves, turning them inside out; dispose of gloves; wash hands. |
| **FINISHING** |
| **Patient** |
| Position the patient comfortably and appropriately |
| Arrange personal effects and objects of the patient within his range |
| Thank the patient for his collaboration. |
| **Material** |
| Put material in order. |
| **Nurse** |
| Observe for effect of suppository after administration |
| Education/ Care-related guidance. |

| Wash hands. |
|---|

## Lesson 3: *Topical skin-application*

This is the lesson 3 of Unit 5 of Drug administration unit it will cover topical skin application of topical medication

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Develop theoretical knowledge on skin medication application, its indications and contra-indications
- Explain advantages and disadvantages of skin medication application
- Simulate the technique of skin medication application
- Respect patient's privacy during nursing care provision
- Demonstrate communication and collaboration skills towards patients, care givers and staff
- Demonstrate empathy and respect of client during the nursing care practice

**b) Teaching resources**

Books of fundamental of nursing from library, Basavanthappa (2009) Fundamentals of Nursing 2nd Edition, Internet, Manikins, clean gloves, skin medication of different forms including transdermal patches, lotion, cream and powder.

**c) Prerequisites/Revision/Introduction**

The prior knowledge that learners must have is bout anatomy and physiology of the skin, eyes, ears and nose, infection preventions standard.

**d) Learning activity 5.3**

**Guidance**

- Teacher will bring printed copies in class showing images of skin medication application.
- Put the student in small group of 6 students
- Allow student to discuss on the given image and answer questions
- The teacher asks every group to present their findings
- Allow others to ask questions to the presented group, if they are not able to respond properly teacher will help them to clarify the responses.
- During presentation and discussion students will take notes of the key concepts

**Answers to learning 5.3**

1) The image shows a person who is applicating a medication on the skin
2) Skin medication is indicated to treat local conditions appearing on the skin or when they desire systemic effects.
3) The side effect when using skin medication application are potential production of irritant and allergic contact dermatitis, potential rapid appearance of bacterial resistance and potential alteration of cutaneous flora.

**Answers to Self-assessment 5.3**

1) Before applying a powder medication, we have to clean the skin with water and soap then dry it appropriately.
2) The form of skin application medication is ointment, lotion, patches, cream, powder, pastes and sprays.
3) Patient Y. will respect the time to remove the patch by folding the medicated side inside.

## Lesson 4: Topical *eye medication administration*

This is the lesson 4 of drug administration unit, it will cover topical eye application of medication. Medications will be in two different form including eye drop and eye ointment.

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Describe the eye medication application route its indications and contra-indications
- Explain advantages and disadvantages of eye medication application
- Imitate the technique of eye medication application
- Demonstrate responsibility and accountability
- Demonstrate self-control while caring for patients

### b) Teaching resources

Books of fundamental of nursing from library: Burton, M. A., & Ludwig, L. J. M. (2015). Fundamentals of Nursing Care Concepts, Connections &Skills, Basavanthappa B.T. (2009) Fundamentals of Nursing 2nd Edition; Internet, Manikins, eye drop, eye ointment, gloves, plate, projector, computer, clothes tissue

### c) Prerequisites/Revision/Introduction

The prior knowledge that learners must have is bout anatomy and physiology of the eyes and infection preventions standard

### d) Learning activities 5.4

**Guidance**

- Teacher will project to the class the image of eye medication
- Put the student in small group of 5 students
- Allow student to discuss on the given image and answer questions
- The teacher asks every group to select one of them to present their findings
- During presentation and discussion students will take notes of the key concepts
- After presentation teacher will allow the student to ask the question to the presenter
- After the teacher will come up with addition and clarification of what the student presented and respond well to the requested question.
- Teacher will also give summery of the lesson and finalize the lesson.

**Answers to learning activity 5.4**

1) The image indicates an eye drop which about to reach the lower conjunctival sac
2) Eye medication is indicated to lubricate the eye, to prevent or treat conditions such as infection, inflammation or glaucoma or for diagnostic purposes.
3) The safe measures while applying eye drop is to slide the lower eyelid downward and hold the eye dropper at 1 to 2 cm above the eye and let prescribed drop reach the lower conjunctiva sac.

**Answers Self-assessment 5.4**

1) The advantages of ocular route are that it offers direct application to the site of action in higher concentration than when taken by other routes. It involves quicker drug absorption and less systemic effect. It is also suitable to all type of patient as well as easier for self-administration.

   The disadvantages based on quick elimination of drug through tear and blink which expel the drug outside so that the preferred dose is lost. Application of eye ointment may cause blurring vision. Few drugs are in ocular form, they are also expensive than oral medication.

2) Eye medication is indicated lubricate the eye, to prevent or treat conditions such as infection, inflammation or glaucoma or for diagnostic purposes

3) The safe measures while applying eye drop is to wash hands, wear gloves, to slide the lower eyelid downward and hold the eye dropper at 1 to 2 cm above the eye to avoid possible trauma.

**e) Skills lab**

The teacher will go in the skills lab with students just after discussion on eye medication administration and before the end of this lesson. They identify needed materials for eye medication administration, students prepare and administer the eye drops and eye ointment.

| TECHNIQUE: TOPICAL EYE MEDICATION ADMINISTRATION |
|---|
| **PREPARATION** |
| The nurse introduces to the patient, explain the purpose of that medication and ask for consent |
| Wash hands |
| The student nurse prepares and assemble all the materials after disinfecting the tray/ trolley |
| Assess the information related to the drug such as mode of action, purpose, route, time of onset and peak of action, side effects and nursing implications |
| Apply privacy |
| Assess the condition of external eye and note changes |
| Assess for allergy, level of consciousness and ability to follow command |
| Assess the ability for self-administration |
| **IMPLEMENTATION:** |
| Wash hand and put on gloves |

| In a supine position patient looks up, in sitting position on a chair he or she slightly hyperextend the head and look in the ceiling. |
|---|
| Use the thumb of forefinger of non-dominant hand to open the lower eye lid by pulling it back against the orbit. |
| **Eye drop:** |
| Ask the patient to look in the ceiling and hold the medication eye dropper at approximately 1 to 3 cm above the conjunctiva sac. |
| Instill prescribed drops |
| In the patient blinks or close eye so that the drops went out of lids margin, dry it with a swab and repeat the procedure. |
| **Eye ointment:** |
| Hold the applicator above the lower eye lid margin and apply a thin layer of the ointment along the inner edge of the eyelid on conjunctiva from inner to outer canthus. |
| Ass the patient to close the eye, apply a gentle circular massage on the eye unless contraindicated |
| Wipe the excess ointment from inner to outer canthus |
| **FINISHING:** |
| Thank the patient and arrange his environment |
| Remove gloves |
| Give related health education, train the patient for self-administration |
| Document the procedure and other relevant findings |

## Lesson 5: Topical *ear medications administration*

### a) Learning objectives

- Elaborate theoretical understanding on ear drug administration its indications and contra-indications
- Explicate advantages and disadvantages of ear drug administration route
- Accomplish the technique of ear drug administration
- Respect patient’s privacy during nursing care provision
- Demonstrate the empathy and respect of patient during nursing care practice.

### b) Teaching resources

Books of fundamental of nursing from library, Basavanthappa (2009) Fundamentals of Nursing 2nd Edition, Internet, Mannequins, ear drop, gloves, plate, projector and computer.

**c) Prerequisites/Revision/Introduction**

The prior knowledge that learners must have is bout anatomy and physiology of the ears and infection preventions standard

**d) Learning activities 5.5**

**Guidance**

- Teacher will project to the class the image of ear medication administration
- Then teacher will put the student in small group of 5 students and request them to observe the image and respond to the requested question.
- The teacher will ask every group to present their findings about the image
- During presentation and discussion students will take notes of the key concepts
- After presentation, teacher will allow student to ask questions to the presenter, if they are not able to respond well the teacher will intervene with more clarification and appropriate explication.
- Lastly, the teacher will give summery of the lesson, conclusion and closing.

**Answers Self-assessment 5.5**

**Answers to the learning activity 5.5**

a. The patient on the image is introducing ear medication on her left ear
b. Th e best way to instill ear drop depend on the age of the patient to be able straighten the ear canal. For children more than 3 years and adults we pull the pinna up and back whereas for the children lower than 3 years we pull down and back.
c. When ear drop prescription is to be taken at home, the patient is supposed to clean his or her hands, go in a position which put the affected ear up and then instill the prescribed drop, remain in that position for 2 minutes, if needed introduce a cotton ball just at the entrance of the ear canal to recuperate the excess medication. Remember to hold the ear dropper in a way that it does not touch the ear to avoid contamination of the content in the bottle.

**Answers to the self-assessment 5.5**

1) The proper administration of an ear medication to a 2-year-old person we pull the pinna down and back. The right answer is b
2) The indications of ear medication instillation are to soften cerumen, relieve pain, treat infection or inflammation, or facilitate removal of a foreign body, such as an insect or a small object
3) The disadvantages of ear drop instillation: it is time consuming as the patient will keep the same position for at least 2 minutes, and not easy for self-administration.
4) Before prescribing an ear drop, the doctor has to examine the tympanic membrane and make sure it is not perforated.

#### e) Skills lab

During the skills lab practices, the teacher work with the skills lab-based staff and other teacher to facilitate the independent practices of students.

| TECHNIQUE: TOPICAL EAR MEDICATION ADMINISTRATION |
|---|
| **PREPARATION:** |
| The nurse introduces to the patient, explain the purpose of that medication and ask for consent |
| Wash hands |
| The student nurse prepares and assemble all the materials after disinfecting the tray/ trolley |
| Assess the information related to the drug such as mode of action, purpose, route, time of onset and peak of action, side effects and nursing implications |
| Apply privacy |
| Assess the condition of external ear and note changes |
| Assess for allergy, level of consciousness and ability to follow command |
| Assess the ability for self-administration |
| Make sure the medication is at room air temperature |
| **IMPLEMENTATION:** |
| Wash hand and wear gloves |
| Offer a position that exposing the affected ear |
| Pull the pinna up and back for adults and children greater than 3 years, then down and back for younger children to straighten the ear canal |
| If the cerumen prevents the entrance the ear canal, wipe it gently with a wooden cotton and avoid to introduce the cerumen into the inner canal |

| Hold the dropper and instill the prescribed drops |
| --- |
| Keep the patient is the lying position for some minutes and apply a light massage to the tragus |
| If ordered, insert a cotton ball to the entry of the ear canal |
| Remove the cotton after 15 minutes and help the patient to resume preferred position |
| **FINISHING:** |
| Thank the patient and arrange his environment |
| Remove gloves |
| Give related health education |
| Document the procedure and other relevant findings. |

## Lesson 6: Topical *nasal route of drug administration*

### a) Learning objectives

At the end of this lesson, student will be able to:

- Develop theoretical understanding of nose medication application its indications and contra-indications
- Explain advantages and disadvantages of nose medication application
- Perform the technique of nose drug administration
- Respect patient's privacy during nursing care provision
- Demonstrate self-control while caring for patients
- Demonstrate communication and collaboration skills towards patients, care givers and staff.

### b) Teaching resources

Books of fundamental of nursing from library, Basavanthappa (2009) Fundamentals of Nursing 2nd Edition , Internet, Manikins, nose drop, gloves, plate, projector, and computer

### c) Prerequisites/Revision/Introduction

The learners must have basic knowledge on anatomy and physiology of the nose, ethic and professional code of conduct and infection preventions standard

### d) Learning activities 5.6

**Guidance**

- Teacher will project to the class the image of nose medication

- Put the student in small group of 5 students
- Allow student to discuss on the given image and answer questions
- The teacher asks every group to present their findings
- During presentation and discussion students will take notes of the key concepts
- The teacher will request students to ask questions to the presenters, if they are not able to respond well, teacher will help them with appropriate answers.
- Lastly, the teacher will give the summery of the lesson, conclusion and closing.

**Answers to the learning activity 5.6**

1) The medication instilled in the nose
2) The nasal route of drug administration indicated to bring local effects on the nasal mucosa other are given for systemic effects and are simply absorbed through the nasal mucosa. Nasal medications are administered to reduce inflammation, facilitate drainage, or treat infections in the nasal cavity

**Answers to the self-assessment 5.6**

1) The advantages of nasal route are based on its simple administration and generally well tolerated, rapid onset because medications are directly absorbed through the nasal mucosa into systemic circulation. There is higher bioavailability than oral medications as first pass hepatic metabolism is bypassed, may escape the blood-brain barrier through olfactory region of the central nervous system e.g: some anesthetic agents. Provides alternate route for rapid medication delivery when intravenous access is unavailable like in case of seizure or if there is a high risk of needle-stick injury.

   The disadvantages of nasal drug administration are based on limited small volumes due to relatively small area available for absorption. It only applicable to potent drugs with high water solubility. It is not suitable for drugs that are irritating or injurious to the nasal mucosa in addition

to disease conditions of the nose may result in impaired absorption. Instilling a drug into a blocked nose or a nose with watery rhinorrhea may expel the medication from the nose

2) Nasal medication instillation is done when they are treating localized health condition of the nasal cavity and sometime can be a mode of drug administration to reach lungs or nervous system.

3) Complication may follow nasal medication instillation: Chronic applications may lead to more serious toxicity issues and may ultimately damage the cilia and compromise body's defenses. If long-term use continues, the arteries in the nasal passage will shrink and scar, causing lesions and nosebleeds.

**e) Skills lab**

The teacher will bring students in skills lab to explore the materials used in nose drop administration. The teacher will give a go ahead to students to perform the technique depending theories just discussed in the classroom.

| TECHNIQUE: ADMINISTRATION OF MEDICATION IN THE NOSE |
|---|
| **PREPARATION:** |
| Review physicians order |
| Check patient identification |
| Get the consent from the patient |
| Refer to patient file to know which sinus affected |
| Perform hand washing |
| Gather all needed equipment |
| Inspect the condition of the nose |
| Check medication label to avoid medication errors |
| Perform the right of medication: the right patient, medication, dose, route, time, reason, and right assessment |
| The expiration date on the label should be checked to ensure that the medication is not outdated. |
| **IMPLEMENTATION:** |
| Wash hands and wear gloves |

| Prior to administration of the medicine, the bottle or canister should be shaken. |
|---|
| Explain the patient the procedure regarding positioning and sensation to expect such us burning or straining of mucosa or shocking sensation as medication strikes into throat. |
| Arrange supplies and medications at the bedside |
| Explain the patient to blow his or her nose before nasal instillations. |
| Tissues should be kept at hand so that residue can be wiped away and for the client to use to cover the mouth and nose when sneezing. |
| Don clean, non-sterile gloves. |
| Position patient sitting back or lying down with head tilted back over a pillow. |
| Hold the dropper near the entry to the nostril and instruct the client to inhale as you drop the appropriate dose into the nostril. |
| Instruct the patient to breathe through mouth |
| Keep the client's head back for two to three minutes to allow the drops to roll to the back of the nostril. Repeat in the other nostril. |
| Avoid blowing the nose immediately after to allow medication an opportunity to absorb. |
| rinsing the nose with warm water |
| **FINISHING:** |
| the cap should be replaced. |
| Soiled tissues should be placed in a bag that can be sealed and discarded. |
| Remove gloves and assist patient to a comfortable and safe position. |
| Wash hands. |
| Document properly date, time, dose, route; which nostril the medication was instilled into |
| Observe the patient for side effect 15 to 30 min after administration |

## Lesson 7: Topical *vaginal route of drug administration*

This is the lesson 7 of Drug administration unit; it will cover vaginal application of medication. Both theory and practice related to vaginal medication administration will be discussed

### a) Learning objectives

At the end of this lesson, student will be able to:

- Respect patient's privacy during nursing care provision
- Develop theoretical knowledge on vagina drug administration, its indications and contra-indications
- Explain advantages and disadvantages of vagina drug administration
- Perform the technique of vagina drug administration
- Demonstrate communication and collaboration skills towards patients, care givers and staff
- Demonstrate empathy and respect of client during the nursing care practice.

### b) Teaching resources

Books of fundamental of nursing from library: Basavanthappa (2009) Fundamentals of Nursing 2$^{nd}$ Edition; Internet; Female manikins, different forms of vaginal drugs, applicator of vaginal suppository, gloves, plate, projector, computer, gauze swabs and disinfectant

### c) Prerequisites/Revision/Introduction

To understand this lesson, students need to know the anatomy and physiology of female reproductive part, its different parts and their functions, ethic and professional code of conduct

### d) Learning activities 5.7

**Guidance**

- Organize student in groups and ask them to read the activity 5.7 as designed in student's book.
- Ask student to discuss the question indicated in activity and find out the answer.
- Teacher will guide them and monitor the activity.
- Invite groups to present their findings to the rest of student.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Harmonize and conclude on the learned knowledge and engage student in making conclusion.

**Answers to the learning activity 5.7**

1) There is a drug in form of suppository in the female genital
2) It important to introduce drug in female genitalia when the patient is suffering from localized vaginal infection or discomfort. Rarely, vaginal medication introduction is done to induce labor. Vaginal administration is indicated to treat local infections such as yeast infections, vaginitis, endometrial atrophy, labor induction and contraception with spermicidal agents.
3) Different types of medicine are used in vaginal route, these are suppository, creams, aerosol and tablets

**Answers to the self-assessment 5.7**

1) The advantages of vaginal drug administration including avoidance of hepatic first-pass effect because absorbed drugs penetrate directly to the systemic circulation via the inferior vena cava thus prevent hepatic toxicity induced by some drugs. It is an easier route of administration and possible self-insertion and removal of the dosage form. This route limits the side effects associated with oral route such unpleasant taste, nausea and so on.
2) The disadvantages of vaginal route of drug administration are that the route gender specificity, patient incompliance, some drugs can cause vaginal irritation, few drugs are administered by this route, their absorption may be affected by menstrual cycle, menopause, pregnancy and sexual intercourse. It affects personal hygiene due to some medication leakage and some drugs can be inactive due to vaginal Potential of Hydrogene (pH).
3) Vaginal administration is indicated to treat local infections such as yeast infections, vaginitis, endometrial atrophy, labor induction and contraception with spermicidal agents.
4) For patient C. To appropriately self-introduce a vaginal suppository, she will first wash hands then go into lying position with knees flexed, the suppository is then inserted with its applicator or by index finger.

### e) Skills lab

The teacher will bring students in skills lab to explore the materials used in vaginal administration. The teacher will give a go ahead to students to perform the technique depending theories just discussed in the classroom.

| TECHNIQUE: VAGINAL SUPPOSITORY ADMINISTRATION |
|---|
| **STUDENT/NURSE PREPARATION** |
| Should appear professional (in full and clean uniform) with ID Card |
| Hair tied back |
| Remove watch, jewels, and Rings |
| Wear close shoes |
| Hand washing |
| **PATIENT PREPARATION** |
| Identification of the patient |
| Self-presentation to the patient |
| Physical and psychological patient preparation |
| Assess levels of comprehension and collaboration of the patient |
| Adjust the environment of the patient as necessary. |
| Explain the procedure and purpose to the patient |
| Check for any drug allergies |
| Cleanliness or condition of the bed and surrounding environment |
| **EQUIPMENT** |
| Medication administration record, Nonsterile gloves, Tissue, Bed pan |
| Prescribed anal suppository, Water-soluble lubricant, Disposable applicator, |
| **IMPLEMENTATION** |
| Perform hand hygiene and put on gloves and or other PPE |
| Close curtains around bed and close the door to the room, if possible. |
| Verify the rights of drug administration |
| Fill a vaginal applicator with the prescribed amount of cream, or have a suppository ready |
| Lubricate the applicator with water, as necessary. A suppository may be lubricated with a water-soluble gel. If not using an applicator, apply a small amount of lubricant to gloved index finger. |
| Position the client in a dorsal recumbent position with knees flexed and hips rotated laterally or in a Sims' position if the client cannot maintain the dorsal recumbent position. |

| Spread the labia well with the fingers, and clean the area at the vaginal orifice with a washcloth and warm water to remove discharge. |
|---|
| Introduce the applicator gently in a rolling manner while directing it downward and backward to follow the normal contour of the vagina for its full length. |
| Push the plunger to its full length, and then gently remove the applicator with the plunger depressed. |
| Wipe the perineum with clean, dry tissue. |
| Instruct the client to remain in bed for 15 minutes. |
| Wash applicator under cool running water to clean and return to appropriate storage in the client's room. |
| Remove gloves, turning them inside out; dispose of gloves; wash hands. |
| **FINISHING** |
| **Patient** |
| Position the patient comfortably and appropriately |
| Arrange personal effects and objects of the patient within his range |
| Thank the patient for his collaboration. |
| **Material** |
| Put material in order. |
| **Nurse** |
| Observe for effect of suppository after administration |
| Education/ Care-related guidance. |
| Wash hands. |

## Lesson 8: *Dose Calculation for enteral and topical drugs*

This is the lesson 8 of Drug administration; it has it will cover medication dose calculation. Our emphasize will be on dose calculation of medication given in enteral, topical, intramuscular, subcutaneous and intradermal routes

### a) Learning objectives

At the end of this lesson, student will be able to:

- Apply dose calculation formula
- Demonstrate safety while preventing medication errors
- Demonstrate responsibility and accountability.

### b) Teaching resources

Books of fundamental of nursing from library: Basavanthappa (2009) Fundamentals of nursing 2nd Edition, Internet, different forms of drugs (tables, capsule, injectable medication, medication solvent) flipchart and markers

### c) Prerequisites/Revision/Introduction

To understand this lesson, students need to know mathematic, quick calculations

### d) Learning activities 5.8

**Guidance**

- Teacher will organize the students to make 6 groups of 5 students, the 3 groups on right side will work on the first question whereas the others 3 groups on the left will work on the second question.
- Every group will make calculation to find the right dose to be administered
- After 5 minutes, groups will nominate 2 presenters who will present the results one presenter from right side and other from left side.
- Teacher will be following their steps and help them to identify the relationship between data and the formula of drug dose calculation.
- The teacher will give more explanation toward formula of drug dose calculation and conclude by the summary of the lesson and conclusion.

**Answers to the learning activity 5.8**

1) Data and answer to the question 1

   prescribed dose: 500mg

   available dose: 200mg

   Vehicle: 5ml

   Dose to administer: (Prescribed dose*vehicle)/(available dose) = (500mg*5ml)/200mg=25/2=12.5ml

   The patient will take 12.5ml of Amoxicillin 200mg per 5ml every 6 hours

   Because a day is made up by 24 hours, 24/6= 4, which means that we have to administer Amoxicillin 4 times a day.

   The daily dose will be 12.5ml*4= 50ml of Amoxicillin 200mg per 5ml

2) Data and answer of the question 2

   Prescribed dose: 1000mg

   Available dose: 500mg

   Vehicle: 1 tablet

   Dose to administer = (Prescribed dose*vehicle)/(available dose) = (1000mg*1tablet)/500mg = (10 tablets)/5 = 2 tablets

   We need 2 tablets to administer 1000mg of Erythromycin 500mg per tablet

**Answers to the self-assessment 5.8**

1) **a**

The daily and total dose for cloxacillin:

Cloxacillin needed dose: (500mg*1capsule)/(500mg )= 1 capsule

Patient B. will take 500mg three times a day, the daily dose will be 3 capsules

For 7 days: 7*3 capsules= 21 capsules

Patient B. will take 21 capsules of Cloxacillin for 7 days.

**b**

Daily and total dose for Ibuprofen:

Ibuprofen needed dose: (400mg*1tablet)/200mg= 2 tablets

Patient B. will take 2 tablets of Ibuprofen 200mg twice a day, which equals to 4 tablets per a day

For three days, the total dose will be: 3*4 tablets= 12 tablets

Patient B. will take 12 tablets of ibuprofen 200mg for 3 days.

2) We have the prescribed dose of 25mg of morphine, the dose available of 100mg, the vehicle of this medication is 1 ml

Morphine dose needed: (25mg*1ml)/100mg= 25/100=0.25ml

This patient will receive 0.25ml of morphine 100mg per ml two times a day.

## 5.6 Summary of the unit

The unit of drug administration is an important part to build an associate nurse in his or her future career. Rights of drug administration discussed in deep are considered a safety measures of drug administration so that a right patient get right drug in a right dose at the right time. In addition, an associate nurse will sure the appropriate assessment is done before drug administration, document all relevant facts during drug administration and make evaluation depending on the time frame of the administered drug. We have to remember that the patient has the right to refuse a drug, if so as an associate nurse need to report to the prescriber. This unit also discussed different route of drug administration such as enteral, topical, intramuscular, subcutaneous and intradermal routes. Because drug administration is among the basic responsibilities of a nurse, we believe at the end of this unit the learner will be confident enough to provide medication in appropriately. Drug dose calculation is another important point in both theory and practice in order to provide a right dose and prevent medication errors.

## 5.7 Additional information for teachers

### Special consideration in drug administration

In drug administration we have to take into consideration different category of people and their special needs. Depending on physical development and life demand form of medication, administration route and some medications are preferred over others. We are going to highly main issues to consider when administering medication in children, pregnant women and in elderly.

**Children**: Most of the time it not easy for the children under 5 years to swallow tablets or capsules, due to it taste, that is why many pediatric medications are in forms of sweet liquid and require much attention during administration. For a young child and infant, you must take care to prevent shocking and aspiration, that is why the parents should be educated about the technic to administer medication at home. If child is old enough to understand warn him when medication has objectional taste. Give the child the frozen flavored ice pop before the medication this help numb the taste buds to weaken the taste of the medication. To mask the taste of the medication you can crush tabs or empty capsule and mix it with soft fluid like apple juice or hot cereal. Do not use essential food in the child's diet to mask the taste of medication (eg milk) because this may cause the child to refuse the food later. Take care to prevent shocking or aspiration. when administering liquid medication to infant or toddler hold the child in sitting or semi-sitting position, immobilize him or her, using a syringes or medicine dropper give the required dose, avoid giving too much and to faster. Always praise the child after she swallow the medication.

**Pregnant women**: A bid number of women take medications without considering possible harm to their fetuses. Those drugs taken during pregnancy may cross the placenta and reach the developing fetus. Possible effects may be developmental delay, intellectual disability, birth defect, miscarriage and stillbirth. The associate nurse should be sure if the medication to be administered is safe both the mother and the fetus. Women with chronic diseases such as diabetes, asthma, epilepsy… need to continue their medication under physician supervision.

**Older adults:** Due to physiological change associated with aging elderly require small dosage of medication, in addition their reaction to some medications is unpredictable, reason why a nurse should observe carefully the old patient after drug administration. The other problems the elderly may experience to consider are:

- **Difficult swallowing** medication, help him to crush the medication and give him in form of liquid.
- **Slow reflex and reasoning** ability, you may need to allow more time to explain and administer medication.

- **Forgetting** to **take medication**: impaired memory is more common with age, so patient need simple plan that they can follow at home. A written schedule should be established morning, mealtime and bed time for example. You can also advise the patient to use divided pill container or small glass filled of one dose for each time of the day. If the container is empty, you ensure that the patient has taken the morning dose for example.
- **Impaired visual acuity**: for the patient who can't see well, write out the home medication schedule in large letter or ask a family member to help.
- Difficult opening container and administering medications: because of pain or stiffness of the finger and hands, elderly experience difficult to open medication or self-administration, so a nurse needs to found an assistance from family or friend.
- **Lack of understanding of need of medication:** you need to explain the importance of mediation to the patient and make sure the patient has swallowed it**.**

**Medication errors**

Actually, medications are prepared, ordered and administered for best intention. However, negligence is the most common cause of medication errors. The most common medication errors are wrong dose, missing the dose, wrong time, use of unauthorized drug in health care settings.

Here is a list of reasons why nurses commit medication error:

- Written prescription is not clear and transliterated incorrectly
- Telephone order is recorded incorrectly
- Wrong material is used to provide that drug
- Equipment malfunctioning or used inappropriately
- Medication poorly handed or stored
- Medication provided to a patient with contraindications
- Protocol in not understood or is violated
- A drug is written to a wrong patient chart
- The ordered dose is wrong
- Error in dose calculation
- Medication given to a wrong route
- Patient identity not checked which led to wrong patient receiving drugs
- The first nurse that administer the medication did not document it immediately. The next one who find the patient file think that the drug was not provided, finally the patient receives double dose.

**Technique to prevent medication error**

There is a number of practices to help preventing medication errors. In our daily practice, the improvement in the profession comes from learning from our previous mistakes and the mistakes of colleagues. “Three checks” is an important point to mitigate medication error. It consists check the label of medication before you pour or mix up them, verify if the name, dose, route, time matches the medication administration record (MAR). Secondly, after preparation and before returning the container in the cupboard, see if the label is the same as MAR entry again. Thirdly, check the medication before giving it at the bedside. The safety of medication administration is as follow:

- Always consider the “three checks” and “six right” of drug administration
- Ask a colleague nurse to verify in case of dose calculation
- Look at medication carefully for similar container, color and shape.
- Questions the orders of multiple medication such as tablets or vials as a single dose
- Take attention on medication with similar names (sound like medication e.g.: clomipramine and chlorpromazine or look like medication e.g.: erythromycin and ibuprofen)
- Check the decimals clearly, always put a zero before decimal point. E.g: “Adrenaline 0.25mg” not “Adrenaline .25mg”
- Verify the abrupt dosage increase which is far from the doses
- When new or unfamiliar medication, confirm the information with the prescriber
- Do not administer medication prescribed by nickname or unofficial abbreviation, get clarification from the prescriber
- Do not attempt to discover from confusing handwriting, instead confirm with the prescriber to prevent misinterpretation
- Careful identify patients with same or almost same last names. Consider the arm band and date of birth e.g: Alice, Elisa, and Aline.
- Be exact on measurement. It is easier to confuse “mg” to “ml” while there is a great difference between 1ml of morphine to 1 mg of morphine
- Frequently review the orders to be sure there is no change

## 5.8 Answers to end unit assessment

1) c
2) b
3) a
4) (a) True

5) (b) Massaging a medicated patch can cause the medicated patch to become dislodged.

6) a) Date, time and the initials of the nurse who applied the patch should be appear on the patch to guide your colleagues to take appropriate follow up care.

b) A transdermal patch is used to last for 24 to 72 hours

7) a) Enteral administration of drug administration including oral, buccal, sublingual and rectal route.

Oral route: consist of administration of the medication by mouth and then swallowed

Buccal route is a way of drug administration where the drug is placed between cheek and gum and dissolve there in order to reach local or systemic effect.

Sublingual route: a drug is placed under the tongue and then it dissolves there in short time, the drug is largely absorbed into the blood vessels on the underside of the tongue.

Rectal: route is also anther enteral form of drug administration which consist of administration of medication into rectum for absorption.

b) Advantages of oral route are that is most convenient, usually least expensive, safe, does not break skin barrier and administration usually does not cause stress.

Disadvantages for oral route are that some medication have unpleasant taste, can cause irritation of the gastric mucosa (Aspirine), poorly absorbed from the gastrointestinal tract and may harm to the person's teeth.

Advantages of sublingual route are that it is more potent than oral route because drug directly enters the blood and bypasses the liver, drug is rapidly absorbed into the bloodstream, no need to swallow the drug, easier to take for people who have problems of swallowing pills.

Disadvantages of sublingual route are inactivation of drug by gastric juice if swallowed, drug must remain under tongue until dissolved and absorbed, may cause irritation of the mucous membranes, not used in large amount of medication, inconvenient to maintain the exact site. It induces nausea and vomiting if it has unpleasant taste. Eating, drinking, or smoking, can affect how the drug is absorbed and how well it works. Any open sores in the mouth can also become irritated by the medication.

Advantages for buccal route are that drug directly enters the blood and bypasses the liver, drug is rapidly absorbed into the bloodstream.

Disadvantages for buccal route are like inactivation of drug if swallowed, drug must remain between cheeks and gum until dissolved and absorbed. Drug in buccal administration may cause stinging or irritation of the mucous membranes. This is not used in large amount of medication, inconvenient to maintain the exact site. It induces nausea and vomiting if drug has unpleasant taste.

- Rectal route advantage the absorption rate of the drug is not influenced by food or gastric emptying.
- Part of the metabolism of both enteric and first-pass hepatic elimination is avoided
- Preferred route when drugs are administered to relieve constipation or hemorrhoids.
- Drugs administered rectal have a faster action than via the oral route and has a higher bio-availability.
- Drug reaching the systemic circulation with less alteration on route.
- Rectal administration also reduces side-effects of some drugs, such as gastric irritation, nausea and vomiting
- Applicable in cases of nausea, vomiting, and inability to swallow (unconscious patients), as well as in the presence of diseases of the upper gastrointestinal tract that affect oral drug absorption.
- Suitable for formulations with unpleasant taste (a particularly important factor in children).
- Allows achieving rapid systemic effects by giving a drug in a suitable solution (as an alternative to injection),
- In cases of toxicity or overdose, these effect can be rapidly terminated.

**Disadvantages of rectal route**

- The interruption of the absorption process by defecation.
- Absorption can be highly irregular and incomplete.
- The reduced surface area may limit absorption, in the same way that the low volume of rectal fluids can lead to incomplete dissolution of the drug.
- Certain drugs may be altered by microorganisms in the rectum.
- Patient adherence may be a problem

8) Topical dermatological preparations are in different forms such as ointment, lotions, creams, powders, pastes, sprays and patches. Remember to wear gloves before application of medication on the skin and respect asepsis when handling open skin area.

To apply the medication on the skin we need the drug dedicated for skin, gloves, some gauze, plate or trolly.

In case of powder application make sure the skin surface is dry. Spread apart any skin folds and apply the powder until the area is covered with a fine thin layer. Cover the site with a dressing if ordered.

For suspension-based lotion, shake the container before use to distribute evenly suspended particles. Put a little lotion on a small gauze dressing or pad and apply the lotion to the skin by stroking it evenly in the direction of the hair growth. Rub the lotion on the skin until it is no longer visible.

For creams, ointments, pastes and oil-based lotions: Warm and soften the preparation in gloved hands to make it easier to apply. Spread over the affected skin evenly using long strokes that follow the direction of the hair growth. Explain that the skin may feel somewhat greasy after application. Apply a sterile dressing if ordered by the doctor.

To apply transdermal patches, select a clean, dry area that is free of hair and matches the manufacturer's recommendations. Remove the patch from its protective covering, holding it without touching the adhesive edges, and apply it by pressing firmly with the palm of the hand for about 10 seconds. Advise the person to avoid using a heating pad over the area to prevent an increase in circulation and the rate of absorption same as when the patient has fever greater than $40^0$c.

Remove the patch at the appropriate time, folding the medicated side to the inside so it is covered. Remember to rotate the sites. Write date, time and your initials on the patch guide your colleagues to take appropriate follow up care.

9) To recognize the effect of medication, nurse should perform evaluation within a certain timeframe of drug administration.

10) The 3 three checks of drug administration are:

a) Check the label of medication before you pour or mix up them, verify if the name, dose, route, time matches the medication administration record (MAR).

b) After preparation and before returning the container in the cupboard, see if the label is the same as MAR entry again.

c) Check the medication before giving it at the bedside.

11) Keys aspect in nasal self-drug administration are:

- Wash hands
- The bottle or canister should be shaken.
- Ensure that you may feel burning or straining of mucosa or shocking sensation as medication strikes into throat.
- Explain the patient to blow his or her nose before nasal instillations.
- Tissues should be kept at hand so that residue can be wiped away and for the client to use to cover the mouth and nose when sneezing.
- Patient should be in sitting back or lying down with head tilted back over a pillow.
- Hold the dropper near the entry to the nostril and instruct the client to inhale as he or she drops the appropriate dose into the nostril.
- Instruct the patient to breathe through mouth
- Keep the client's head back for two to three minutes to allow the drops to roll to the back of the nostril. Repeat in the other nostril.
- Avoid blowing the nose immediately after to allow medication an opportunity to absorb.
- Rinsing the nose with warm water

12) Indications of rectal route of drug administration

- It helps to evacuate the bowel before surgical intervention and other investigations
- It helps to help relieve constipation
- It helps to introduce medications, such as antipyretic or analgesia
- To relieve and treat hemorrhoids or anal pruritus

13) a

14) c

15) c

16) b

17) d

18) b

19) a

20) False

21) True

22) True

23) False

24) True

## 5.9 Additional activities

### 5.9.1 Remedial Activities:

1) Give 3 indications of rectal route of drug administration

   **Answers:** Rectal route is used to evacuate the bowel before surgical intervention and other investigations, to relieve constipation, to introduce medications, such as antipyretic, analgesia and relieve and treat hemorrhoids or anal pruritus.

2) Outline 5 right of drug administration you know

   **Answers:** Right patient, right dose, right medication, right route, right time.

### 5.9.2 Consolidation activities:

1) Discuss on at least 3 rights of drug administration of your choice

**Answer**

**a. Right patient**

The first right in drug administration is to identify the correct patient to be given medications. A nurse must carefully verify the person's identification each time before administration of a medication. Use the names as recorded in the patient file, ask the patient if he or she is conscious and read patient identification band.

**b. Right medication**

The ordered medication is appropriate for the patient. Nurses should not rely on memory from previous interaction with the patient because beds can be changed at any way or patent discharged and replaced.

**c. Right dose**

The dose ordered is appropriate for the patient. A nurse should be able to calculate the correct dose in accordance to the prescription and not expect to always exact doses of medication from pharmacy.

2) Outline different materials needed for oral route of drug administration

**Answer:** nurse need different equipment for oral route like prescription chart, medication pack, disposable medicines container; straw, water or juice, kidney dish to be used in case of vomiting, examination gloves and plate.

3) The Dr prescribe to Mr. K, an injectable pethidine 10mg to be administered in intramuscular, the available vial has a concentration of 2 mg/1 ml. Calculate the correct volume of pethidine to be administered to Mr k.

**Answer:** Prescribed dose =10mg
**Available dose = 2mg**

**Vehicle=1m**

**Dose to administer =**

**The correct dose of pethidine to administer to Mr K, is 5ml**

### 5.9.3 Extended activities

1) Nurse Robert is going to administer amoxicillin to Mr. A. through enteral route, discuss different ways of enteral route should be used to administer a medication.

**Answer**

Oral route: consist of administration of the medication by mouth and then swallowed.

Buccal route is a way of drug administration where the drug is placed between cheek and gum and dissolve there in order to reach local or systemic effect.

Sublingual route: a drug is placed under the tongue and then it dissolves there in short time, the drug is largely absorbed into the blood vessels on the underside of the tongue.

Rectal: route is also anther enteral form of drug administration which consist of administration of medication into rectum for absorption.

2) Outline the advantages and disadvantages of sublingual enteral route

**Answer:** Advantages of sublingual route are that it is more potent than oral route because drug directly enters the blood and bypasses the liver, drug is rapidly absorbed into the bloodstream, no need to swallow the drug, easier to take for people who have problems of swallowing pills.

**Disadvantages of sublingual route are** inactivation of drug by gastric juice if swallowed, drug must remain under tongue until dissolved and absorbed, may cause irritation of the mucous membranes, not used in large amount of medication, inconvenient to maintain the exact site. It induces nausea and vomiting if it has unpleasant taste. Eating, drinking, or smoking, can affect how the drug is absorbed and how well it works. Any open sores in the mouth can also become irritated by the medication.

# UNIT 6 DATA COLLECTION

## 6.1 Key unit competence

Carry out a comprehensive data collection of clients

## 6.2 Prerequisites (knowledge, skills, attitudes and values)

To be successful in this unit, the learners should have been taught the biology subject and acquired knowledge related to the anatomical structure and functioning of the body systems as well as body temperature regulation. The review of systems, one of the components of the health history will be covered in this unit. Thus, having acquired knowledge related to body system structure and functioning will enhance positive learners' learning. As a teacher you will ask some questions to learners related to these prerequisites before starting the lesson. In addition, learners should have been taught the unit of vital signs since the vital signs are part of the physical examination which will be covered in this unit.

As the learners will be practicing the acquired skills on human being, learners should have been taught the Ethics and Professional code of conduct in order to be aware of the ethical principles and the code of professional conduct that will guide them during their daily nursing practice.

## 6.3 Cross-cutting issues to be addressed

### a) Inclusive education

This unit involves learning the procedures/techniques which require hearing ability especially for health history taking and the physical examination (vital signs (BP), percussion and auscultation techniques) which require hearing for the sound and voice. This may be challenging to students with special educational needs such as students with hearing impairment. However, the teacher will assist the students with partial hearing impairment in the following ways:

- Avail to the concerned students the electronic blood pressure machine to be used for blood pressure measurement or if not available use another alternative of measuring the blood pressure using palpation method.
- Avail the stethoscope with extra sound amplification to be used by learners with partial hearing impairment during auscultation technique.
- Create a calm environment (free from noise) to help learners with partial hearing impairment capture sounds and voices while conducting history taking and physical examination (auscultation and percussion techniques).

- Every important point is written on the chalkboard or flip charts or printed depending on available resources. The written points help students with hearing impairment to understand what is spoken.
- Help students with partial hearing impairment sit in front and use loud voice during teaching and presentations.
- To ensure if the concerned learners understand, as a teacher just gently request the learners to repeat what you said.
- Advocate for hearing aids for concerned students.
- Though having hearing impairment, the students can speak. So, the concerned students have to be involved in group activities and allow them opportunities to present

**b) Gender education**

Historically, there was a belief that Nursing profession was for females. In the past, the Nursing Education was more predominated by females than males. Even the pioneer of Nursing is a female (Florence Nightingale, the mother of Nursing). The nature of nursing played also an influence regarding the female domination in nursing education. Nowadays, there is an improved understanding that everyone regardless of the gender can be a nurse. In today's nursing education, there is a big number of males undertaking the nursing profession. The learners should be told that the nursing education is for every one regardless of the gender and everyone being a male or female can perform it very well. It is for this reason, during the teaching all students (boys and girls) will be considered the same as having the same potentials and be given equal opportunities during all learning activities irrespective of their gender.

**c) Environment and sustainability**

During interview for health history, the patient may not feel comfortable talking about his/her health history in the presence of the other persons other than the nurse conducting the interview. It is the same for the physical examination, which is an embarrassing technique for most of the patients when assessing the sensitive body parts (chest and genital area). Therefore, ensuring privacy within the specific health care setting by pulling drapes, closing doors, or moving to a remote area before proceeding with history taking and physical examination is essential, especially considering confidentiality guidelines.

Furthermore, as a facilitator, emphasize to the learners that environmental factors affect the vital signs. Among them we can give an example of extremes in environmental temperatures which can affect a person's temperature regulatory systems. If the temperature is assessed in a very warm room and the body temperature cannot be modified in different ways such as by convection, conduction, or radiation, the temperature will be elevated. The same, if the patient has been

outside in extremely cold weather without suitable clothing, the body temperature may be low. Therefore, learners should know that vital signs are measured when the patient is at rest and the environment is controlled for comfort and accurate results

## 6.4 Guidance on the introductory activity

Before starting teaching the first lesson of this unit titled “Data collection”, engage learners in the introductory activity. This activity aims to relate the unit with learners’ daily life experience to raise their curiosity and discovery and draw their attention while undertaking the next unit’s lessons.

**Teacher’s activity:**

- Print the page with images on introductory activity under unit 6 named Data collection or prepare a presentation slide of this introductory activity. The questions and the unit title must not appear on the printed copies or on the presentation slide.  Use only images.
- Distribute the printed copies of the introductory activity to all learners or use a projector and present the images of the introductory activity on the white screen.
- Ask each learner to carefully observe the images on the printed copies or on the white screen and allow learners two minute to think and make reflection about the images.
- Then ask the questions from the students’ book under introductory activity to the learners. Ask the first question and get the learners’ views before moving to the second question and so forth.
- Don’t judge any learner’s response instead motivate learners and make the class more active by involving every learner in the introductory activity.

End the introductory activity by contextualizing the learners’ responses and relate them to the unit to be taught to the learners and then proceed with the first lesson on introduction to data collection.

**Expected answers to the introductory activity**

1) The nurse in figure A is conducting interview to gather client’s Health History
2) For figure B: The nurse is measuring the Blood pressure of the client

   For figure C: The nurse is assessing the client using inspection technique

   For figure D: The nurse is assessing the client using palpation technique

For figure E: The nurse is assessing the client using percussion technique

For figure F: The nurse is assessing the client using auscultation technique

*The whole process from figure A to figure F is about the data collection (both Health History and the Physical examination).*

3) The purpose of all the actions being done by the nurse from figure A up to figure F is for collecting relevant data from the patient (subjective and objective data) and establishing a database concerning a client's physical, psychosocial, and emotional health in order to identify health-promoting behaviors as well as actual and potential health problems and plan for patient care.

## 6.5 List of lessons/subheadings (including assessment)

| # | Lesson title | Learning objectives | Number of periods |
|---|---|---|---|
| 1 | Introduction to data collection | Define data collection<br>Differentiate between a comprehensive health assessment, a focused assessment, and an initial head-to-toe shift assessment.<br>Explain the types of data<br>Identify the sources of data<br>Identify the methods of data collection | 2 periods |
| 2 | Interview and Health History | Define the interview in data collection<br>Explain different phases of interview<br>Describe interview techniques in client assessment<br>Define the health history in client assessment<br>Identify the purpose of health history for client assessment<br>Describe the different components of health history<br>Conduct the health history taking for the client | 2 periods |

| | | | |
|---|---|---|---|
| | | Demonstrate appropriate documentation and reporting of health assessment | |
| 3 | Bio-Psycho-Social Model for holistic client data | Define the biopsychosocial model<br><br>Explain  the domains of the biopsychosocial model<br><br>Apply the biopsychosocial model during health history taking.<br><br>Identify the benefits of the biopsychosocial model | 2 periods |
| 4 | Introduction to physical examination | Define various terms associated with physical assessment.<br><br>Identify the purposes of the physical examination.<br><br>Identify the required preparation for the patient health assessment<br><br>Describe different position for physical assessment<br><br>Explain different vital signs and parameters<br><br>Performing an Initial Head-to-Toe Shift Assessment | 2 periods |
| 5 | Techniques of physical examinations | Describe the four techniques used in physical examination: inspection, palpation, percussion, and auscultation.<br><br>Perform correctly each technique of physical examination | 2 periods |
| 6 | Skills Lab (Self practice) | Collect relevant information of client from different sources<br><br>Interpret information collected<br><br>Conduct a comprehensive health assessment<br><br>Performing correctly the four techniques of Physical Examination | 5 periods |

| 7 | Assessment (OSCE) | Conduct correctly a comprehensive client's health assessment (Health history and physical examination)<br><br>Demonstrate appropriate documentation and reporting of health assessment | 3 periods |
|---|---|---|---|
| **Total** | | | 18 periods |

## Lesson One. *Introduction to data collection*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Collect relevant information of client from different sources
- Interpret information collected
- Use different techniques to conduct client physical exam
- Appreciate the relevant information

### b) Teaching resources

Student book, fundamentals of nursing books, computer (laptop), projector, white screen and illustrations indicating a nurse conducting the assessment

### c) Prerequisites/Revision/Introduction

The learners will learn better the data collection if they have prior understanding of the anatomy and normal function of body systems in order to distinguish the variation from the normal to abnormal body systems functioning. Learners should also revise the unit of vital signs and parameters before starting the data collection unit since vital signs will be part of the physical assessment. As a facilitator, ask the learners some questions to test for their prior understanding of these prerequisites

### d) Learning activities 6.1.

**Guidance**

Before introducing the lesson, introduce first the whole unit by engaging actively the all learners in the introductory activity as it is guided above. Then after engage learners in the activity 6.1 of the first lesson.

As a facilitator, help learners get engaged in the learning activity 6.1 of the above lesson by doing the following:

- Facilitate the learners to form groups and choose the group leaders; 4-6 learners per each group

- Provide the fundamentals of nursing books to all groups. The fundamentals of nursing books in soft copies may be used for a group which has a laptop.
- Request learners to open the fundamentals of nursing books or their students' books, read the materials data collection or assessment and make a summary note about the items mentioned in the learning activity 6.1
- Allow learners time to read the materials on data collection and make the summary note as requested in the activity.
- Move around to each group to provide any needed assistance.
- Choose 2 groups and 2 presenters randomly in order to present their work in class.
- During the presentations, the facilitator will request the presenters to engage all learners during the presentation and the groups will support each other.
- As a facilitator, support learners during class presentations, harmonize the lesson through their findings, respond to questions in which learners failed to respond, make clarification where needed and conclude the lesson by asking some questions related to the lesson.
- At the end, ask the questions under self-assessment 6.1 to assess the learners' understanding of the lesson and the achievement of the intended learning objectives

**Answers to self-assessment 6.1.**

1) Data collection or assessment means the gathering of information (data) about a patient in order to facilitate effective nursing care and medical management

2)

| Primary source of data | Secondary source of data |
|---|---|
| The source of data is the client himself/herself<br><br>e.g. Client | Any other source of data apart from the client<br><br>e.g. Family members, other health care professionals, Medical records, Interdisciplinary conferences, rounds, and consultations, Results of diagnostic tests, Relevant literature. |

3)

| Subjective data | Objective data |
|---|---|
| Subjective data also known as symptoms are what the patient tells you. They are collected by interviewing the patient and /or caregiver during the nursing history. This type of data includes information that can be described or verified only by the patient or caregiver<br><br>e.g. The patient says" I feel pain during urination" | Objective data, also known as signs, are data that can be observed or measured. This type of data is obtained using inspection, palpation, percussion, and auscultation during the physical examination. Objective data are also acquired by diagnostic testing.<br><br>e.g. BP: 120/80 mmHg, an incision wound on the right lower quadrant of the abdomen |

4) Components of the comprehensive client assessment:
   - Health History
   - Physical examination

5) A comprehensive assessment is usually the initial assessment. It is usually performed upon admission to a health care agency and includes a complete health history and physical examination to determine current needs of the client. A comprehensive assessment examines the patient's overall health status. Whereas a focused assessment is frequently performed on an ongoing basis to monitor and evaluate the patient's progress, interventions, and response to treatments. A focused assessment is problem oriented.

6) The methods of data collection are: interviews, observation, and physical assessment

## Lesson Two. *Interview and Health History: Subjective Data Collection*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define the interview in data collection
- Explain different phases of interview
- Describe interview techniques in client assessment
- Define the health history in client assessment

- Identify the purpose of health history for client assessment
- Describe the different components of health history
- Conduct the health history taking for the client

**b) Teaching resources**

Student book, fundamentals of nursing books, computer (laptop), projector, white screen, illustrations indicating a nurse conducting the assessment and health assessment check list.

**c) Prerequisites/Revision/Introduction**

The learners should have prior understanding of the structure and functioning of various body systems since the review of systems is part of the health history to be covered in this lesson. This will enable the learners to detect the variation from normal to abnormal functioning of body systems.

**d) Learning activities 6.2.**

**Guidance**

The facilitator will engage the learners in the activity 6.2 as follows:

- Facilitate the learners to form groups and choose the group leaders; 4-6 learners per each group
- Provide the fundamentals of nursing books to all groups. the fundamentals of nursing books in soft copies may be used for a group which has a laptop.
- Request learners to open the fundamentals of nursing books or their students' books, read the materials about the interview and health history and make a summary note about the items mentioned in the learning activity 6.2
- Allow learners time to read the materials on interview and health history and make the summary note as requested in the activity.
- Move around to each group to provide any needed assistance.
- Choose 2 groups and 2 presenters randomly in order to present their work in class.
- During the presentations, the facilitator will request the presenters to engage all learners during the presentation and the groups will support each other.
- As a facilitator, support learners during class presentations, harmonize the lesson through their findings, respond to questions in which learners failed to respond, make clarification where needed and conclude the lesson by asking some questions related to the lesson.
- After work presentation in class, the facilitator will allow the practice of history taking. The facilitator will group learners in pairs and use role play so that two paired learners will follow the phases of the interview and use interviewing

techniques to conduct the history taking. Here, the facilitator will avail to learners the health assessment check list to guide them while conducting the history taking.

- At the end, ask the questions under self assessment 6.2 to assess the learners' understanding of the lesson and the achievement of the intended learning objectives.

**Answers for the self-assessment 6.2**

1) a
2) b
3) c
4) b
5) a

## Lesson Three. *Bio-Psychosocial Model for holistic client data*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define the biopsychosocial model
- Explain the domains of the biopsychosocial model
- Apply the biopsychosocial model during health history taking.
- Identify the benefits of the biopsychosocial model

### b) Teaching resources

Student book, fundamentals of nursing books, computer (laptop), projector, white screen, illustrations indicating a nurse conducting the assessment and printed biopsychosocial model

### c) Prerequisites/Revision/Introduction

The learners should have prior understanding of the psychology and sociology concepts and their influence on health. The prior understanding of health determinants and their influence on health would help learners while undertaking this unit. The facilitator will ask some questions about health determinants in order to assess for learners' prior knowledge on it. The learners should also review the components of the health history before learning this lesson.

**d) Learning activities 6.3**

**Guidance**

The facilitator will engage the learners in the activity 6.3 as follows:

- Facilitate the learners to form groups and choose the group leaders; 4-6 learners per each group
- Provide the fundamentals of nursing books to all groups and the printed sheets containing the biopsychosocial model. the fundamentals of nursing books in soft copies may be used for a group which has a laptop.
- Request learners analyze first the biopsychosocial model and consult the fundamentals of nursing books for additional information about the biopsychosocial model. Then request the learners to respond to the learning activity 6.3
- Move around to each group to provide any needed assistance.
- Choose 2 groups and 2 presenters randomly in order to present their work in class.
- During the presentations, the facilitator will request the presenters to engage all learners during the presentation and the groups will support each other.
- As a facilitator, support learners during class presentations, harmonize the lesson through their findings, respond to questions in which learners failed to respond, make clarification where needed and conclude the lesson by asking some questions related to the lesson.
- At the end, ask the questions under self-assessment 6.3 to assess the learners' understanding of the lesson and the achievement of the intended learning objectives

**Expected answers for the learning activity 6.3**

1) The biopsychosocial model is an inter-disciplinary model that looks at the interconnection between biology, psychology, and socio-environmental factors.
2) Description of the domains of the biopsychosocial model:
   a. The biology domain refers to biological factors such as gender, physical illness, disability, genetic vulnerability, immune function, neurochemistry, stress reactivity and medication effects.
   b. The psychology domain refers to psychological factors that involve a person's personality, thoughts, and ensuing emotions and behavior such as psychological distress, fear/avoidance beliefs, current coping methods and attribution.

c. Social domain refers to social factors that involve socio-economical, socio-environmental, and cultural factors that affects a person's thoughts, feelings, and behavior such as work issues, family circumstances and benefits/economics.

3) Integration of the biopsychosocial model during client assessment

During client assessment, the biopsychosocial assessment model can be integrated by asking interview questions which are related to its three domains, namely biology, psychology, and sociocultural influences.

**For biology domain**, questions will address biological aspects that may include diet, sleep habits, and family history. Some examples of biology questions are as follows:

(1) Do you currently take any prescription medication or supplements? If yes, what are they?(2) Do you have any current medical problems that you believe significantly impact your life

(3) Is there a family history of significant medical problems or disease? If yes, what are they?

**For the psychology domain**, questions will address current cognitive functioning, coping skills, and mood. Examples of psychology questions are: (1) How would you describe your mood? Do you have a history of suicidal thoughts or acts of self-harm? (2) Do you have a family history of psychiatric illness? (3) Name three of your strengths and three of your weaknesses.

**For social domain**, questions may address the quality of family relationships, financial stability, and educational background. Examples of social questions are the following: (1) Do you have close relationships with family members? Do you find them a source of emotional support? (2) Do you currently have a job? Does it provide you personal satisfaction and financial stability? (3) What is happening in your life right now that increases your stress level? What about in the past?

**Answers for the self-assessment 6.3**

1) The domains of the biopsychosocial model are:

- The biology domain which refers to biological factors such as gender, physical illness, disability, genetic vulnerability, immune function, neurochemistry, stress reactivity and medication effects.
- The psychology domain which refers to psychological factors that involve a person's personality, thoughts, and ensuing emotions and behavior such as psychological distress, fear/avoidance beliefs, current coping methods and attribution.

- Social domain which refers to social factors that involve socio-economical, socio-environmental, and cultural factors that affects a person's thoughts, feelings, and behavior such as work issues, family circumstances and benefits/economics.

2) c (Social domain)

3) During client assessment, the biopsychosocial model serve to gather the holistic client data since it looks at all the possible biological, psychological, and social influences affecting overall health and health behaviors. The biopsychosocial model can be applied to understand a variety of health behaviors. An example is health behavior of excessive drinking. A person may excessively drink because they have a genetic disposition for an addiction to alcohol (Biological). A person may be struggling with negative emotions and use alcohol as a coping mechanism (Psychological). A person may also be prone to drink excessively when they are with friends that also drink excessively (Social).

## Lesson four. *Introduction to physical examination*

### a) Learning objectives

At the end of this lesson, students should be able to:

- Define various terms associated with physical assessment.
- Identify the purposes of the physical examination.
- Identify the required preparation for the patient health assessment
- Describe different position for physical assessment
- Explain different vital signs and parameters

### b) Teaching resources

Pictures illustrating different positions, pain intensity or rating scale, Teaching videos, projectors, screen, Fundamentals of nursing textbook.

### c) Prerequisites /Revision /Introduction

Prior to this lesson, the student should have learnt different techniques to provide comfort to the patient, materials used in clinical setting.

### d) Learning activity 6.4

**Guidance**

- Help students to make small groups composed by 4 students for each one.
- Provide the fundamentals of nursing books to all groups.

- The teacher will ask students to sit in group and read, discuss and write a summary about the definition of physical assessment, symptoms, and signs, purposes of physical assessment, preparation of patients for physical assessment and different vital signs. During this students' activity, the teacher will pass in different groups guiding and facilitate them and make sure that the discussion focus on the activity 6.4
- Identify one group randomly to present their group work to their classmates. Other team members will write the main points on the black board.
- Other groups members respond to the questions asked by the presenters, and the facilitator provide clarification wherever it is needed.
- Provide opportunity to other groups to share new information which has not been presented by their classmates.
- After the presentations, the facilitator will make a clear summary of the lesson and ask the questions under self-assessment 6.4 to students in order to assess their understanding of the lesson and the achievement of the intended learning objectives.

**Answers to self-assessment 6.4**

1)

a. A physical examination is an investigation of the body to determine its state of health. In other words; Physical assessment is the process you use to collect physical data that are relevant to the patient' s health.

b. Symptoms are subjective findings not directly measurable when evidence of illness or injury is verbalized by the patient. In other words; ***symptoms*** of disease are apparent only to the patient, so they must be verbally communicated by the patient to the nurse.

***c. Signs*** are objective and measurable findings when use of the four senses produces evidence of illness or injury. In other words, ***signs*** of disease are those that can be detected by the nurse.

2) Five purposes of physical assessment:

- To establish the patient' s current condition, a baseline against which future changes may be measured.
- To identify problems the patient may have or have the potential to develop
- To evaluate the effectiveness of nursing interventions or the outcomes of care
- To monitor for changes in body function

- To detect specific body systems that need further assessment or testing

3) The various vital signs and parameters to be assessed during the physical examination are the following: *blood pressure, temperature, pulse, respirations,* $SpO_2$, *pain, height and weight.*

4) After considering the patient's current condition*, a nurse selects a focused physical examination on a specific system or area*.

   For example, when a patient is having a severe asthma episode, the nurse first focuses on the pulmonary and cardiovascular systems so treatments can begin immediately

## Lesson Five. *Techniques of physical examinations*

### a) Learning objectives

At the end of this lesson, students should be able to:

- Describe the four techniques used in physical examination: Inspection, palpation, percussion, and auscul tation.
- Perform each technique in skill slab

### b) Teaching resources

Pictures illustrating physical assessment palpation, percussion, and auscultation, Teaching videos, projectors, screen, Fundamentals of nursing textbooks ….

### c) Prerequisites /Revision /Introduction

Before starting this lesson, the student should have covered anatomy and physiology of different systems in order to help him/her to understand the location and function of each organ.

### d) Learning activity 6.5

**Guidance**

- Ask students to sit in pairs of 2 persons and read about techniques of physical assessment (definition and description technique of physical assessment)from fundamentals' of nursing text book or from internet and make a summary note.
- During group work, the teacher will pass around groups guiding and facilitate them and make sure that the discussion focus on the activity 6.5
- Identify any one group randomly to present their group work to their classmates by writing the main points on the black board.
- The teacher asks other group members to add any ideas about what the two groups have presented, if they have them.

- Provide feedback on students' comments wherever it is required.
- Identify the differences or similarities among the ideas presented by different students.
- The teacher will ask each one in the pair to perform each technique used during physical assessment namely: inspection, palpation, percussion and auscultation.
- Each one will write down the findings from his/her partner and interpret results showing normal and abnormal findings.
- During this activity the teacher will pass around groups guiding them and facilitating them.
- At the end the teacher will summarize the key points of each group presentation

**Answers to self-assessment 6.5.**

1) Definitions of the four methods/ techniques used for physical assessment:
   a. Inspection is the visual examination or assessment using the sense of sight.
   b. Palpation is the examination of the body using the sense of touch to gather information.
   c. Percussion is the act of striking the body surface to elicit sounds that can be heard or vibrations that can be felt.
   d. Auscultation is the process of listening to sounds produced within the body in order to detect variations from normal.
2) The five types of sound produced by Percussion are the following:
   a. **Flatness** is an extremely dull sound produced by very dense tissue, such as muscle or bone.
   b. **Dullness** is a thud-like sound produced by dense tissue such as the liver, spleen or heart.
   c. **Resonance** is a hollow sound such as that produced by lungs filled with air
   d. **Hyper-resonance** is described as booming and can be heard over an emphysematous lung.
   e. **Tympany** is a musical or drum-like sound produced from an air-filled stomach.
3) The conditions to be fulfilled in order to auscultate internal sounds are the following: You need to hear well, have a good stethoscope, and know how to use it properly.

4) Light (superficial) palpation should always precede deep palpation because heavy pressure on the fingertips can dull the sense of touch.

5) The deep Palpation is contra-indicated in the following situations:
   - People who have acute abdominal pain;
   - People with enlarged abdominal organs;
   - Source of pain yet to be diagnosed.

6) Auscultated sounds are described according to the following characteristics: *their pitch*; *Loudness* or *Intensity*, *Quality* and *Duration*.
   - *The pitch* which is the frequency of the vibration; indicates the number of sound wave cycles generated per second by a vibrating object. The higher the frequency, the higher the pitch of a sound and vice versa.
   - *Loudness* (Intensity) refers to the amplitude of a sound wave ranging from soft to loud.
   - *Quality* refers to sounds of similar frequency and loudness from different sources.
   - *Duration* means the length of time that sound vibrations last (short, medium or long).

## 6.6 Summary of the Unit

The Unit 6. has the following 5 theoretical lessons and a practical session in Skills laboratory:. Each lesson is hereby briefly presented:

- The lesson 6.1 “Introduction to data collection” has covered the following points:

**Definition and purpose of data collection**

Data collection or assessment means the gathering of information (data) about a patient in order to facilitate effective nursing care and medical management. The purpose of assessment is to establish a database concerning a client’s physical, psychosocial, and emotional health in order to identify health-promoting behaviors as well as actual and potential health problems.

**Types of assessment:**

The assessment can be comprehensive or focused (ongoing).

A comprehensive assessment includes a complete health history and physical examination to determine current needs of the client.

A focused assessment is problem oriented and may be the initial assessment or an ongoing assessment.

**Types of data**

In all assessments, only two types of data are obtained: Subjective and Objective data.

Subjective data, also known as symptoms, are collected by interviewing the patient and/or caregiver during the nursing history.

Objective data, also known as signs, are data that can be observed or measured.

**Sources of data:**

The client is considered as the primary source of data and secondary sources include family members, other health care providers, and medical records.

**Methods of data collection: interviews, observation, and physical assessment.**

- The lesson 6.2 "Interview and Health History: Subjective Data Collection" covers the followings points which are briefly presented here:

**Definition of interview**

which is the method by which health care providers take health histories and gather subjective data. Interview is also a therapeutic interaction that has a specific purpose.

Effective interviewing depends on the nurse's knowledge and ability to skillfully elicit information from the client using appropriate techniques of communication. Observation of nonverbal behavior during the interview is also essential to effective data collection.

Phases of the interview:

The interview is divided into three phases: ***the introductory phase, the working phase, and the termination phase.***

**Interviewing techniques**

Effective interviewing skills evolve through practice and repetition and include the following techniques: *Active listening, Restatement, Reflection, Encouraging elaboration (facilitation), Purposeful silence, Focusing, Clarification* and *Summarizing*.

**Definition of health history.**

The health history is a review of the client's functional health patterns prior to the current contact with a health care agency. In other words, the health history is a

record of information about a person’s health.

**Purpose of Health history**

The purpose of the health history is to: provide the subjective database, identify patient strengths, identify patient health problems, both actual and potential, identify supports, identify teaching needs, and Identify discharge needs.

**Components of health history:** *Biographical Information, Chief Concern or Reason for Seeking Health Care, Patient Expectations, History of the Present Illness or Health Concerns, Past Health History, Family History, Psychosocial profile, Spiritual Health* **and** *Review of Systems*

- In the lesson 6.3 “Bio-Psycho-Social Model to collect holistic client data”; the following points have been covered

**Definition of the biopsychosocial model**

Which is an inter-disciplinary model that looks at the interconnection between biology, psychology, and socio-environmental factors.

**Domains of the Biopsychosocial model of health.**

The Biopsychosocial model has three domains: biology, psychology, and sociology.

**Biopsychosocial assessment**

During the biopsychosocial assessment, interview questions are related to its three domains, namely biology, psychology, and sociocultural influences.

For biology domain, questions will address biological aspects that may include diet, sleep habits, and family history.

For the psychology domain, questions will address current cognitive functioning, coping skills, and mood.

For social domain, questions may address the quality of family relationships, financial stability, and educational background.

**Benefits of the biopsychosocial model**

The biopsychosocial approach can be applied to understand a variety of health behaviors. For example, the biopsychosocial approach can be used to understand the health behavior of excessive drinking.

- For the lesson 6.4. Introduction to physical examination; the points covered are the following:

**Definition of Physical Examination**

A physical examination is an investigation of the body to determine its state of health. The examination involves use of the techniques of inspection, palpation,

percussion, auscultation, and smell. In other words; Physical assessment is the process you use to collect physical data that are relevant to the patient' s health. Purposes of the physical examination

Physical assessments are performed for several purposes:

- To establish the patient's current condition, a baseline against which future changes may be measured.
- To identify problems the patient may have or have the potential to develop
- To evaluate the effectiveness of nursing interventions or the outcomes of care
- To monitor for changes in body function
- To detect specific body systems that need further assessment or testing

**Preparation of the patient for physical assessment**

The preparation of the patient includes the physical and the psychological preparation.

For the physical preparation; it is about to gather the necessary equipment to perform the assessment and ensure that patient physical comfort needs are met.

For Psychological preparation of the patient

Many patients find an examination stressful or tiring, or they experience anxiety about possible findings. A thorough explanation of the purpose and steps of each assessment lets a patient know what to expect and how to cooperate.

Adapt explanations to the patient's level of understanding and encourage him or her to ask

Positioning.

During the examination ask the patient to assume proper positions so body parts are accessible and he or she stays comfortable.

Patients' abilities to assume positions depend on their physical strength, mobility, ease of breathing, age, and degree of wellness. After explaining the positions, help the patient to assume them.

Take care to maintain respect and show consideration by adjusting the drapes so that only the area examined is accessible. During the examination a patient may need to assume more than one position.

**N.B:** To decrease the number of position changes, organize the examination so all techniques requiring a sitting position are completed first, followed by those that require a supine position next, and so forth.

Use extra care when positioning older adults with disabilities and limitations.

- The lesson 6.5. Techniques of physical assessment has covered the following points: Definition of each technique of Physical Assessment and Description of the techniques used with each physical assessment skill.

The four techniques used in a physical examination are inspection, palpation, percussion, and auscultation.

**Inspection**

Inspection is the visual examination or assessment using the sense of sight.

Nurses frequently use visual inspection to assess: moisture, colour and texture of body surfaces, as well as shape, position and size and symmetry of the body.

To inspect, carefully look, listen, and smell to distinguish normal from abnormal findings.

In order to achieve the best results during inspection; you should follow the guidelines developed for that purpose.

While assessing a patient, recognize the nature and source of body odors. An unusual odor often indicates an underlying pathology. Olfaction helps to detect abnormalities that cannot be recognized by any other means. For example, when a patient's breath has a sweet, fruity odor, assess for signs of diabetes. Continue to inspect various parts of the body during the physical examination.

**Palpation**

Palpation is the examination of the body using the sense of touch to gather information.

There are two types of palpation: light and deep.

Palpation is used to determine: (a) texture (e.g. of the hair); (b) temperature (e.g. of a skin area); (c) vibration (e.g. of a joint); (d) position, size, consistency and mobility of organs or masses; (e) distention (e.g. of the urinary bladder); (f) pulsation; and g) tenderness or pain.

Guidelines for palpation have been provided and are divided into :General ones , light (superficial) and deep palpation guidelines .

Deep palpation is usually not done during a routine examination and requires significant practitioner skill. It is performed with extreme caution by doctors because pressure can damage internal organs. It is usually not indicated in people who have acute abdominal pain or enlarged abdominal organs and where the source of pain is yet to be diagnosed.

The following General considerations are very important to remember during the palpation

procedures:

Display respect and concern throughout the examination.

Before palpating consider the patient's condition and ability to tolerate the assessment techniques, paying close attention to areas that are painful or tender.

In addition, always be conscious of the environment and any threats to the patient's safety.

Prepare for palpation by warming hands, keeping fingernails short and using a gentle approach.

Palpation proceeds slowly, gently, and deliberately.

The patient needs to be guided to relax and feel comfortable since tensed muscles make assessment more difficult. To promote relaxation, have him or her take slow, deep breaths and place both arms along the sides of the body.

Ask the patient to point to more sensitive areas, watching for nonverbal signs of discomfort.

Palpate tender areas last.

**Percussion**

Percussion is the act of striking the body surface to elicit sounds that can be heard or vibrations that can be felt. Percussion involves tapping the skin with the fingertips to vibrate underlying tissues and organs.

There are two types of percussion: direct and indirect.

Procedural guidelines for both direct and Indirect percussion have been provided.

The most commonly used percussion technique is the indirect technique.

A light, quick blow produces the clearest sounds.

Percussion elicits or produces five types of sound: *flatness, dullness, resonance, hyper resonance and tympany*.

**Sounds Produced by Percussion**

| Sound | Intensity | Pitch | Duration | Quality | Common Location |
|---|---|---|---|---|---|
| Tympany | Loud | High | Moderate | Drum like | Gastric air bubble, puffed-out cheek |
| Resonant | Loud | Low | Long | Hollow | Healthy lung |
| Hyper resonant | Very loud | Low | Long than resonance | Booming | Emphysematous lung |
| Dull | Soft to moderate | Moderate to High | Moderate | Thud like | Over liver |
| Flat | Soft | High | Short | Very dull | Over muscle |

### Auscultation

Auscultation is the process of listening to sounds produced within the body in order to detect variations from normal.

Auscultation may be direct or indirect.

Direct auscultation is the use of the unaided ear; for example, to listen to a respiratory wheeze or the grating of a moving joint.

Indirect auscultation is the use of a stethoscope, which transmits the sounds to the assessor's ears.

A stethoscope is used primarily to listen to sounds from within the body, such as bowel sounds or valve sounds of the heart and blood pressure. In other words, a stethoscope is necessary to hear internal body sounds.

Auscultated sounds are described according to their pitch, intensity, duration and quality:

- The **pitch** which is the frequency of the vibrations; indicates the number of sound wave cycles generated per second by a vibrating object.
- **Loudness** (Intensity) refers to the amplitude of a sound wave. Auscultated sounds range from soft to loud.
- **Quality** refers to sounds of similar frequency and loudness from different sources.
- **Duration** means the length of time that sound vibrations last (long or short).

Auscultation requires concentration and practice: while listening, know which sounds are normally produced in certain parts of the body and what causes the sounds

## 6.7 Additional information for teacher

### Psychosocial profile

For the teacher to better explain the biopsychosocial model, the following relevant information about the psychosocial profile (one of the components of the health history) is essential for the teacher. The psychosocial profile focuses on health promotion, protective patterns, and roles and relationships. The questions asked are about healthcare practices and beliefs, a description of a typical day, a nutritional assessment, activity and exercise patterns, recreational activities, sleep/ rest patterns, personal habits, occupational risks, environmental risks, family roles and relationships and stress and coping mechanisms

The table below summarizes the relevant psychosocial data that should be collected and their considerations/significance:

| PSYCHOSOCIAL PROFILE | |
|---|---|
| **DATA** | **SIGNIFICANCE/CONSIDERATIONS** |
| Health practices and beliefs | Your patient's overall health is affected by her or his values, beliefs, financial status, expectations of healthcare, and other factors. Get information about the following questions:<br>• How does the patient perceive her or his role in maintaining health?<br>• Does she or he get a yearly physical examination or seek healthcare only when ill?<br>• Does she or he perform self-examinations and other self-care measures?<br>Health is a component of every aspect of life. Determine whether your patient's life positively or negatively affects her or his health. |
| Typical day | Describing a typical day may identify health risk factors. Or, if the patient has a health problem, it helps determine what effect this problem has on his or her everyday life. |
| Nutritional patterns | Eating habits can positively or negatively affect your patient's health. Religious beliefs or culture may influence eating habits. Financial problems, such as being on a fixed income, may limit food purchases. Ask about special diets, food preferences, food allergies, weight changes, happiness with weight, and history of eating disorders. Ask who does the cooking, who does the shopping, and who dines with the patient. |
| Activity and exercise patterns | Activity and routine exercise can help maintain both physical and mental health. Ask about type and amount of activity or exercise. If your patient participates in contact sports, assess use of protective equipment and provide<br>instruction as needed |
| Recreation, hobbies, pets | Recreational activities, hobbies, and pets usually enhance health by reducing stress. But they can also pose health risks. For example, stained glass work exposes one to lead, and pets may trigger allergies or carry diseases such as toxoplasmosis. |
| Sleep/rest patterns | Many physical and psychological problems can affect sleep or are affected by lack of sleep. Ask your patient how many hours of sleep she or he gets, if sleep is interrupted, how many hours she or he needs to feel rested, any medication taken to aid sleep, or if patient has any sleeping disorders such as narcolepsy or sleep apnea. |

| | |
|---|---|
| Personal habits | Unhealthy personal habits, such as use of tobacco, alcohol, caffeine, and drugs, can adversely affect health. Ask for specific information about the amount and length of use.<br><br>Tobacco: Ask about cigarettes (filtered/unfiltered), pipe, cigars, or chewing tobacco.<br><br>Alcohol: Ask what kinds (wine, beer, mixed drinks), when patient drinks, if he or she drinks to help deal with stress, and whether patient notices a change in his or her drinking patterns (more or less).<br><br>Caffeine: Ask what kinds (coffee, tea, chocolate) and if patient has trouble sleeping, nervousness, or palpitations.<br><br>Drugs: Ask what kinds (prescription, over-the-counter, recreational, or street drugs), when patient last took drug, and method of use (e.g., inhalation, intravenous, oral). |
| Occupational health patterns | Certain occupations pose health risks. Ask your patient if her or his job requires exposure to toxins such as asbestos, pesticides, plastics, anesthetics, radiation, or solvents; protective gear (e.g., construction workers, welders, landscapers, and tree trimmers), or heavy physical activity, such as nursing. Job satisfaction can also affect health. Ask your patient if she or he is satisfied with the job, what she or he likes best and least, how many hours a week she or he works, how far she or he travels to and from work, if there are occupational health programs, if she or he gets work breaks, how much vacation she or he gets, if she or he considers the job stressful, and if she or he is satisfied with the salary received. |
| Socioeconomic status | Socioeconomic status can have a major impact on your patient's health and healthcare. Ask your patient if he or she has health insurance, dental insurance, or a prescription plan. Limited financial resources may limit available healthcare services or prevent your patient from following through with a treatment plan. You may need to make referrals to social service agencies for assistance. |
| Environmental health patterns | The patient's home and type of community can have an impact on her or his health. Ask if the patient's community is urban, suburban, or rural. Urban dwellers are exposed to more noise and air pollution, whereas rural dwellers are exposed to more polluted water sources, septic systems, and greater contact with allergens and toxins associated with farming. |

| | |
|---|---|
| Roles, relationships, self-concept | Your patient's feelings, attitudes, past experiences, and relationships contribute to his or her sense of value and worth and affect his or her overall health. A person with a positive self-concept and an internal locus of control takes charge and assumes responsibility for his or her life and for achieving health goals. Find out if your patient has a positive or negative self-image by asking what he or she feels are his or her strengths and weaknesses; what he or she likes best and least about himself or herself; and if he or she considers himself or herself outgoing or shy. |
| Cultural influences | Culture can influence communication patterns, health beliefs and practices, dietary habits, family roles, and life-and-death issues. Ask yourself: Is there a language barrier? Cultural practices that conflict with the prescribed treatment plan? Dietary preferences that need to be considered? Cultural practices that can be included in the patient's plan of care? As long as cultural beliefs will not harm the patient's health, accepting them and incorporating them into the plan of care can only help ensure compliance. Individualizing the plan of care gives the patient a feeling of ownership and makes her or him more likely to follow through. |
| Religious/ Spiritual influences | Religion and spirituality influence health beliefs and practices, dietary preferences, family roles, and life-and-death issues. Ask about religious beliefs that conflict with prescribed treatment plan. For example, a Jehovah's Witness may refuse a blood transfusion even in a life-threatening situation. Ask about religious rites that should be incorporated into the plan of care, such as receiving the sacrament of the sick for Catholic patients. As long as religious beliefs will not harm the patient's health, accepting them and incorporating them into the plan of care will only help ensure its success |
| Family roles and relationships | The family is an important support system for most ill people. Also, when people become ill, their role in the family changes and the family unit may need to reorganize to sustain itself. Ask your patient about his or her role within the family and other social groups |
| Sexuality patterns | Illness can have both physical and psychological effects on your patient's sexuality. Changes in body image or self-concept, changes in ability to perform sexually, prescribed medications, and depression can all have adverse affects on sexuality. |

| | |
|---|---|
| | Developmental, cultural, and religious factors influence your patient's perspective and expression of sexuality and her or his willingness to discuss sexuality with you. Sexuality is a sensitive topic that both you and your patient may feel uncomfortable discussing. Be open and non-judgmental. Ask if your patient is sexually active and, if so, whether she or he is satisfied with her or his sexual role, performance, and relationship. Find out the source of her or his knowledge of sexuality, reproduction, birth control, and safe sex practices. |
| Social supports | Support systems outside the family are important during illness. Ask your patient if there is anyone aside from family that he or she can call on for help for example, friends, coworkers, community agencies, or clergy. Ask if he or she belongs to a church or to community organizations or clubs and if he or she attends on a regular basis. If your patient's social supports are limited, tell him or her about resources available within the community and church, and help him or her access those that meet his or her needs. |
| Stress and coping patterns | The amount of stress in your patient's life and how she or he copes with it can affect her or his health. Illness only adds stress and anxiety. Ask your patient how she or he deals with everyday stress, what she or he does when feeling upset, if she or he has ever felt sad or depressed and whom she or he talks to when upset. If you determine that your patient's coping skills are ineffective, develop a plan of care, including sources of support, to help her or him deal with stress more effectively. |

## 6.8 Guidance on skills laboratory

In this lesson, the skills laboratory will be used in three categories: (1) Skills lab use within the lessons (2) Skills lab use during students' self-practice (3) Skills lab use during practical assessment.

**Skills lab use within the lessons**

Within the lessons, the practical components of the lessons will be implemented in the skills laboratory. For lessons which have the practical components to be done in the skills lab, the practice will immediately follow the theoretical overview of the topic covered in classroom.

The teacher will therefore do the following to organize the skills lab teaching:

- Book the skills laboratory 48 hours before the due date of the lesson.
- Work collaboratively with the skills lab officer to organize the skills lab before the due time of the lesson. The stations in the skills laboratory will be prepared; 4 students per each station and this should be done before the due time of the lesson.
- All required equipment for the procedure must be prepared at each station.
- The data collection checklist has to be availed at each station.
- Students will be requested to read the steps of the procedure including the required material in the procedural guide/checklist before they start practicing the technique. In case the video is available, the students will also watch it before starting practicing.
- After reading and understanding the steps, or after watching the video, the students will start practicing the procedure themselves while the teacher moving around to each station to provide the needed support. In a group of 4 students, 2 students will pair and each one will conduct data collection (Health history and physical examination) to his/her colleague, communicate the results, interpret and document them vice versa. N.B. High fidelity mannequins (mannequins that can simulate abnormal lung and heart sounds) will also be used to help students get familiar and be able to distinguish the abnormal lung and heart sounds from the normal ones.
- After practicing, the students will be responsible to rearrange the skills lab and ensure everything in the skills lb is in order.

**Skills lab use during students' self-practice**

- After the learners have practiced the technique in the skills lab within the lesson, they will then get opportunity to use more time the skills lab for self-practice of the learnt skills in order to develop the hands on skills. The teacher will work collaboratively with the skills lab officer and make booking for self-practice in skills lab before the due date planned on the timetable. Stations will be prepared and each station will accommodate 4 students. At each station, 2 students will pair and each one will assess comprehensively (Health history and physical examination) his/her partner. The teacher will be around during the self-practice so that he will be providing the needed assistance. Always, at the end of the self-practice, students will be responsible to rearrange the skills lab and put everything in order. N.B. High fidelity mannequins (mannequins that can simulate abnormal lung and heart sounds) will also be used to help students get familiar and be able to distinguish the abnormal lung and heart sounds from the normal ones.

**Skills lab use during practical assessment.**

To ensure if the students have mastered the procedures and met the practical learning objectives of the lesson, the Objective Structured Clinical Evaluation (OSCE) will be conducted. The teacher will request a support of additional staff (professional nurse teachers) from the School administration to assist him in conducting the OSCE. The teacher will make the OSCE plan and communicate it as earlier as possible to all students and the staff who will be involved in the OSCE activity. The stations will be prepared in the skills lab based on the number of the students and each student will rotate in each station. Students will be briefed about how the OSCE will be conducted. In each station, the clear instructions of what to do will be available for the students and for each station the teacher will be inside to monitor and grade the student while he/she is practicing the technique.

Below is the data collection checklist to guide the students while performing the history taking and physical examination:

| Checklist for Data Collection |
|---|
| **Purpose** |
| • To gather information about the health status of the patient |
| • To guide medical and nursing diagnoses |
| • To guide the nursing and collaborative management |
| • To facilitate the continuity of care by establishing baseline and continued clinical evaluation |
| **INDICATIONS** |
| • All patients |
| **CONTRA-INDICATIONS** |
| • None |
| **STUDENT/NURSE PREPARATION** |
| Should appear professional (in full and clean uniform) with ID Card |
| Hair tied back |
| Assemble equipment and arrange on bedside chair in the order the items will be used. |
| Remove watch, jewels, and Rings |
| Wear closed shoes |
| Hand washing |
| **PATIENT PREPARATION** |
| Identification of the patient |
| Self-presentation to the patient |
| Physical and psychological patient preparation |
| Assess levels of comprehension and collaboration of the patient |

| Explain to the patient/ family the rational of health assessment |
|---|
| Asks the patient for consent/permission. |
| **EQUIPMENT** |
| Trolley |
| Patient’s file/records (physical or digital) |
| Sphygmomanometer or BP machine |
| Stethoscope |
| Thermometer |
| Watch |
| Otoscope |
| Tongue depressor |
| Pain scale chart |
| Saturometer (pulse oximeter) |
| Weight scale |
| Tape measures |
| Pen lights |
| Gloves |
| Disinfectants (alcohol) |
| swabs |
| Dustbin |
| Kidney dishes |
| Folding Screen |
| Notebook and pen |
| **IMPLEMENTATION** |
| Ensure the privacy: close curtains around bed and close the door to the room |
| Inform the patient about the procedure |
| **History taking:** |
| Ask about demographic information( few information just to confirm what is in the patient’s file): Name, age, Occupation, martial status |
| Asks about chief complaints and history of current illness. |
| Asks about relevant past health history |
| Asks about family history, lifestyle and psychosocial profile and spiritual health |
| Review of systems: ask questions to collect subjective information from patients about the presence or absence of health-related issues in each body system. |
| **Physical examination:** |
| Performs full set of vital signs and parameters: |
| Temperature |
| Pulse |

| Respirations |
|---|
| BP |
| Saturation |
| Pain |
| Height |
| Weight |
| Mid Upper Arm Circumference(MUAC) |
| **General appearance:** Affect/behaviour/anxiety, Level of hygiene, Body position, Patient mobility, Speech pattern and articulation |
| Performs full head-to-toe assessment: |
| **HEAD** |
| Inspect & palpate: |
| Cranium for tenderness, pain |
| Occipital glands at base of skull |
| **FACE** |
| Inspect: |
| For symmetry |
| Note any facial abnormality |
| Palpate: |
| Preauricular lymph nodes in front of tragus |
| Postauricular or mastoid |
| Tonsilar at angle of lower jaw |
| Submaxillary midway angle of lower jaw and chin |
| Submental midline behind the tip of the chin |
| **EYES** |
| Inspect: |
| External sclera, conjunctiva |
| Test: |
| PERRLA: Pupils, Equal, Round, Reaction to Light, Accommodation |
| **EARS** |
| Inspect: |
| External ear size, shape, skin condition, symmetry, position |
| External Auditory Meatus |
| Inspect the External Canal and Tympanic Membrane using otoscope |
| Palpate: |
| Auricle |
| Mastoid process for tenderness |

| Push tragus for tenderness |
|---|
| Test Hearing Acuity using Whispered Voice Test |
| **NOSE** |
| Inspect: |
| Nasal cavity For discharge, color, bleeding, inflammation |
| **MOUTH (change gloves)** |
| Inspect (with tongue blade & penlight): |
| Lips |
| Gums |
| Oral Mucosa |
| Tongue |
| Under tongue |
| Teeth for moisture, colour, dentures |
| **NECK** |
| Inspect: |
| Skin, symmetry and any masses or scars |
| Jugular vein distension and any visible lymph nodes |
| Palpate: |
| Lymph nodes – superficial cervical, posterior cervical, deep cervical, supraclavicular |
| Carotids/tracheal position |
| **UPPER EXTREMITIES** |
| Inspect & Palpate: |
| Hands, arms, shoulders, muscle mass, skin turgor, nodes/lesions& involuntary movement |
| Palpate: |
| Radial, brachial pulses, capillary refill |
| Compare the right to the left arm for symmetry and other findings |
| **MOVE TO BACK OF PATIENT – Tell client you will assess her or his back & open back of gown** |
| **BACK (Patient should be in sitting position if no contraindication)** |
| Inspect: |
| Shape and Configuration, Skin Color |
| Palpate: |
| Symmetric Expansion |
| Chest Wall for tenderness, increased skin temperature and moisture, any superficial lumps or masses, and any skin lesions |
| Test: |

| Tactile fremitus on L and R of spine using heel of hand, “Say ‘99’” |
|---|
| Percuss: |
| **Lung Fields**: Start at the apices and percuss in the interspaces (5-cm intervals): make a side-to-side comparison all the way down the lung region. |
| **Costovertebral angle (CVA) for kidney tenderness**: place the palm of your non-dominant hand over the costovertebral angle (CVA). Hit that hand with the fist of your dominant hand. Repeat on the other side. |
| Auscultate: |
| **Breath sounds**: start from the apices at C7 to the bases (around T10) and laterally from the axillae down to the 7th or 8th rib. |
| Use the side-to-side sequence |
| **MOVE AROUND TO FRONT OF PATIENT – Still sitting up** |
| Inspect: |
| Shape and Configuration, Skin Color |
| Quality of Respirations: rhythms, effort, use of accessory muscles, symmetrical chest expansion, noise |
| Note any localized lag on inspiration |
| Percuss: |
| Begin at the apices. Percussing the interspaces and comparing one side to the other, move down the anterior chest. |
| Auscultate: |
| **Breath sounds**: Auscultate the lung fields over the anterior chest from the apices in the supraclavicular areas down to the 6th rib. Progress from side to side as you move downward and listen to one full respiration in each location. |
| **Heart Sounds:** Move stethoscope in a **Z**-pattern, from the base of the heart across and down and over to the apex, Put stetoscope on the following areas: |
| Aortic @ $2^{nd}$ intercostal space (ICS) right sternal border |
| Pulmonic @ $2^{nd}$ ICS left sternal border |
| Erbs @ $3^{rd}$ ICS left sternal border |
| Tricuspid @ $4^{th}$ ICS left sternal border |
| Mitral @ $5^{th}$ ICS midclavicular line |
| **DESCRIBE FEMALE BREAST** |
| Inspect breasts and nipples: |
| Skin changes, symmetry, contours, and retraction |
| Palpate: |
| Use the finger padsof the 2nd, 3rd, and 4th fingers, keeping the fingers slightly flexed |
| Using the vertical strip pattern palpate breast, periphery, tail, and axilla for Consistency of the tissues, Tenderness, Nodules |

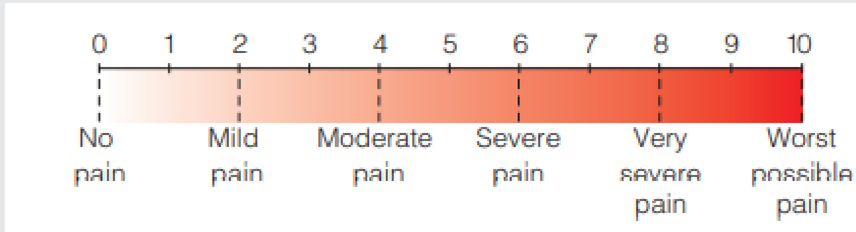
| Each nipple, noting its elasticity |
|---|
| **DESCRIBE MALE BREAST** |
| Inspect: |
| Nipple and areola for nodules, swelling, or ulceration |
| The skin of each axilla for rash, infection and unusual pigmentation |
| Palpate: |
| areola and breast tissue for nodule |
| axillary for central ,*pectoral*, *lateral* and *subscapular* nodes |
| **ABDOMEN** |
| Expose the abdomen so it is fully visible. Drape the genitalia and female breasts |
| Have the person empty the bladder |
| Position the person supine, with the head on a pillow, knees bent or on a pillow, and arms at the sides or across the chest |
| Keep the stethoscope endpiece warm, your hands warm, and your fingernails very short |
| Examine any painful areas last to avoid any muscle guarding |
| Inspect: |
| For contour, distension, asymmetry, umbilicus, skin (striae, scars,dilated vein, rashes and lesions), pulsation or movement, and hair distribution, |
| Have patient cough to note pulsations/masses |
| Auscultate: |
| Listen to the abdomen (bowel sounds) before performing percussion or palpation because these maneuvers may alter the frequency of bowel sounds |
| Place the warmed diaphragm of the stethoscope gently in one quadrant |
| Start at the ileocecal valve (slightly right and below the umbilicus); proceed clockwise. |
| Note that you have to listen 5 to 30 clicks per minute (one bowel sound every 5 to 15 seconds).If no sounds are audible, listen for up to 5 minutes. |
| Percuss: |
| Ask the patient if there is pain; percuss painful areas last |
| 4 quadrants for dullness, tympany, etc |
| Palpate: |
| Begin with light palpation in all four quadrants: Press down 1 to 2 cm in a rotating motion |
| Use single-handed deep palpation to look for organs, masses, or tenderness: With the fingertips depress 4 to 6 cm in a dipping motion in all quadrants |
| Use bimanual deep palpation for a large abdomen. Place your nondominant hand on your dominant hand and depress 4 to 6 cm |
| Observe for grimacing or guarding |

| bladder/bowel distension (light palpation) etc. |
|---|
| **Genital (male)** |
| Ask questions related to genital area (if not done during history taking) and ensure privacy before physical examination if judged necessary. |
| **Inspect and palpate** |
| Groin and genital skin and hair distribution |
| Penis for skin color, and lesions |
| The external urethral meatus for position, discharge, stenosis, or warts |
| **Genital (female)** |
| Inspect External Genitalia |
| Pubic hair for amount and distribution |
| skin for redness, breakdown, papules, or vesicles |
| Bilaterally observe the inguinal area for erythema, fissures, or enlarged lymph nodes |
| Labia majora for size and symmetry. Look for swelling or redness |
| vaginal opening for swelling or redness |
| vestibule for color,redness, swelling, odor, ordischarge |
| Urethra for position and patency |
| Observe for pressure sores on buttocks |
| **LEGS** |
| Inspect: |
| Skin integrity, hair distribution, color, alignment, symmetry, varicosities, edema |
| pain, deformity, edema, pressure areas, bruises, Compare bilaterally |
| Palpate: |
| Muscle strength and tone |
| Popliteal, posterior tibial, and dorsalis pedis pulses |
| Lower extremity strength against resistance (lift and lower) |
| **Assess dorsiflex and plantarflex feet against resistance (note strength and equality).** |
| **CWMS**: colour, warmth, movement, and sensation of the hands and feet should be checked and compared to determine adequacy of perfusion. |
| **Completion of the procedure** |
| Provide relevant health information to patient |
| Position the patient comfortably and appropriately |
| Arrange personal effects and objects of the patient within his range |
| Thanks patient for time. |
| Cleans equipment. |
| Washes hands. |
| Document appropriately for records keeping |

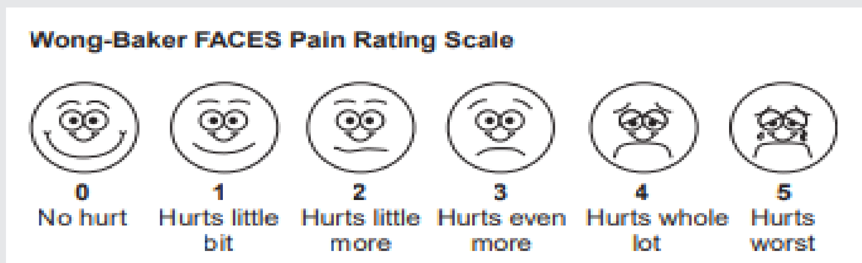
## 6.9 Answers to end Unit Assessment

1) d
2) Answer: (1), (4), (3),(2)
3) Answers: a, b, e, f
4) b
5) b
6) The purpose of health history:
   - Provide the subjective database.
   - Identify patient strengths.
   - Identify patient health problems, both actual and potential
   - Identify supports.
   - Identify teaching needs.
   - Identify discharge needs.
   - Identify referral needs.
7) Pain scale as far as pain assessment is concerned:

   a. For adult




   b. For children




8) Nurses frequently use visual inspection to assess the following elements: *moisture, colour and texture of body surfaces, as well as shape, position, size and symmetry of the body*.

9) The difference between Direct auscultation and Indirect Auscultation: "**Direct auscultation**" is the use of the unaided ear; for example, to listen to a respiratory wheeze or the grating of a moving joint but "**Indirect auscultation** " is the use of a stethoscope, which transmits the sounds to the assessor's ears.

10) Matching characteristics odors (A) to Potential Causes (B)

**Answers: 1.d; 2.b; 3.e; 4.c; 5.a**

## 6.10 Additional activities:

### 6.10.1 Remedial activities

1) What are the components of the health history?

**Answer:**

The components of health history are:

- Biographical data
- Reason for seeking care
- Current health status and symptom analysis if indicated
- Past health history
- Family history
- Review of systems
- Psychosocial profile

2) What kind of data should be collected during health history to ensure gathering a complete client's psychosocial profile?

**Answer:**

To ensure gathering a complete client's psychosocial profile, the following data/information should be collected during health history taking:

Data about:

- Health Practices and Beliefs
- Typical Day
- Nutritional Patterns
- Activity and Exercise Patterns
- Recreation, Hobbies, Pets
- Sleep/Rest Patterns

- Personal Habits
- Occupational Health Patterns
- Socioeconomic Status
- Environmental Health Patterns
- Roles, Relationships, Self-Concept
- Cultural Influences
- Religious/Spiritual Influences
- Family Roles and Relationships
- Sexuality Patterns
- Social Supports
- Stress and Coping Patterns

### 6.10.2 Consolidated activities

1) Explain the phases of interview and interviewing techniques

**Answers:**

**Phases of the interview**

The interview is divided into three phases: **the introductory phase, the working phase, and the termination phase.** Each phase has a specific purpose and different communication patterns.

- **Introductory phase**

The introductory phase is the time to introduce yourself to your patient, put him or her at ease, and explain the purpose of the interview and the time frame needed to complete it. The nurse also asks the patient his or her preferred name. The nurse shakes hands if that seems comfortable with the patient and is appropriate for culture and setting. The beginning phase may continue with discussion of neutral topics (eg, the weather) if the patient seems anxious. Questions should be nonprobing and patient centered. Explain to the patient that you will be taking notes, but keep your writing to a minimum. Reassure your patient that the information collected is confidential.

- **The Working Phase**

The working phase is often where data collection occurs. It is usually very structured; it is also the longest phase. Make sure you allow enough time for the working phase. Although you will need to take notes, stay focused on your patient. Listen to what the patient is saying both verbally and nonverbally. With experience, you will become skilled at taking minimal notes and then documenting your data after the interview rather than during it. During the working phase the nurse asks specific questions,

two types of which **are closed ended and open ended**. Each has a purpose, which the nurse chooses to elicit appropriate responses**. Closed-ended (direct)** questions yield **"yes" or "no"** answers. An example is "Do you have a family history of heart disease?". Closed -ended questions are important in emergencies or when a nurse needs to establish basic facts. **Open-ended questions** require patients to elaborate. They are broad and provide responses in the patient's own words. They are key to understanding symptoms, health practices, and areas requiring intervention.

- **The Termination Phase**

The end of the interview is the termination or closing phase. During this phase, you need to summarize and restate your findings. This provides an opportunity to clarify the data and share your findings with the patient. The nurse also ends the interview by stating what the two to three most important patterns or problems might be, as well as asking patients if they would like to mention or need anything else. Based on this information, both the nurse and the patient can discuss follow-up plans. The nurse also thanks patients and family members for taking the time to provide information.

- **Interviewing techniques**

Begin the interview by establishing trust and conveying a caring attitude. Make sure that the environment is comfortable and that privacy is ensured with minimal distractions. Effective interviewing skills evolve through practice and repetition and include the following:

**Active listening**: is the ability to focus on patients and their perspectives. It requires the nurse to constantly decode messages, including thoughts, words, opinions, and emotions.

**Restatement:** relates to the content of communication. The nurse makes a simple statement, usually using the same words of patients. The purpose is to ask patients to elaborate.

**Reflection**: is similar to restatement; however, instead of simply echoing the patient's comments, the nurse summarizes the main themes. Patients, thus, gain a better understanding of underlying issues, which helps to identify their feelings.

**Encouraging elaboration (facilitation)**: assists patients to more completely describe problems. Responses encourage patients to say more, continue the conversation, and show patients that the nurse is interested.

**Purposeful silence**: allows patients time to gather their thoughts and provide accurate answers. Silence can be therapeutic, communicating nonverbal concern. It gives patients a chance to decide how much information to disclose.

Focusing: helps when patients stray from topic and need redirection. It allows the nurse to address areas of concern related to current problems.

**Clarification**: is important when the patient's word choice or ideas are unclear.

**Summarizing**: happens at the end of the interview, when the nurse reviews and condenses important information into two or three of the most important findings. Doing so also helps to reassure the patient that he or she has been heard accurately.

1) Describe the four techniques used in physical examination: inspection, palpation, percussion, and auscultation.

**Answers:**

**Inspection** is the visual examination or assessment using the sense of sight.

An initial visual assessment should be part of the procedure of greeting the person, in which such aspects as the person's overall demeanor and appearance, hygiene, skin colour and skin appearance can be noted.

**Palpation** is the examination of the body using the sense of touch to gather information.

The pads of the fingers are used because their concentration of nerve endings makes them highly sensitive to tactile discrimination.

There are two types of palpation: ***light*** and ***deep***.

**Percussion** is the act of striking the body surface to elicit sounds that can be heard or vibrations that can be felt.

Percussion involves tapping the skin with the fingertips to vibrate underlying tissues and organs.

**Auscultation** is the process of listening to sounds produced within the body in order to detect variations from normal.

Auscultation may be ***direct* or *indirect*.**

### 6.10.3 Extended activities

In skills laboratory, use the simulated patient and take the patient's health history and perform the physical examination respecting all steps as indicated to the health assessment/data collection checklist provided. If the mannequin that simulates the abnormal lung and heart sounds is available, use it during auscultation technique to be able to distinguish the abnormal sounds from the normal ones.

# UNIT 7 NURSING ASSESSMENT OF RESPIRATORY SYSTEM

## 7.1 Key unit competence

Take appropriate action based on findings of nursing assessment of respiratory system

## 7.2 Prerequisites (knowledge, skills, attitudes and values)

Students will learn better to take appropriate action based on findings of nursing assessment of respiratory system if they have understanding of the anatomy and physiology of respiratory system and Nursing ethics and professional code of conduct.

Anatomy refers to the internal and external structures of the body and their physical relationships, whereas physiology refers to the study of the functions of those structures. Understanding the Nursing ethics and professional code of conduct will guide students in making correct decision while giving care to patients.

## 7.3 Cross-cutting issues to be addressed

### a) Inclusive education

To ensure that learning is inclusive, as a facilitator: Place students with visual impairment in appropriate places. Those with short-sightedness (myopia) must sit on front desks in class. If you have children with low vision, remember to print in appropriate font size (large print). Those with long sightedness must sit on back desks.

### b) Gender education

This course requires the participation of both girls and boys. Make sure that all students are actively involved not only boys.

## 7.4 Guidance on the introductory activity

Before starting the first lesson of the unit of respiratory system assessment, ask students to attempt an introductory activity. This activity intends to:

- To attract the learner’s attention and relate the unit with students’ daily life.
- Assess students understanding of the concepts simple wound care.

**Methodological steps to the introductory activity**

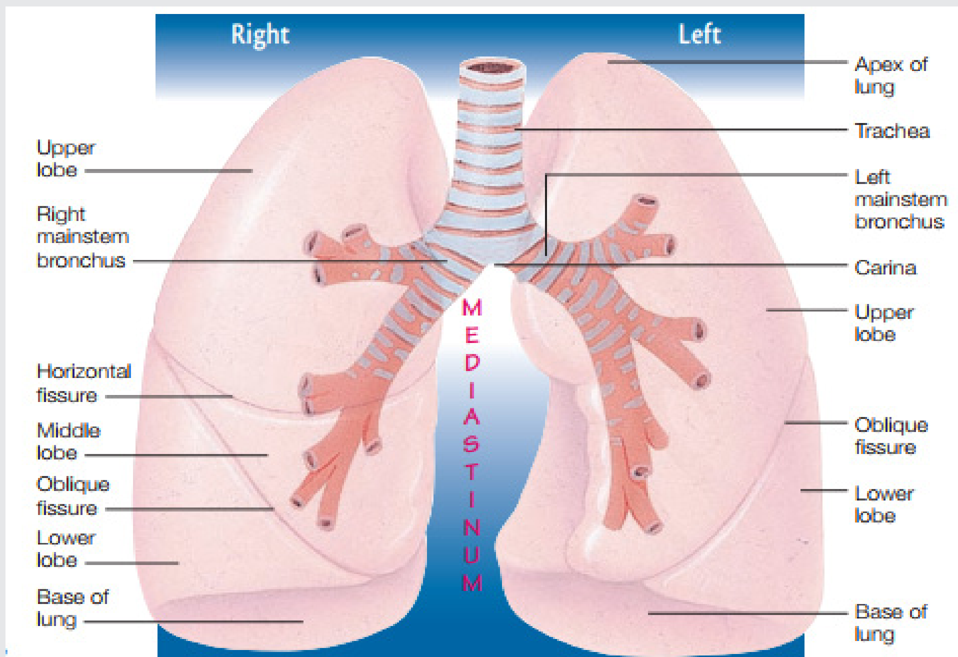
As a facilitator, request students to:

- Carefully observe the learning activity 7.1 in the student book
- In group or in pairs, request them to answer the questions related to the learning activity.
- Each group records the answers. Let the students know that there are no wrong answers
- Appoint randomly any 2 groups to write their answers on the chalkboard or flipchart.
- Ask other groups members if they have something to add on what is written on the chalkboard or flipchart.

**Expected answers to the introductory activity**

1) The procedure that is being performed on image B auscultation of lungs in right side of chest

2)



## 7.5 List of lessons/subheadings (including assessment)

| Nº | Lesson title | Learning objectives | Number of periods |
|---|---|---|---|
| **1** | History taking on respiratory assessment | Outline relevant questions to assess respiratory system | 1 |
| **2** | Physical examination of respiratorysystem: General examination | Collect relevant information specific to respiratory system | 1 |
| **3** | Physical examination of respiratorysystem: Focused examination | Describe different techniques of physical examination applied to respiratory systems | 1 |
| **4** | Interpretation of specific findings and client's problems identification | Analyze data collected from the client health assessment | 1 |
| **5** | End unit assessment | | 2 |
| **6** | Skills lab | Use different techniques to conduct client physical exam on respiratory system | 2 |
| **7** | Practical assessment in the skills lab OSCE | Demonstrate acquisition of hand on skills to perform techniques of respiratory system physical examination. | 2 |

### Lesson One. *History taking on respiratory assessment*

This is the first lesson of the unit which should be tough in 2 periods and it should also cover the introduction of the unit

**a) Learning objectives**

At the end of this lesson, learner should be able to: Outline relevant questions to assess respiratory system

**b) Teaching resources**

The needed teaching resources are: Computer, projector, illustrated pictures in the student book and pictures for learning activity, manila paper and or flipchart, black board and chalk

### c) Prerequisites/Revision/Introduction

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of respiratory system

### d) Learning activities 7.1.

**Guidance**

- Before introducing the lesson, you have to introduce the whole unit.
- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity 7.1
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 7.1 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

**Answers to learning activity 7.1.**

1) Types of information needed: symptoms of respiratory system and their quality.

| | |
|---|---|
| Cough | Sputum |
| Pain | Clubbing |
| Discomfort | Hemoptysis |
| Dyspnea | Shortness of breathing |
| Wheezes | |

2) The key questions to be asked by health provider while taking history of respiratory system problem:
   - When the complaint started?
   - How the onset occurred?
   - How it has evolved?
   - Ask whether the problem is constant or intermittent?
   - Ask whether a similar problem has been experienced in the past?
   - Determine the exact location and how it relates to respirations?
   - The severity is always important to establish?
   - Ask about self-treatment, herbal agents or complementary therapies
   - Ask whether anything in particular, such as emotions, exposure to outdoor allergens, or fatigue, tends to precipitate or accelerate the complaint?
   - Determine the exact location any radiation to other sites and how it relates to respirations?
   - Also determine whether the symptoms tend to be tied to any particular time of day, such as night, early morning, or immediately following a meal?

**Answers to self-assessment 7.1.**

1) Multiple choices questions

   **1c; 2d; 3b; 4d**

## Lesson Two. *Physical examination of respiratory system: General examination*

This is the second lesson of the unit which should be tough in 2 periods and it should also cover the introduction of the unit

### a) Learning objectives

At the end of this lesson, learner should be able to: Collect relevant information specific to respiratory system

### b) Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk.

c) **Prerequisites/Revision/Introduction**

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of respiratory system and respiratory

d) **Learning activities 7.2.**

**Guidance**

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity 7. 2
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 7.2 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 4 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.
- Guide students to take notes in their notebooks

**Answers to learning activity 7.2.**

1) The signs observed on image showing poor oxygen quantity in body are:
   - Cyanosis of extremities
   - Clubbing sign
   - Pallor conjunctiva
2) Description of signs showing poor tissue oxygenation:

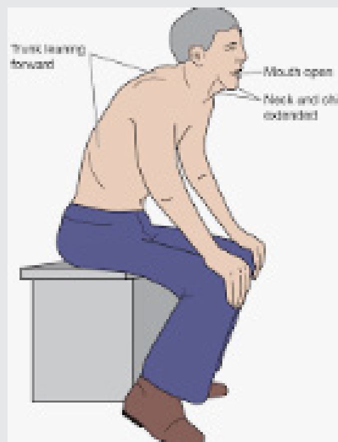
   **Cyanosis** is a bluish color to the skin or mucous membrane and is usually due to a lack of oxygen in the blood.

   **Pallor** is a condition in which a person's skin and mucous membranes turn lighter in pale color than they usually are secondary to respiratory distress it is often observed in palms and nails.

**Clubbing** is a physical sign characterized by bulbous enlargement of the ends of one or more fingers or toes due to proliferation and edema of connective tissue result in loss of the normal angle between the skin and nail plate and excessive sponginess of the nail base.

3) The observation of **lymph node enlargement** is important because the most common cause of lymph node swelling in the neck is an upper respiratory infection.

**4)** **The tripod position** is a position whereby one sits or stands learning forward and supporting the upper body with hands on knees or on another surface. This posture shows that patient has respiratory distress. (see figure 89)




**Answers to self-assessment 7.2.**

1) The two observations to be noted by a health care provider related to respiratory movements:

   a. Rate of respiratory movements

   b. Rhythm of respiratory movements

2) Intercostals retractions are due to reduced air pressure inside the chest; this can happen if the upper airway or small airways of the lungs become partially blocked. Example: Bronchial asthma

3) The assessment of level of consciousness is important because the patients with hypoxemia may be irritable, somnolent, restless, confuse or combative.

4) Sign observed on nose: nasal flaring

   Sign observed on lips: pursed lips

## Lesson Three. *Physical examination of respiratory system: Focused examination*

This is the third lesson of the unit which should be tough in 2 periods and it should also cover the introduction of the unit.

### a) Learning objectives

At the end of this lesson, learner should be able to: Describe different techniques of physical examination applied to respiratory systems

### b) Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk.

### c) Prerequisites/Revision/Introduction

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology.

### d) Learning activities 7.3.

**Guidance**

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity 7. 3
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 7.3 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 4 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.
- Guide students to take notes in their notebooks

**Answers to learning activity 7.3.**

1)

**Similarities on pictures:**

- There are patients who are being examined
- The body part being examined is the chest

**Differences on pictures:**

- The way chest is being examined with hands is not the same
- Some picture shows examination of the back while others show examination of front
- Some picture show examination using the special instrument (stethoscope)

**Answers to self-assessment 7.3.**

1) Four techniques/phases for physical examination: Inspection – palpation – percussion – auscultation

**2)** **The face:** for nasal flaring, pursed lips breathing, conjunctiva for pallor and facial skin for central cyanosis; **Neck and trachea:** for jugular vein and neck veins pulsation; **Thorax:** for shape and configuration, muscle use and retraction, chest movements; and **Extremities:** for cyanosis and pallor

**3)** **Percussion** is a method of tapping on a surface to determine the underlying structure, and is used in clinical examinations to assess the condition of the thorax; percussion is used when lung obstruction or consolidation is suspected.

**Palpation** technique consists of using fingertips above the scapula over the lung apex. Move from one side to another; compare bilateral findings. End at lung base; move laterally to midaxillary line.

## Lesson Four. *Interpretation of specific findings and client's problems identification*

### a) Learning objectives

At the end of this lesson, learner should be able to: Analyze data collected from the client health assessment

### b) Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk.

### c) Prerequisites/Revision/Introduction

This is lesson four will show the interpretation of findings from respiratory assessment in inspection, palpation, percussion and auscultation examination.

### d) Learning activities 7.4.

**Guidance**

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity 7. 4
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 7.4 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 4 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.
- Guide students to take notes in their notebooks

**Answers to learning activity 7.4.**

1) Normal findings of lungs percussion: *Tympanic or resonant in all zones*. Abnormal findings of lungs percussion: *Dull or hyper-resonant in all or some zones*

2) The abnormal findings of lungs auscultation: *Wheezes, crackles, pleural rub, stridor , diminished or absent breath sounds*

**Answers to self-assessment 7.4.**

The answers to the multiple choice: 1) b; 2) d; 3) a; 4) d.

5) Respiratory abnormal patterns are: *Bradypnea; Tachypnea; Apnea; Hyperpnea; Kussmaul's respirations; Cheyne stokes' respirations;* and *Biot's respirations*

6) Two normal breath sounds heard through auscultation are: *Tracheal sounds; Bronchial sounds; Vesicular sounds and Bronco-vesicular sounds*

7) **Wheezes:** wheezes are whistling or rattling sound in the chest heard during breathing, as a result of obstruction in the air passages. Wheezes indicate airway restriction and are typically heard on expiration.

   **Crackles:** Crackles are adventitious lung sounds heard on auscultation of the chest, produced by air passing over retained airway secretions or the sudden opening of collapsed airways. Crackles indicate instability of airways collapsing on expiration.

8) To administer oxygen, deep breathing, incentive spirometer, inhalers, cough and deep breath, increase fluids, expectorants, postural drainage, positioning to semi sitting to decrease workload of breathing, pace activity, provide rest, elevate head of bed, administer diuretics, monitor intake and output, daily weights measurement, reduce fever if any.

## Lesson five. *Skills lab*

This is the sixth lesson of the unit which should be tough in 2 periods and will cover the practice of respiratory system assessment.

### a) Learning objectives

At the end of the lesson, students will be able to:

Use different techniques to conduct client physical exam on respiratory system

### b) Learning resources

Student book, procedure's checklist, video showing the technique of respiratory physical examination, appropriate mannequins for health assessment, flipchart, markers, chalks for writing comments.

### c) Introduction

This lesson is designed for students self-learning with teacher's facilitation in the simulation laboratory.

### d) Prerequisites

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of respiratory system and vital signs taking techniques.

### e) Learning activity 7.5

- Make groups of 8 students
- Assign the students in each group to make pairs simulating patient to be assessed for respiratory problems and nurse who will assess patient
- Show them videos or perform respiratory assessment using mannequin following four techniques: inspection-palpation-percussion-auscultation
- After that let students in each group perform themselves respiratory assessment each other under supervision of their colleagues
- As a teacher be around groups guiding them to perform the sequences of techniques correctly.
- Give to students comments and addition accordingly

## Lesson Six. *Practical assessment*

### a) Learning objectives

At the end of this lesson, learner should be able to: Demonstrate acquisition of hands on skills to perform techniques of respiratory physical examination

### b) Teaching resources

This session is reserved for practical assessment and it has 2 periods meaning that it should be completed in 80 minutes

### c) Activities

**Guidance**

- Make pairs of students simulating nurse and patient.
- Request four teachers to help you out in this activity.
- Arrange check lists for respiratory assessment techniques and avail them to teachers.
- Each pair of students will make respiratory assessment in front of teacher.
- The teacher will use designed checklist to assign marks to each student rotating in that station.
- Make addition of the marks for each student.
- Guide Students who failed to pass the practical exam to do the remedial activities

#### d) Checklist for respiratory assessment

| **Introduction** |
|---|
| 1. Wash your hands and don PPE if appropriate |
| 2. Introduce yourself to the patient including your name and role |
| 3. Confirm the patient's name and date of birth |
| 4. Briefly explain what the examination will involve using patient-friendly language |
| 5. Gain consent to proceed with the examination |
| 6. Adjust the head of the bed to a 45° angle |
| 7. Adequately expose the patient |
| 8. Ask if the patient has any pain before proceeding |
| **General inspection** |
| 9. Inspect for clinical signs suggestive of underlying pathology (e.g. cyanosis, shortness of breath, cough, wheeze, stridor, pallor, oedema, cachexia) |
| 10. Look for objects or equipment on or around the patient (e.g. oxygen delivery devices, sputum pot, walking aids, medical equipment) |
| **Hands** |
| 11. Inspect the hands (colour, tar staining, finger clubbing) |
| 12. Assess for fine tremor |
| 13. Assess for asterixis |
| 14. Assess and compare the temperature of the hands |
| 15. Palpate and assess the radial pulse |
| 16. Assess the respiratory rate |
| **Jugular venous pressure (JVP)** |
| 17. Measure the JVP with the patient positioned correctly |
| 18. Elicit hepato jugular reflux if appropriate |
| **Face** |
| 19. Inspect for evidence of a plethoric complexion |
| 20. Inspect the eyes for signs relevant to the respiratory system (e.g. conjunctival pallor |
| 21. Inspect the mouth for signs relevant to the respiratory system (e.g. central cyanosis) |
| Inspection of the chest |

| 22. Inspect for scars and chest wall deformities |
|---|
| **Trachea and cricosternal distance** |
| 23. Assess tracheal position |
| 24. Assess cricosternal distance |
| **Palpation of the chest** |
| 25. Palpate the apex beat |
| 26. Assess chest expansion |
| Percussion of the chest |
| 27. Percuss the chest |
| 28. Assess tactile vocal fremitus (not required if assessing vocal resonance instead) |
| **Auscultation of the chest** |
| 29. Ask the patient to breathe deeply in and out through their mouth |
| 30. Auscultate all appropriate chest wall locations using the diaphragm of the stethoscope |
| 31. Compare each location on each side while auscultating |
| 32. Assess vocal resonance (not required if tactile vocal fremitus has already been assessed) |
| **Lymph nodes** |
| 33. Palpate lymph nodes in all appropriate regions |
| **Posterior chest** |
| 34. Position the patient with their arms folded across their chest |
| 35. Inspect posterior chest |
| 36. Assess chest expansion |
| 37. Percuss chest |
| 38. Assess tactile vocal fremitus (or vocal resonance) |
| 39. Auscultate the chest |
| **Final steps** |
| 40. Assess for evidence of pitting sacral and pedal oedema |
| 41. Assess the calves for signs of deep vein thrombosis |

| To complete the examination… |
| --- |
| 42. Explain that the examination is now finished to the patient |
| 43. Thank the patient for their time |
| 44. Dispose of PPE appropriately and wash your hands |
| 45. Summarize your finding |

## 7.6 Summary of the unit

Respiratory system assessment is very crucial to ensure the appropriate management of each client. It is made up of different organs (mouth, nose, pharynx, larynx, trachea, bronchi and bronchioles) that conduct air into the lungs. The Respiratory zone consists of the parts of the respiratory system where gas exchanges take place (respiratory bronchioles). This is important to be recalled/ considered on the beginning to make a link between normal structure and functions and abnormal situation

The practical component of this unit covers the following particular subjects using specific techniques on each level:

- Specific history taking on respiratory system,
- Specific physical examination of respiratory system,
- General examination (appearance, pallor, cyanosis, clubbing, venous pulse, lymph node enlargement)
- Focused examination of respiratory system (inspection, palpation percussion, auscultation)
- Interpretation of specific findings on respiratory system.
- A checklist will help to evaluate the unit competence in skill's lab.

## 7.7 Additional information for the teacher

Below is additional information for respiratory physical examination.

Oxygen saturation measure/pulse oximetry

Pulse oximetry measures how much oxygen the haemoglobin in your blood is carrying. This is called the oxygen saturation and is a percentage scored out of 100. It's a simple, painless test which uses a sensor placed on your fingertip or earlobe. The use of pulse oximetry has become a standard of care in medicine
There are two ways to measure oxygen saturation in a patient:

- **Invasive method**, which consists of taking blood from an artery, called arterial saturation $SaO_2$
- **Non-invasive method** using a device that looks like a clip that is placed on the finger or earlobe

**What level oxygen saturation is normal?**

A normal level of oxygen is usually 95% or higher. Some people with chronic lung disease or sleep apnea can have normal levels around 90%. The "SpO2" reading on a pulse oximeter shows the percentage of oxygen in someone's blood. If your home SpO2 reading is lower than 95%, call your health care provider.

**Which finger is best for the pulse oximeter?**

The right middle finger and right thumb have statistically higher value, making them perfect for a pulse oximeter. Any reading of 94 or above reflects normal oxygen saturation.

## 7.8 Answers to the end unit assessment

| Question number | Answer |
|---|---|
| 1 | A |
| 2 | C |
| 3 | A |
| 4 | D |
| 5 | B |
| 6 | D |
| 7 | B |
| 8 | B |

9) Inspection-palpation-percussion-auscultation

10) Respiratory abnormal patterns
    - Respiratory abnormal patterns
    - Bradypnea
    - Tachypnea
    - Apnea

- Hyperpnea
- Kussmaul's respirations
- Cheyne stokes' respirations
- Biot's respirations

## 7.9 Additional activities

### 7.9.1 Remedial Activities

1) Outline at least 3 questions you can ask a patient when asking him/her about dyspnea
    - Is the breathlessness recent or has it been present for sometimes?
    - Is it constant or does it comes and goes?
    - What can't you do because of the breathlessness?
    - What makes the breathing worse?
    - Does anything make it better?
    - Duration?

1) List the four phases/techniques of respiratory physical examination?

    **Inspection, palpation, percussion and auscultation**

### 7.9.2 Consolidation activities

What are possible findings (at least five) during inspection and auscultation in assessment of respiratory system?

**Answer:**

- Pallor or cyanosis
- Dry mucous membranes
- Mucopurulent, purulent, blood in sputum
- Respiratory asymmetry
- Dyspnea/tachypnoea
- Accessory muscle use
- Chest wounds, drains, scarring
- Tracheal deviation

### 7.9.3 Extended activities

**Question: Differentiate wheezes from crackles**

**Wheezes:** wheezes are whistling or rattling sound in the chest heard during breathing, as a result of obstruction in the air passages. Wheezes indicate airway restriction and are typically heard on expiration.

**Crackles:** Crackles are adventitious lung sounds heard on auscultation of the chest, produced by air passing over retained airway secretions or the sudden opening of collapsed airways. Crackles indicate instability of airways collapsing on expiration

## 8.1 Key unit competence

Analyze the concept and theories of growth and development in interpersonal relationship

## 8.2 Prerequisites (knowledge, skills, attitudes and values)

Students will learn better the content of this unit "*growth and development*" if they have a good understanding of:

- Anat*omy and physiology*: the students should be able to recall anatomy and physiology related to nervous system, musculo-skletal system.
- *Health assessment*: the students should be able to recall head to toe assessment
- *Nursing Ethics and Professional Code of Conduct*: The students should be able to recall and relate concepts of ethics and professional conduct to fundamental of nursing, in particular, concept of professionalism; concepts of code of conduct; scope of practice of healthcare.

## 8.3 Cross-cutting issues to be addressed

Throughout teaching this unit you should relate the content being taught with the following cross-cutting issues:

### a) Inclusive education

The teacher will have in mind that all students have right to attend the course regardless of their different needs. Attention should be paid during all the process of the lessons to address this issue. All students will benefit from the same menu of learning process. The possibility of this assumption is the focus of special needs education. The critical issue is that all students are totally different in their ways of living and learning as and then their difference will be taken into account. This can be either emotional, physical, sensory and intellectual learning challenged. For students who have physical impairment that prevent them hands on activities have to be provided with adapted assimilations. Those with partial visual impairment can be provided with printed activities in large front size.

### b) Gender education

Emphasize to learners that anybody irrespective of their gender can present and report during group activities: Give a role model of who are successful in real life

without considering their gender. Make sure that during presentations both boys and girls share and participate equally in all activities

**c) Environment and sustainability**

As the teacher, inform the students that the environment must be sustained clean all the time. Subsequently, some living organism might die as a result of infection control which are responsible for many diseases and disabilities. Therefore, when people are sick it affects their psychology as well as development and growth.

**d) Peace and value education**

Throughout the lessons, the teacher will remind the students the importance of having an attitude that inspires peace and serenity. He/she will debate with students how to resolve inter-personal tensions, disputes through negotiation and peer-mediation. He will invite them to maintain a climate of peace in the school and different interventions in which they are involved.

## 8.4 Guidance on the introductory activity

Before starting to teach this unit of growth and development, ask students to attempt the introductory activity of the unit. This introductory activity intends to:

- Relate the unit with students' past life experience to attract their attention
- Assess what is already known by students regarding growth and development

**Teacher's activity:**

- Bring printed copies of the introductory activity
- Form groups of five students and distribute the copies of activity
- Ask students in each group to observe the image provided and discuss the given questions.
- Engage students in working mutually in the activity.
- Help students in each group to understand the questions.
- Ask group representative to present their findings while others are following
- Make sure that all students participate and give their ideas about the activity.

**Leaner's activity**

- Learners have to follow the instructions from the teacher

**Expected answers to the introductory activity**

Learners may not be able to find the right solution but they are invited to predict possible solutions or answers):

1) The image is demonstrating the personal growth and development from birth to death

2) The last image is demonstrating that the lifespan ends by death

## 8.5 List of lessons/subheadings (including assessment)

| # | Lesson title | Learning objectives | Number of periods |
|---|---|---|---|
| 1 | Definitions | Define the term "psychology"<br>Define the developmental psychology | 2 |
| 2 | Growth and development | Identify the deviation in development and growth.<br>Explain the concepts of growth and development<br>Demonstrate understanding of growth and development in nurse-client interaction<br>Analyze data related to growth and development | 3 |
| 3 | Principles of human development | Identify principles of human development | 1 |
| 4 | Comparison of growth and development | Compare growth and development | 2 |
| 5 | Characteristics of normal and abnor-mal growth and development | Describe characteristics of normal and abnormal growth and development<br>Describe the factors affecting human development | 2 |
| 6 | Theories of life span development | Explain the theories of lifespan developments<br>Relate the personal behavior and his/her development process | 3 |
| 7 | End unit assessment | | 2 |

## Lesson One. *Definitions*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Define the term “psychology”
- Define the developmental psychology

### b) Teaching resources

Psychology book, internet connectivity, video, and computers

### c) Prerequisites/Revision/Introduction

The main objective of this lesson is to equip learners with the knowledge and understanding of psychology and developmental psychology. The students should have knowledge on anatomy and physiology

### d) Learning activities 8.1.

**Guidance**

- Ask learners to do individually activity 8.1 in the student book.
- Provide the necessary materials (link, books).
- Move around in silence to monitor if they are having some problems.
- Remember to assist those who are weak but without giving them the answers.
- Invites any four students to present their findings to the rest.
- Ask other students to follow carefully the presentations.
- Note on chalk board the student’s ideas.
- Make sure that all students give their ideas about the activity
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Harmonize and conclude on the learned knowledge and still engage students in making that conclusion

**Answers to learning activity 8.1**

1) **Psychology** is the study of mind and behavior, it encompasses the biological influences, social pressures, and environmental factors that affect how people think, act, and feel. Psychology is defined as a science which studies mental processes, experiences and behavior in different contexts.
2) **Developmental psychology** is the development of human being’ cognitive, emotional, intellectual, and social capabilities and functioning over the course of a normal life span, from infancy through old age.

**Answers to self-assessment 8.1.**

1) **Psychology** is the study of mind and behavior, it encompasses the biological influences, social pressures, and environmental factors that affect how people think, act, and feel. Psychology is defined as a science which studies mental processes, experiences and behavior in different contexts.

2) The students will answer among these:

    a. To **describe**: Describing a behavior or cognition is the first goal of psychology. This can enable researchers to develop general laws of human behavior.

    b. To **explain**: Once researchers have described general laws behavior, the next step is to explain how or why this trend occurs. Psychologists will propose theories which can explain a behavior.

    c. To **predict**: Psychology aims to be able to predict future behavior from the findings of empirical research. If a prediction is not confirmed, then the explanation it is based on might need to be revised.

    d. To **change**: Once psychology has described, explained and made predictions about behavior, changing or controlling a behavior can be attempted

3) Developmental psychology is the development of human being' cognitive, emotional, intellectual, and social capabilities and functioning over the course of a normal life span, from infancy through old age. Developmental psychology is a scientific approach which aims to explain growth, change and consistency though the lifespan. Developmental psychology looks at how thinking, feeling, and behavior change throughout a person's life.

4) The students will answer among these:

    a. To **describe** development, it is necessary to focus both on typical patterns of change (normative development) and individual variations in patterns of change.

    b. To **explain** development, developmental psychologists must also seek to explain the changes they have observed in relation to normative processes and individual differences.

    c. To **optimize** development, developmental psychologists hope to optimize development, and apply their theories to help people in practical situations (e.g. help parents develop secure attachments with their children).

## Lesson Two. *Growth and development*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Identify the deviation in development and growth.
- Explain the concepts of growth and development
- Demonstrate understanding of growth and development in nurse-client interaction
- Analyze data related to growth and development

### b) Teaching resources

Images, Psychology book, internet connectivity, video, and computers, student book

### c) Prerequisites/Revision/Introduction

The main objective of this lesson is to equip learners with the knowledge and understanding of growth and development. The students should have knowledge on anatomy and physiology, psychology and developmental psychology.

### d) Learning activities 8.2.

**Guidance**

- Ask students to work in pairs and do activity 8.2 in student's book.
- Provide the necessary materials to the learners (images).
- Move around in silence to monitor if they are sharing ideas in pairs or having any problem.
- Assist those who are weak but without giving them the answers.
- Invite pairs to present their findings to the rest of students.
- Ask other students to follow carefully the presentations.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity.

**Answers to learning activity 8.2**

The image shows the stages of growth starting from infancy, toddlerhood, preschool, school age, adolescence, young adulthood, young-old, old.

**Answers to self-assessment 8.2.**

1) **Growth** is physical change and increase in size which can be measured quantitatively. It refers to physical increase in some quantity over time. It includes changes in terms of height, weight and different organs of the child's body. It means that growth involves all those structural and physiological changes that take place within individual during the process of maturation while **development** is an increase in the complexity of function and skill progression. It is the capacity and skill of a person to adapt to the environment. Development is the behavioral aspect of growth.

2) Milestones are the various skills that babies and young children learn

## Lesson Three. *Principles of human development*

### a) Learning objectives

At the end of this lesson, learner should be able to identify principles of human development

### b) Teaching resources

Teaching videos, psychology book, internet connectivity and computer

c) Prerequisites/Revision/Introduction

The learners before learning this lesson of principles of human development should have basic knowledge on anatomy and physiology of human, concept of growth and development.

d) Learning activities 8.3.

**Guidance**

- Ask learners to sit in group of five and open the given link in student book and lead it' content within 15 min. Discuss and respond to the requested question.
- The teacher will move around in silence to monitor if they are having some problems.
- After the teacher will invite one student from each group to present their findings to the rest.
- Teacher will ask other students to follow carefully the presentations.
- Note on chalk board the student's ideas.
- Teacher has to make sure that all students give their ideas about the activity and encourage active participation.
- Then tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.

- Allow student to ask question to the presenter and the teacher will clarify the given responses.
- Harmonize and conclude on the learned knowledge and still engage students in making that conclusion

**Answers to learning activity 8.3**

1) Different principles of human development including:
    - Development involves change
    - Development is a continuous process.
    - Development follows a direction and uniform pattern in an orderly manner.
    - Individuals are differences in the development process
    - Development depends on maturation and learning.
    - Development is predictable.
    - Early development is more critical than later development.
    - Development involves social expectations.
    - Development has potential hazards.
    - Happiness varies at different periods of development

**Answers to self-assessment 8.3.**

1) a (Principle of continuity)
2) b (Development is consistent)
3) c (Both a and b)
4) b (All individuals are similar in their development)
5) a (Foot to head)
6) c (Principle of general to specific)

## Lesson Four. *Comparison of growth and development*

### a) Learning objectives

At the end of this lesson, learner should be able to: Compare growth and development

### b) Teaching resources

Teaching videos, psychology book, internet connectivity and computer

c) Prerequisites/Revision/Introduction

The learners should have basic knowledge on anatomy and physiology before learning this lesson of comparison of growth and development.

d) Learning activities 8.4.

**Guidance**

- The teacher will project the image of the activity and form groups of five students
- Ask students to work in group and discuss about the given activity
- Encourage active participation
- Invite each group to delegate one person to present their findings to the rest of students.
- Ask other students to follow carefully the presentations and ask question
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity

**Answers to learning activity 8.4.**

The image A describe the journey human growth from infancy to adulthood and its measurement but the image B describe process of human development ,and how people expand knowledge and skills as he or she growth

**Answers to self-assessment 8.4.**

1) a (Growth)
2) b (Development)
3) a (yes)
4) c (It continues throughout life)
5) a (This knowledge is crucial in helping you formulate ideal learning styles to disseminate various learning concepts)

## Lesson Five. *Characteristics of normal and abnormal growth and development*

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Describe characteristics of normal and abnormal growth and development
- Describe the factors affecting human development

**b) Teaching resources**

Student's book, images, psychology book, internet connectivity, video, and computers

**c) Learning activities 8.5.**

**Guidance**

- The teacher will project the image of the activity
- Ask students to form groups of five.
- Ask students to observe the image and respond to the given question through discussion with in 15 min.
- Encourage active participation.
- At the end invite each group to delegate one person to present their findings to the rest of students.
- Ask other students to follow carefully the presentations and ask questions to the group members
- Then teacher will give more clarifications on the activity and respond to the requested answer by the students.

**Answers to learning activity 8.5**

Image A: describes a well-nourished child with health growth and development.

Image B: describes a malnourished child associated with poor growth and development.

Image C: describes the child with psychological problem

**Answers to self-assessment 8.5.**

1) 5 factors that affecting human development including: *Genetic, temperament (personality), family, environment, health*

2) Families have the most profound impact in nurturing a child and determining the ways in which they develop psychologically and socially. Whether they are raised by their parents, grandparents or foster care, they need basic love, care and courtesy to develop as healthy functional individuals. The most positive growth is seen when families invest time, energy and love in the development of the child through activities, such as reading to them, playing with them and having deep meaningful conversations. Families that abuse or neglect children would affect their positive development. These children may end up as individuals who have poor social skills and difficulty bonding with other people as adults.

The socio-economic status of a family determines the quality of the opportunity a child gets. Studying in better schools that are more expensive definitely has benefits in the long run. Well-off families can also offer better learning resources for their children and they afford special aid if the kids need it. Children from poorer families may not have access to educational resources and good nutrition to reach their full potential. They may also have working parents who work too many hours and cannot invest enough quality time in their development.

3) Illness or injury can alter the rate and patterns of growth and development. Prolonged or chronic illness may further alter developmental processes, often most notably physical development. Being hospitalized is stressful for a child and their family and can alter the child's coping mechanisms, which may in turn alter their cognitive, psychosocial and emotional development.

4) a. True
   b. False

## Lesson Six. *Theories of life span development*

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Explain the theories of lifespan developments
- Relate the personal behavior and his/ her development process

**b) Teaching resources**

Student's book, images, psychology book, internet connectivity, video, and computers

**c) Prerequisites/Revision/Introduction**

The main objective of this lesson is to equip learners with the knowledge and understanding of theories applied in life span development. The students should have knowledge on anatomy and physiology, psychology, developmental psychology. The students should also have knowledge and understanding on concepts of growth and development.

**d) Learning activities 8.6.**

**Guidance**

- Ask learners to do individually activity 8.6 in the student book.
- Provide the necessary materials (link, books).
- Move around in silence to monitor if they are having some problems.

- Remember to assist those who are weak but without giving them the answers.
- Invites any four students to present their findings to the rest.
- Ask other students to follow carefully the presentations.
- Note on chalk board the student's ideas.
- Make sure that all students give their ideas about the activity
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Harmonize and conclude on the learned knowledge and still engage students in making that conclusion

**Answers to learning activity 8.6.**

1) Five people
2) 4-6months; 7-10months; 2-4years; 6-10 years, 18-35years
3) Yes

**Answers to self-assessment 8.6.**

1) c
2) d
3) a

## 8.6. Summary of the unit

The unit was talking about different stages of growth and development in interpersonal relationship. It highlighted different concept including psychology and developmental psychology. The unit also discussed about the growth and development, principles of human development, comparison between growth and development, disorders in growth and development and theories of human development.

## 8.7. Answers to the end unit assessment

1) Multiple choice questions: A. b (Development); B. b (Development); C. a (Growth); D. a (Yes); E. b (Development).

**2)** **Psychology** is the study of mind and behavior, it encompasses the biological influences, social pressures, and environmental factors that affect how people think, act, and feel. In other hand Psychology is defined as a science which studies mental processes, experiences and behavior in different contexts but Developmental psychology is the development of human being' cognitive, emotional, intellectual, and social capabilities and functioning over the course of a normal life span, from infancy through old age.

**3)** **Growth** is physical change and increase in size which can be measured quantitatively. In other hand Growth refers to physical increase in some quantity over time. It includes changes in terms of height, weight and different organs of the child's body. It means that growth involves all those structural and physiological changes that take place within individual during the process of maturation.

4) Measurement of growth including weight, height, head circumference, mid upper arm circumference (MUAC)and eruption of teeth.

**5)** **Development** is an increase in the complexity of function and skill progression. It is the capacity and skill of a person to adapt to the environment.

**6)** **Proximodistal development** is direction of growth which proceeds from the center of the body to outward. It means that the spinal cord develops before outer parts of the body. The child's arms develop before the hands and the hands and feet develop before the fingers and toes but cephalocaudal principle is the direction of growth which proceeds from the head to tail. The child gains control of the head first, then the arms and then the legs.

7) Five principles of development including:

- Development involves change
- Development is a continuous process.
- Development follows a direction and uniform pattern in an orderly manner.
- Individuals are differences in the development process
- Development depends on maturation and learning.

8) Growth and development are dependent on adequate nutrition from conception and throughout the lifespan. For example, poorly nourished children are more likely to have infections and other preventable challenges to health than well-nourished children. Nutrition is a critical factor in growth as everything the body needs to build and repair itself comes from the food we eat. Malnutrition can cause deficiency diseases that adversely affect the growth and development of children. On the other hand, overeating can lead to obesity and health problems in the long run, such as diabetes and heart disease. A balanced diet that is rich in vitamins, minerals, proteins, carbohydrates and fats is essential for the growth and development of the brain and body.

   **Environmental:** Where you live also has a great influence on how your children turn out to be. The schools they attend, the neighborhood they live in, the opportunities offered by the community and their peer circles are some of the social factors affecting a child's development. Living in an enriching community that has parks, libraries and community centres for group activities and sports all play a role in developing the child's skills, talents, and behaviour. Uninteresting communities can push some children to not go outside often but play video games at home instead. Even the weather of a place influences children in the form of bodily rhythms, allergies and other health conditions.

9) Five major phases of Piaget's cognitive development including Sensorimotor phase, Preconceptual phase, Intuitive thought phase, Concrete operations phase, Formal operations phase.

10) The founder of socio-cultural theory is Vygotsky.

## 8.8 Additional activities

### 8.8.1 Remedeial activities

1) Highligth four main goals of psychology

2) Growth is rapid during _______________Except
   a. Infancy
   b. Childhood
   c. Adolescence
   d. Antenatal

3) Define growth according to Hurlock

4) Growth and development are independent and interrelated processes.
   a. Yes

b. No

5) Matching the following stages with their significant characteristics

| | |
|---|---|
| 1. Infancy | a. Psychosocial skills increases |
| 2. Preschool | b. Physical growth accelerates |
| 3. Adolescence | c. Physical growth is rapid |
| 4. Toddlerhood | d. Physical growth is slower. |

6) Growth and development are different. Discuss these two comparisons

a. Growth ends at maturation while development continues until an individual's demise(death).

b. Growth dictates changes in physical appearance while development dictates change in the character of an individual

**Answer to the remedial activities**

1) Four main goals of psychology are: to describe, to explain, to predict and to change

2) b (childhood)

3) Hurlock has defined growth as change in size, in proportion, disappearance of old features and acquisition of new ones.

4) Yes.

5) a. Infancy (c-physical growth is rapid)
   b. Preschool (d-physical growth is slower)
   c. Adolescence (b-Physical growth accelerates)
   d. Toddlerhood (a- Psychosocial skills increases)

6) a. Growth ends at maturation while development continues until an individual's demise (death). As a teacher or parent, it is important to note that growth ends at maturation. Your child will experience various changes associated with growth between childhood and maturation at adolescence. This means that your teaching approach will be different at age 6 and age 15. At 6 years, your child needs simplified information that they can understand because their brain can only process basic information. At 15 years, your child's brain has improved significantly, and they are in a unique position to grasp and retain complex information based on their improved information processing skills.

   b. Growth dictates changes in physical appearance while development dictates change in the character of an individual. Growth is easily discernible based on changes in physical appearance. These changes manifest over time and include increased body size and voice

intonation. Whether such changes are visible based on hair transformation or skin tone, you can rest assured knowing that your child is experiencing growth changes.

On the other hand, development pays much emphasis in the character changes of an individual. Your child might have been disobedient during their early age but over time, they are likely to transform into a mature young adult. With each passing day, they outgrow certain habits that can only be traced back to character changes.

### 8.8.2 Consolidation activities

1) Highlight three goals of developmental psychology
2) Define growth according to Hurlock
3) Growth is slow during________________
   a. Infancy
   b. Childhood
   c. Adolescence
   d. Antenatal
4) Development has potential hazards. Discuss this principle of human development
5) Highlight the biological influences on human growth and behavior

**Answers to consolidation activities**

1) Three goals of developmental psychology are to describe, to explai and o optimize
2) Hurlock has defined Growth as change in size, in proportion, disappearance of old features and acquisition of new ones.
3) b. childhood
4) Development has potential hazards. Discuss this principle of human development. Development may be hindered by various hazards such as physical, environmental or psychological type. These hazards may be originated from the environment in which the child grows or due to hereditary factors which may have negative impact on physical as well as sociopsychological development of the child.

   Bilogical influences on human growth and behavior are genes, hormonal factors, nerve system, physical weakness, defective constitutional make-up and gender.

5) A. Genes
B. Hormones
C. Nerves system
D. Physical weakness
E. Defective constitutional make- up
F. Gender

### 8.8.3 Extended activities

1) Elaborate the normal development milestones
2) Differentiate cognitive theory to psychosocial theory

**Answers to extended activities**

1) Normal Development Milestones

| Age range | Motor Development | Language and social development |
|---|---|---|
| Birth | When prone turns head to one side to avoid suffocation | Cries |
| 3-6 months | Good head control | Can follow an object with eyes, plays with hands |
| 6-9 months | Can sit unsupported | Grasps actively, makes loud noises |
| 9-12 months | Able to stand | Understands a few words, tries to use them |
| 9-18 months | Able to walk | Grasps small objects with thumb and index finger |
| 15-30 months | Able to run around as much as he wants | Can say several words or even some sentences |
| 3 years | Plays actively, is able to jump and climb | Starts talking a lot, is curious and asks many questions |

Cognitive development refers to the manner in which people learn to think, reason and use language. It involves a person's intelligence, perceptual ability and ability to process information. Cognitive development represents a progression of mental abilities from illogical to logical thinking, from simple to complex problem solving and from understanding concrete ideas to understanding abstract concepts while Psychosocial development refers to the development of personality. It encompasses

a person’s temperament, feelings, character traits, independence, self-esteem, self-concept, behavior, ability to interact with others and ability to adapt to life changes.

Psychosocial theories focus on the nature of self-understanding, social relationships, and the mental processes that support connections between the person and his/her social world.

# UNIT 9 PERSONALITY

## 9.1 Key unit competence

Explain the concepts of personality and behavior development

## 9.2 Prerequisites (knowledge, skills, attitudes and values)

The leaners should have learnt the citizenship.

## 9.3 Cross-cutting issues to be addressed

### a) Inclusive education

This unit involves activities of reading and observation of pictures. This may be challenging to students with special educational needs especially those with visual (myopia & hypermetropia) and hearing impairment. However, the teacher can address them this way:

Avail appropriate seats to accommodate those with visual and hearing impairment. Every important point is written and spoken. The written points help students with visual impairment and speaking aloud helps students with hearing impairment.

Grouping them with other students and being assigned roles basing on individual student's abilities. Remember to repeat the main points of the lessons

### b) Gender education

Emphasize to learners that anybody irrespective of their gender can present and report during group activities: Give a role model of who are successful in real life without considering their gender. Make sure that during presentations both boys and girls share and participate equally in all activities

### c) Environment and sustainability

As a facilitator, emphasise to the learners that environment must be sustainably cleaned for different reasons such as: A clean environment contains fresh air needed by patients and humans to survive. A clean environment assists the patient to recover from illness. Unclean environment is the habitat of microorganisms that cause illness

## 9.4 Guidance on the introductory activity

This introductory activity aids the teacher to involve learners in the introduction of nursing theories and engages the learners to follow the next lessons.

**Teacher's activity:**

- Ask students to observe the image provided in the student's book and discuss the given questions.
- Engage students in working mutually in the activity.
- Help students to understand the questions.
- Ask some students to present their findings while others are following
- Make sure that all students participate and give their ideas about the activity.

**Learner's activities**

- follow the instructions on the teacher

**Expected answers to the introductory activity**

1) On pictures above there are 3 females in different moods
2) Differences between pictures A, B and picture C is that female on picture A seems to be in amazing situation, female on picture B seems to be in ambiguous situation while the female on picture C is in the happiness situation.
3) The interpretation of the picture B; the female with an open book and a pen in hand is deeply thinking like someone who meet a challenging situation

## 9.5 List of lessons/subheadings (including assessment)

| # | Lesson title | Learning objectives | Number of periods |
|---|---|---|---|
| 1 | Personality and behavior | Define personality<br>Define term behavior | 1 |
| 2 | Theories of personality | Comparethetheories ofpersonality<br>Differentiate topographical aspects of mind and dynamic aspects of mind | 2 |
| 3 | Defense mechanisms | Explain the Defense mechanisms<br>Recognize the importance of Defense mechanism in promoting socially accepted behavior. | 1 |
| 4 | The Five-Factor Model of personality | Discuss the five factor<br>Analyse factors model of personality in dealing with peoples model of personality | 3 |

| 5 | Determinants of behavior | Explain the determinants of human behavior<br><br>Consider determinants of human behavior inbehavior change communication | 2 |
|---|---|---|---|
| 6 | The six stages of behavior change | Describe the stages of behavior change<br><br>Apply the stages of behavior change in influencing behavior of people<br><br>Participate in behavior change campaigns to promote health and wellbeing<br><br>Demonstrate positive human behavior | 2 |
| 7 | Motivation and motivation theories | Appreciate the contributions of motivation and motivationtheories in influencing human behavior | 3 |
| 8 | End unit assessment | | 1 |

## Lesson One. *Personality and behavior*

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Define personality
- Define term behavior

**b) Teaching resources**

Teaching videos, projectors, screen, Student book.

http://www.drbrambedkarcollege.ac.in/sites/default/files/personality%20 development.pdf

**c) Prerequisites/Revision/Introduction**

The main objective of this lesson is to equip learners with the knowledge and understanding of personality and behavior.

**d) Learning activities 9.1.**

**Guidance**

- Ask learners to do individually activity 9.1 in the student book.
- Provide the necessary materials (link, books).
- Move around in silence to monitor if they are having some problems.

- Remember to assist those who are weak but without giving them the answers.
- Invites any four students to present their findings to the rest.
- Ask other students to follow carefully the presentations.
- Note on chalk board the student's ideas.
- Make sure that all students give their ideas about the activity
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Harmonize and conclude on the learned knowledge and still engage students in making that conclusion

**Answers to learning activity 9.1.**

1) **The personality** is the special combination of qualities in a person that makes that person different from others, as shown by the way the person behaves, feels, and thinks.
2) **Behavior**: is the way in which one acts or conducts oneself, especially towards others. It is the way in which an animal or person behaves in response to a particular situation or stimulus

**Answers to self-assessment 9.1.**

1) A good personality is considered to be one who impresses other people and who has the ability to get on well with others
2) Basic personality types are:

**a. Optimists**:

See the positive side of things. They expect things to turn out well. They believe they have the skill and ability to make good things happen.

**b. Pessimistic**:

Is defined as "the attitude that things will go wrong and that people's wishes or aims are unlikely to be fulfilled. A person with a pessimistic personality tends toward a more negative or some might say realistic view of life.

**c. Trusting**:

Trust is a set of behaviors, such as acting in ways that depend on another. Trust is a belief in a probability that a person will behave in certain ways. Trust is an abstract mental attitude toward a proposition that someone is dependable. Trust is a feeling of confidence and security that a partner cares.

d. **Envious:**

Envious behavior means feeling or showing unhappiness over someone else's good fortune and a desire to have the same.

Envious people tend to feel hostile, resentful, angry and irritable. Such individuals are also less likely to feel grateful about their positive traits and their circumstances. Envy is also related to

## Lesson Two. *Theories of personality*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Compare the theories of personality
- Differentiate Topographical aspects of mind and Dynamic aspects of mind

### b) Teaching resources

Teaching videos, projectors, screen, Student's book,

### c) Prerequisites/Revision/Introduction

Nursing theories expresses the values and beliefs of nursing discipline leading to nursing practice. Nursing theories lie behind the care that nurses offer to the patients

### d) Learning activities 9.2.

**Guidance**

- Ask students to work in pair and do activity 9.2 in student's book.
- Provide the necessary materials to the learners.
- Move around in silence to monitor if they are sharing ideas in pairs or having any problem.
- Assist those who are weak but without giving them the answers.
- Invite pairs to present their findings to the rest of students.
- Ask other students to follow carefully the presentations.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity.

**Answers to learning activity 9.2.**

1) Different personalities theories are: *Sigmund Freud theory, Trait Theory of Personality; Alfred Adler's theory of personality; Humanistic theory of Personality and Behavioural theories*
2) The woman does not speak anything because she was affected by the behaviours of her father while the man is extravert

Answers to self-assessment 9.2.

1) a.
2) a.
3) c.
4) c.
5) c.
6) b.
7) b
8) b
9) d
10) social theory stat that learning occur through the interaction between personal, behavioural and the environment factors while behaviour theory states that learning occurs through environment( conditioning ) factors only

## Lesson Three. *Defense mechanisms*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Explain the Defense mechanisms
- Recognize the importance of Defense mechanism in promoting socially accepted behavior

### b) Teaching resources

Teaching videos, projectors, screen, Student textbook

### c) Prerequisites/Revision/Introduction

Nursing theories have concepts that are very important in providing the structure of nursing function. Every theorist defined the concepts regarding to his/her theory.

#### d) Learning activities 9.3.

**Guidance**

- Instruct each student to do activity 9.3 in student's book.
- Provide the necessary materials to the learners (book).
- Move around in silence to check if all of them are on the page 40.
- Assist those who are weak but without giving them the answers.
- Invite three students to present their findings.
- Ask other students to follow carefully the presentations
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity

**Answers to learning activity 9.3.**

1) The woman had displacement which is psychological defense mechanism in which a person redirects a negative emotion from its original source to a less threatening recipient

**Answers to self-assessment 9.3.**

1) B
2) C
3) A
4) E
5) G
6) F

## Lesson Four. *The Five-Factor Model of personality*

#### a) Learning objectives

At the end of this lesson, learner should be able to:

- Explain the determinants of human behavior
- Consider determinants of human behavior in behavior change communication

**b) Teaching resources**

Teaching videos, projectors, screen, Student textbooks

**c) Prerequisites/Revision/Introduction**

As introduced from the previous lessons, the student should have learned concepts of personality and definition.

**d) Learning activities 9.4.**

**Guidance**

- Instruct each student to do activity 9.4 in student's book.
- Move around in silence to monitor if they are observing and brainstorming on the image.
- Find out if they have any problem and help to address it.
- Assist those who are weak but without giving them answers.
- Invite five students to present their findings.
- Ask other students to follow carefully the presentations.
- Make sure that all students give their ideas about the activity.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity

**Answers to learning activity 9.4.**

1) The difference between pictures above is that :

   Picture A:There is a man who is very happy and is showing himself to others

   Picture B: There is a man who is laughing a lot!

   Picture C: There is a man is very angry

   Picture D: There is a woman who is happy and she is writing

2) Interpretation of pictures

   Picture A: As we are studying Model of personality; the man is open to the environment surrounding him and he is talking many things to others (he is impressing them) He has Extraversion personality.

   Pictures B: As we are studying Model of personality; the man is very happy and laughing a lot. He has Aggreableness personality

Pictures C: As we are studying Model of personality; the man is very angry and seems to have problems that he is asking himself how to handle them: He has Neuricissism personality

Pictures D: As we are studying Model of personality; the woman is very happy and she is concentrated to writing .She has Conscientiousness personality

**Answers to self-assessment 9.4.**

1) d
2) b
3) b
4) d
5) c
6) b
7) c
8) c

## Lesson Five. *Determinants of behavior*

### a) Learning objectives

At the end of this lesson, learner should be able to:

- Explain the determinants of human behavior
- Consider determinants of human behavior in behavior change communication

### b) Teaching resources

Teaching videos, projectors, screen, and Student book.

### c) Prerequisites/Revision/Introduction

The student should understand behavior concept and definition as leant in previous lessons.

### d) Learning activities 9.5.

**Guidance**

- Instruct each student to do activity 9.5. in student's book.
- Move around in silence to monitor if they are observing boxes and brainstorming on the image.
- Find out if they have any problem and help to address it.

- Assist those who are weak but without giving them answers.
- Invite five students to present their findings.
- Ask other students to follow carefully the presentations.
- Make sure that all students give their ideas about the activity.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete

**Answers to learning activity 9.5.**

1) Mr K was so silent because he was affected by the death of their parents and he was introvert
2) The sister tell her friend about her experience because she was accepted what happened and she was extravert
3) Female talk a lot compared to males because of their instinct behaviour

**Answers to self-assessment 9.5.**

1) d
2) d
3) a
4) c
5) Four determinant of behavior:
   - Prewiring
   - Formative Years
   - Contemporary Society
   - Creativity

## Lesson Six. *The six Stages of Behavior Change*

**a) Learning objectives**

At the end of this lesson, learner should be able to:

- Describe the Stages of Behavior Change
- Apply the stages of behavior change in influencing behavior of people
- Participate in behavior change campaigns to promote health and wellbeing
- Demonstrate positive human behavior

**b) Teaching resources**

Teaching videos, projectors, screen Student's book.

**c) Prerequisites/Revision/Introduction**

The students should have prior understanding of behavior concept, definition and determinants of behavior

**d) Learning activities 9.6.**

**Guidance**

- Instruct each student to do activity 9.6. in student's book.
- Move around in silence to monitor if they are reading the conversation.
- Find out if they have any problem and help to address it.
- Assist those who are weak but without giving them answers.
- Invite five students to present their findings.
- Ask other students to follow carefully the presentations.
- Make sure that all students give their ideas about the activity.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete

**Answers to learning activity 9.6.**

1) The meaning of images :

   A: The mind of a person is thinking about diet, big size of the body and its consequences including death

   B: The big size person is thinking about how to reduce weight

   C: The big size person is reading books about Health/complete diet

   D: The big size person is exercising the sport in the purpose of weight reduction

   E: The big size person is eating healthy died

   F: After weight decrease, the man is thinking again on nutrition that he has stopped

2) The stages of behavior change are:
   - Precontemplation (Not yet acknowledging that there is a problem behavior that needs to be changed)
   - Contemplation (Acknowledging that there is a problem but not yet ready or sure of wanting to make a change)
   - Preparation/Determination (Getting ready to change)

- Action/Willpower (Changing behavior)
- Maintenance (Maintaining the behavior change)
- Relapse (Returning to older behaviors and abandoning the new changes)

**Answers to self-assessment 9.6.**

1) b
2) c
3) c

## Lesson Seven. *Motivation and motivation theories*

### a) Learning objectives

At the end of this lesson, learner should be able to: Appreciate the contributions of motivation and motivation theories in influencing human behavior

### b) Teaching resources

Teaching videos, projectors, screen, and student's book.

### c) Prerequisites/Revision/Introduction

As other nursing theorists, Dorothea Orem introduced self-care deficit theory. Orem focused on activities that individuals perform on their own behalf.

### d) Learning activities 9.7.

**Guidance**

- Instruct each student to do activity 9.7. in student's book.
- Divide students into six groups
- Give each group a picture to interpret.
- Give five minutes to complete the interpretation of images.
- Let every group present.
- Ask other students to follow carefully the presentations.
- Make sure that all students give their ideas about the activity.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete

**Answers to learning activity 9.7.**

1) The intension of the manager was to make the staff knowledgeable and motivate them.

**Answers to self-assessment 9.7.**

1) c
2) c
3) c
4) factors affecting satisfaction or dissatisfaction in a work environment developed by Herzberg are: Hygiene and motivators factors
5) The motivation models proposed by David Mc Clelland:

   Need for achievement

   Need for affiliation

   Need for power
6) The needs developed by Alderfer's ERG:

   **Existence needs**: Include basic physiological and safety criteria, as well as the need for material and energy exchange.

   **Relatedness needs**: Interactions with humans, sharing or mutuality processes; want for interpersonal relationships and attention; comparable to Maslow's social requirements and part of the esteem needs

   **Growth needs**: Growth requirements originate from a desire to develop as a person

## 9.6 Answer to the end unit assessment

1) T
2) F
3) C
4) C
5) b
6) b
7) b
8) b
9) c
10) b
11) d
12) a
13) The determinants of behavior are:

    Prewiring

    Formative years

    Contemporary society

    Creativity

14) The types defense mechanism
    - Denial. Denial is one of the most common defense mechanisms.
    - Repression.
    - Projection.
    - Displacement.
    - Regression.
    - Rationalization.
    - Sublimation.
    - Reaction formation
    - Compartmentalization
    - Intellectualization

15) The good personality is defined as someone who can impress others and get along with others. A person with a good personality is likable, fascinating, and enjoyable to be around. Everyone aspires to be appealing to others

## 9.7 Additional activities

### 9.7.1 Extended activities

True and false questions

1) Motivation is a result of an interaction between a person and a situation **True**
2) The three key elements in the definition of motivation are energy, direction, and achievement. **False**
3) High levels of effort don't necessarily lead to favorable job performance unless the effort is channelled in a direction that benefits the organization. **True**
4) The best known theory of motivation is probably McGregor's Theories X and Y. **False**
5) Maslow argued that each level in the needs hierarchy must be substantially satisfied before the next is activated. **True**
6) Lower order needs are satisfied internally while higher order needs are predominantly satisfied externally. **False**
7) The two factor theory is also called Theory X and Theory Y. **False**

8) Good working conditions, for instance, will keep employees at a job but won't make them work harder. **True**

9) The satisfaction a person receives in the process of performing a particular action is called the extrinsic rewards **False**

10) Employee motivation affects productivity, and part of a manager's job is to channel motivation toward the accomplishment of organizational goals **True**

11) Compare the five groups of needs in Maslow's theory with the three groups of needs in Alderfer's ERG theory.

**ANSWER:**

Physiological and safety needs in Maslow's theory correspond to the existence need in Alderfer's theory. Belongingness and the need for esteem from other people in Maslow's theory correspond to the relatedness need in Alderfer's theory. Finally, the need for self-esteem and self-actualization in Maslow's theory correspond to Alderfer's need for growth

12) In David McClelland's acquired needs theory, what are the three acquired needs most commonly discussed and which is/are not dependent on relationships with other people?

**ANSWER:**

The three needs are the need for achievement, the need for power, and the need for affiliation. The need for affiliation is the need for friendships with other people and the need for power is the need to influence people. The need for achievement is the desire to accomplish something. People with a high need for achievement tend to be entrepreneurs. While relationships with other people are implicit in the needs for affiliation and power, relationships with other people are not central to the need for achievement

### 9.7.2 Consolidation activities

1) Differentiate attitude and personality

**ANSWER:**

**Personality** is the special combination of qualities in a person that makes that person different from others, as shown by the way the person behaves, feels, and thinks.

**Behaviorior** is the way in which one acts or conducts oneself, especially towards others. It is the way in which an animal or person behaves in response to a particular situation or stimulus plural noun.

2) Ask student to draw people with agreeableness personality

3) Briefly describe Maslow's hierarchy of needs theory.

Maslow's theory is a content theory that proposes that people are motivated by five categories of needs. Those are:

- Physiological,
- Safety and security,
- Belongingness and love,
- Esteem
- Self-actualization.

According to Maslow's theory, lower order needs take priority; they must be at least partially satisfied before higher order needs are even recognized or experienced. An unsatisfied need is a motivating need.

4) Differentiate between intrinsic and extrinsic rewards.

**ANSWER:**

Intrinsic rewards is the satisfaction received in the process of performing an action while extrinsic rewards are rewards given by another person

### 9.7.3 Remedial activities

1) Differentiate denial and displacement

**ANSWER:**

**Denial** is the act of forcing something out of your mind so that you don't have to worry about it.

**Displacement** is the process of coming up with a logical, rational (but false) reason for a shameful idea or action.

2) Name the motivation theory which was elaborated based on the relationship between a given behavior and its consequences

**Answer**: Reinforcement theory

3) Choose the correct answer

   One of the following is the arousal, direction, and persistence of behavior

   a. Satisfaction

   b. Rewarding behavior

   **c. Motivation**

   d. Behavior modification

4) L. dislikes almost everything about her job at his institution. The only reason she continues to work is the excellent benefits package. L. is motivated by

   a. Extrinsic rewards

   b. Intrinsic rewards

   c. Monthly rewards

   d. All of the above

5) The following is example of external motivation

   a. A pay raise

   b. Feelings of self-worth in an employee

   c. A promotion

   d. A bonus

# UNIT 10 SOCIOLOGY OF HEALTH AND ILLNESS

## 10.1 Key unit competence

Explain the concepts of sociology in health promotion and wellbeing

## 10.2 Prerequisites (knowledge, skills, attitudes and values)

Students will learn better the content of this unit "Sociology of health and illness" if they have a good understanding of:

- Psychology and Personality: the students should be able to recall concepts of psychology and personality and how they relate to health.
- Nursing Ethics and Professional Code of Conduct: The students should be able to recall and relate concepts of ethics and professional conduct to Sociology, in particular, concept of professionalism; concepts of code of conduct; scope of practice of healthcare

## 10.3 Cross-cutting issues to be addressed

Throughout teaching this unit you should relate the content being taught with the following cross-cutting issues:

**a) Environment and sustainability**

As the teacher, inform the students that the environment must be sustained at all cost to preserve life. Teach them that the environment is part of human life and that the holistic approach of life does not omit good environment as it contributes to good life and to illness prevention.

**b) Gender equality**

Gender is a socially constructed perception about the roles that men and women play in a particular culture. The teacher will encourage the students to have in mind that gender disparities is prohibited in their interventions to avoid unequal access to quality health care. He/She will also take in account that gender could not bring the differences in achievement between males and females. He has to raise awareness in considering and recognizing that there is a women and girls' added vulnerability in the society.

**c) Peace and values**

Throughout the lessons, the teacher will remind the students the importance of having an attitude that inspires peace and serenity. The teacher will debate with

students how to resolve inter-personal tensions, disputes through negotiation and peer-mediation. He will invite them to maintain a climate of peace in the school and different interventions in which they are involved.

**d) Comprehensive sexuality education**

The teacher will explain to the students that, it is very important and crucial to take in account about the issues related to the sexuality. Therefore, the students should have the understanding that it is their responsibilities to know that everyone has the right to sexual health and privacy. However, remind the students that there are the sexual transmitted diseases that they need to protect themselves from contamination.

**e) Inclusive education**

The teacher will have in mind that all students have right to attend the course regardless of their different needs. Attention should be paid during all the process of the lessons to address this issue. All students will benefit from the same menu of learning process. The possibility of this assumption is the focus of special needs education. The critical issue is that all students are totally different in their ways of living and learning as and then their difference will be taken into account. This can be either emotional, physical, sensory and intellectual learning challenged. For students who have physical impairment that prevent them hands on activities have to be provided with adapted assimilations. Those with partial visual impairment can be provided with printed activities in large front size.

## 10.4 Guidance on the introductory activity

Before starting to teach this unit of sociology of health and illness, ask students to attempt the introductory activity of the unit. This introductory activity intends to:

- Relate the unit with students' past life experience to attract their attention
- Assess what is already known by students regarding sociology of health and illness.

As a facilitator, ask the students to observe the pictures of introductory activity and encourage them to attempt answering asked question grounded from their past experience whether they learned social studies before. Let the students know that there is no wrong answer as their responses are based on their past experiences. Allow students to have 2 to 3 min for observation and reflection on the pictures, then allow them to express their ideas. Consider their ideas and build on them to inform what they will learn in this unit

**Expected answers to the introductory activity**

The first picture demonstrate the relevance of sociology to nursing. The World Health Organization (WHO) proposed that nurses should be required to develop and perform functions related to the promotion and maintenance of health as well as disease prevention and rehabilitation. The image show a nurse screening an old woman for blood pressure as part of disease presentation.

The second Image show a person smoking and this show that in the society, there are lot of risk taking beviour human engage in and such behavior influence negatively life as well. Therefore health promotion and illness prevention programs should also pay attention to behavior change to eradicate such behaviour.

The last image demonstrate that in societally mutualism is needed to help one another have good life.

## 10.5 List of lessons/subheadings (including assessment)

| # | Lesson title | Learning objectives | Number of periods |
|---|---|---|---|
| 1 | Definition and characteristics of sociology | Define sociology and characteristics of sociology | 2 |
| 2 | Definition of health and illness in social context | Discuss the meaning of health and illness in social context | 1 |
| 3 | Sociology and nursing practices | Explain the implication of sociology to nursing | 1 |
| 4 | Determinants of health | Discuss the social determinants of health | 1 |
| 5 | Religion, culture, social norms, beliefs, values, customs, practice, and implications to health | Discuss implication of religion, culture, social norms , beliefs and values and practices to health. | 1 |
| 6 | Health beliefs and practices and their influence on health, health promotion and illness prevention | Understand health beliefs and practices and their influence on health, health promotion and illness prevention | 1 |

| 7 | Health enhancing versus risk-taking behaviors; smoking, alcohol abuse, drugs and other substance abuse | Discuss health enhancing and risk-taking behaviors | 1 |
|---|---|---|---|
| 8 | End unit assessment | Demonstrate understanding of sociology of health and illness | 1 |
| 9 | Sociology and nursing practices | Explain the implication of sociology to nursing | 1 |

## Lesson One. *Definition and characteristics of sociology*

### a) Learning objectives

At the end of this lesson, learner should be able to: define sociology and characteristics of sociology

### b) Teaching resources

The needed teaching resources are: computer, projector, students' book, paper and or flipchart, black board and chalk

### c) Prerequisites/Revision/Introduction

In this lesson students will learn the definition and characteristics of sociology

### d) Learning activities 10.1.

**Guidance**

- As a facilitator, form groups of 3 to 5 students depending on their class size
- Ask students to attempt the learning activity 10.1
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Select like 2 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer

to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

**Answers to learning activity 10.1.**

1) The picture reflects that the society has different characteristics

**Answers to self-assessment 10.1.**

1) Definition of Sociology: Sociology studies the behavior of human beings in society. Sociology is a study of social facts, which are ways of acting, feeling and thinking common to a society which coerce individuals in that society to conform.

2) The characteristics of sociology:

   - Sociology is an independent science: As an independent science, it has its own field of study, boundary and method of approach.
   - Sociology is a social science and not a physical science: As a social science, it concentrates its attention on man, his social behavior, social activities, and social life.
   - Sociology is a categorical and not a normative discipline: Sociology studies things "as it is" and not "as they ought to be". It is ethically neutral. It cannot decide the directions in which sociology ought to go.
   - Sociology is a pure science and not an applied science: Sociology is a pure science because the immediate aim of sociology is the acquisition of knowledge. The knowledge acquired by a sociologist is of great help to the administrator, legislators, diplomats, teachers, social workers, and citizens.
   - Sociology is relatively an abstract science and not a concrete science: It studies the abstract forms of human events and their patterns. For example, it does not limit itself to the study of any particular war or revolution. On the contrary, it deals with them in a general or abstract manner, as social phenomena, i.e., as types of Social conflict.
   - Sociology is a generalizing and not a particularising science: For example, a sociologist makes generalizations on the following: (i) Joint families are more stable than the nuclear families. (ii) Social changes tale place with greater rapidity in urban communities than in tribal or rural communities.
   - Sociology is a general social science and not a special social science: The area of inquiry of Sociology is general and not specialized.

- Sociology is both an empirical and a rational science: It emphasizes the facts that result from observation and experimentation, rests on trial, or experiment or experience. It is a rational science because it stresses that role of reasoning and logical inferences

## Lesson Two. *Definition of health and illness in social context*

### a) Learning objectives

At the end of the lesson, students will be able to explain health and illness in social context.

### b) Teaching resources

The needed teaching resources are: computer, projector, students' book, paper and or flipchart, black board and chalk.

### c) Introduction

In this lesson students will learn the definition of health and illness in social context

### d) Learning activity 10.2

**Guidance**

- As a facilitator, form groups of 3 to 5 students depending on their class size
- Ask students to attempt the learning activity 10.2
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Select like 2 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

**Answers to the learning activity 10.2.**

It is very important to understand that there is no specific answer to the question for the debate. However, stress that in the society, impairment is the social meaning of disability. That is why many ineligible people in our society think that being disabled disadvantage them in almost everything and perceive within themselves that they will not be able to produce and then went in road for begging. Note that this perception is wrong because disability does not mean inability

**Answer to application activity 10.2**

1) C
2) B
3) A
4) D

## Lesson Three. *Biomedical model and holistic approach of health*

### a) Learning objectives

At the end of the lesson, students will be able to differentiate biomedical model and holistic approach of health.

### b) Teaching resources

The needed teaching resources are: computer, projector, students' book, paper and or flipchart, black board and chalk.

### c) Introduction

In this lesson students will learn the difference between biomedical model and holistic approach of health including their positive and negative aspect.

### d) Learning activity 10.3

**Guidance.**

- As a facilitator, form groups of 3 to 5 students depending on their class size
- Ask students to attempt the learning activity 10.3
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Select like 2 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.

- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

**Answer to learning activity 10.3**

1) The Biomedical model of health is a scientific method which treats the human body as a very complex device and advocates the treatment of symptoms through the use of medical intervention. The main objective of the biomedical model is to focus on the human body solely and treat the illness and diseases separate from the mind
2) The Holistic Model of health focuses on the whole person instead of specific parts of the body like the biomedical model. Many Holistic Doctors believe all parts of the human body work in sync with one another. Meaning that if one part of the body, isn't working properly then the rest of the body doesn't work. The main objective of the holistic Doctor is not to solely examine the body but to understand why it is happening.

**Answer to Self assessment 10.3**

Difference between biomedical model of health and holistic approach

| | Biomedical model | Holistic approach |
|---|---|---|
| **Focus** | **Human body parts/system** | **Treat the human as a whole unit** |
| **Advantage** | It has a high success rate regarding research and diagnosis of humans.<br>Can be used to learn about the disease and avoid it recurring.<br>-states that health can be restored through treatment and a variety of techniques including nuclear medication and drugs | The holistic approach allows alternative. Eg herbal medicine which use herbs and plants as alternative.<br>-Consider yoga and massage which have proven to reduce stress. |

| Disadvantage | The biomedical model fails to include other factors like psychosocial that are sometimes found to be the main influences of illness.<br>The model fails to address any illness or disease which doesn't display any physical signs and symptoms | -For people who has serious medical illness like cancer, time spent looking for other treatments can cause the disease to spread which could lead to the disease to become untreatable.<br>Holistic drugs don't always reveal the true ingredients on the packaging, so you could take a holistic medication which may have a contraindication when taking conventional medication. |
|---|---|---|

## Lesson Four. *Sociology and nursingpractices*

### a) Learning objectives

At the end of the lesson, students will be able to explain the implication of sociology to nursing.

### b) Teaching resources

The needed teaching resources are: computer, projector, students' book, paper and or flipchart, black board and chalk.

### c) Introduction

In this lesson students will learn Sociology and nursing practices.

### d) Learning activity 10.4

**Guidance**

- As a facilitator, form groups of 3 to 5 students depending on their class size
- Ask students to attempt the learning activity 10.4
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Select like 2 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.

- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

**Answers to Learning activity 10.4.**

The concept of sociology and their effect on nursing practice: (WHO) proposed that nurses should be required to develop and perform functions related to the promotion and maintenance of health as well as disease prevention and rehabilitation

**Answers to Self – assessment 10.4.**

Explain the ways by which sociology may help nurses to achieve their objective.

Sociology may help nurses to achieve their primary objective of caring for patients in four ways:

i) implications of changing patterns of disease, dependency and death;

ii) social and cultural variations in perceptions of, and responses to, pain and diseases;

iii) organizational analyses, with particular reference to the importance of nurse-patient communication and;

iv) Sociological studies on interpersonal relationships.

## Lesson Five. *Determinants of health*

### a) Learning objectives

At the end of this lesson, the learner will be able to discuss the social determinants of health.

### b) Learning resources

- Pictures, student text book of Fundamentals of Nursing, senior 4,
- Community health nursing and public health text books taken from the library or internet
- Personal computer, projector and slides
- Flipchart or writing board

c) **Prerequisites**

The students should have understanding of human Biology, Nursing Ethics and Professional Code of Conduct in order to learn better this lesson.

d) **Learning Activity 10.5**

**Guidance**

To better teach this lesson, the teacher should use group teaching and learning method with brain storming as follows:

- Share the learning objectives of the lesson 10.5 to the learners
- Clearly state the pictures and the related questions of the activity 10.5 as indicated in student book.
- Organize learners in pair and inform them about the available learning resources such as text books, internet, student book, etc.
- Ask learners to discuss in 10 minutes on the questions of the activity 10.5. given in student book and inform them to write down the answers to questions.
- Stop the learners peer discussion and ask some pair of learners to brain storm the product from their discussion.
- Maintain a written record on a flipchart or writing board of the main ideas and suggestions from learners.
- Involve all of the learners and provide positive feedback in order to encourage more input. Review written ideas and suggestions periodically to stimulate additional ideas.
- Use computer made slides and projector and conclude the lesson by summarizing the lesson content and reviewing all of the suggestions and ideas; and by asking some questions to learners to ensure that the lesson's objectives are achieved (the teacher may use questions of self-assessment 10.5. for evaluation).

**Answer to the learning activity 10.5.**

1) The teacher may expect the learners to respond that picture A informs about a mother who attended a health service for care of her child, and this is being assessed by a nurse/health care provider. Picture B shows people who are studying in a classroom. Picture C displays people who are enjoying social interaction. Picture D indicates wealthy people who are taking meal happily.

2) The learners may provide the following answers:

   a. The relation between people's access to health services and their own health: Health services access and use of services that prevent

and treat disease influences health. This domain includes key issues such as access to healthcare, access to primary care, health insurance coverage, and health literacy.

b. The relation between education access and health status: Low education levels are linked with poor health, more stress and lower self-confidence. This domain includes key issues such as graduating from high school, enrollment in higher education, educational attainment in general, language and literacy, and early childhood education and development.

c. The relation between Social circumstance and health status: Greater support from families, friends and communities is linked to better health. Culture - customs and traditions, and the beliefs of the family and community all affect health. This includes topics like cohesion within a community, civic participation, discrimination, conditions in the workplace, and incarceration.

d. The relation between Income status and health status: Higher income is linked to better health. The greater the gap existing between the richest and poorest people, the greater there are the differences in health. There is connection between the financial resources people have – income, cost of living, and socioeconomic status – and their health. This area includes key issues such as poverty, employment, food

**Answers to self-assessment 10.5:**

1) The determinants of health include:
    - The social and economic environment,
    - The physical environment, and
    - The person's individual characteristics and behaviours.
    - Health services access and use

2) Explanations on how the following factors can have an influence on population health:
    - Income and social status: Key issues such as poverty, employment, food security, and housing stability can influence positively or negatively the health of people. The greater the gap existing between the richest and poorest people causes the greater the differences in health. Social factors like cohesion within a community; civic participation; discrimination; conditions in the workplace; and

incarceration influence poorly or favorably the health of people. Greater support from families, friends and communities is linked to better health. Culture, customs and traditions, and the beliefs of the family and community all affect health.

- Physical environment: There is connection between where a person lives – quality of housing, access to transportation, neighborhood, environment, etc. and their health and wellbeing. Safe water and clean air, healthy workplaces, availability of healthy foods, safe houses, communities and roads, neighborhood crime and violence all contribute to good health. Employment and working conditions: People in employment are healthier, particularly those who have more control over their working conditions
- Social support networks: Greater support from families, friends and communities is linked to better health. Culture - customs and traditions, and the beliefs of the family and community all affect health.
- Genetics: Inheritance plays a part in determining lifespan, healthiness and the likelihood of developing certain illnesses.
- Personal behavior: Balanced eating, keeping active, smoking, drinking alcohol, and how we deal with life's stresses and challenges all affect health.
- Gender: Men and women suffer from different types of diseases at different ages

## Lesson Six. *Religion, culture, social norms, beliefs, values, customs, practice, and implications to health*

### a) Learning objectives

At the end of the lesson, students will be able describe the implication of religion, culture, social norms, beliefs and values and practices to health

### b) Teaching resources

The needed teaching resources are: computer, projector, students' book, paper and or flipchart, black board and chalk.

### c) Introduction

In this lesson students will learn the implication of religion, culture, social norms, beliefs and values and practices to health.

d) learning activity 10.6

**Guidance**

- As a facilitator, form groups of 3 to 5 students depending on their class size
- Ask students to attempt the learning activity 10.6
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Select like 2 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

**Answer to learning activity 10.6**

a. A study was done and reveals that good mental health is highly correlated to religious participation. An increase in religious practice was associated with having greater hope and a greater sense of purpose in life. Religious affiliation and regular church attendance were among the most common reasons people gave to explain their own happiness. Happiness was greater and psychological health was better among those who attended religious services regularly.
   More frequent attendance at religious services predicted less distress among adults. Membership in a religious community can enhance coping skills. One study found that people were much more inclined to use positive coping responses when they received spiritual support from fellow church members.
b. Culture refers to a set of the ideas, customs, and social behaviour of a particular people or society. Cultural perception is how people gather information, learned within their specific culture, to inform themselves about their world. This takes into account all aspects of the individual's life. Example; how a person sees art, language, religion, etc. is all informed by how those elements of the world are seen within the context of their culture.

c. The types of norms are very well described in the student's book.
d. The importance of values
   - Values help to gain self-respect
   - Values help human to be clear about what they wants
   - Value help in decision making.
   - Value help humans to be motivated, focused, and engaged
   - Value help to better enjoy life

**Answer to self-assessment 10.6**

1) Positive implication of religion to health

   Religious practice substantially contributes to physical and mental health. Regular religious practice lessens depression, promotes self-esteem, and builds familial and marital happiness. Religious worship also increases longevity, improves an individual's chances of recovering from illness, and lessens the incidence of many diseases.
2) Culture and negative implication to health

   People in some cultures believe illness is the will of a higher power, and may be more reluctant to receive health care.
3) Social norms and positive implication to health –refer to student book
4) Values and negative implication to health –refer to student book

## Lesson Seven. *Health beliefs and practices and their influence on health, health promotion and illness prevention*

This is a single period lesson

**a) Learning objective:**

At the end of this lesson students should be able to:

- Define the concept of health belief
- Define the concept of healthy practice

**b) Teaching resources**

Student book, Illustrate of the learning activity 10.7, Movies and video downloaded on YouTube showing how societal beliefs/behaviors impact life.

**c) Introduction**

In this lesson the learners will learn how societal beliefs impact healthy practices. Acquired knowledge acquired in previous lesson such as in psychology and personality will help them for better understanding.

#### d) Learning activity

**Guidance**

To facilitate learners through the learning activity 10.7:

- Form three groups of leaners and assign them topics to discuss i.e. group A – working on health beliefs, group B – working on healthy practices and group C to work on Health promotion.
- Move around groups guiding and facilitating them to ensure they try to define assigned topic and exemplify the concept. Ensure every learner participate in the discussion
- Select randomly from each group one leaner to present on behalf of the group. Other group members to support accordingly
- Ask the others groups to ask clarification or complement
- Build on groups' works to give more clarifications on the topic ensuring every learner can hear what you are explaining

**Answer to learning activity 10.7.**

1) Health beliefs – are what people believe about their health, what they think constitutes their health, what they consider the cause of their illness, and ways to overcome an illness they are learned through life experiences. They are convictions (what we hold as "true") that influence the way we think, feel, and act with regards to their health. For example, different cultural groups may have different beliefs about what constitutes good health and what constitutes illness (being overweight may be regarded as sign of good health in a community X while it viewed as a pathological condition in community Y).
2) Healthy practices –are those actions or intervention intending for "first do not harm". They are of paramount importance where potential harms and potential benefits exit. For instance, weighing risk and benefits of smoking vis-à-vis having cardiovascular disease. Healthy practices are meant to teach or advise patients to use their own non-specific mechanisms of defense to promote health and prevent illness in order to live a healthy life
3) Health promotion – process of enabling people to increase control over, and to improve, their health. It moves beyond a focus on individual behavior towards a wide range of social and environmental interventions. Thus, encompasses all those activities or interventions that enhance the well-being of human king. For example, providing health education to enhance health literacy

**Answer to self-assessment 10.7.**

1) Health is determined by the conditions in which we live our everyday lives. Those conditions include the social, cultural, economic, educational, and occupational as well as the physical and mental environment, which influence health behaviour and lifestyle and so the health status

2) Health beliefs and practices and influence on health promotion and illness prevention. Health beliefs are what people believe about their health, what they think constitutes their health, they are also what they consider the cause of their illness, and ways to overcome an illness. Healthy practices mean the actions intending for "first do not harm". Healthy practices mean to teach or advise patients to use their own non-specific mechanisms of defense to promote health and prevent illness in order to live a healthy life. People will not change their health behaviors unless they believe that they are at risk

## Lesson Eight. *Health enhancing versus risk-taking behaviors; smoking, alcohol abuse, drugs and other substance abuse*

**This is a single period lesson**

**a) Learning objective:**

At the end of this lesson students should be able to:

**b) Teaching resources**

- Student book
- Illustrate of the learning activity 10.8
- Movies and video downloaded on YouTube showing how societal beliefs/ behaviors impact life.

**c) Introduction**

In this lesson the learners will learn health enhancing versus risk-taking behaviors and discuss; smoking, alcohol abuse, drugs and other substance abuse in relation to health

**d) Learning activity 10.8**

**Guidance**

To facilitate learners through the learning activity 10.8:

- Form three groups of leaners and assign them topics to discuss i.e. group A – smoking and health, group B – alcohol abuse and health and group C - substances abuse and health

- Move around groups guiding and facilitating them to ensure they try to define assigned topic and exemplify the concept. Ensure every learner participate in the discussion
- Select randomly from each group one leaner to present on behalf of the group. Other group members to support accordingly
- Ask the others groups to ask clarification or complement
- Build on groups' works to give more clarifications on the topic ensuring every learner can hear what you are explaining

**Answer to learning activity 10.8.**

1) Smoking and health – use information provided in student book – 10.8.1. Additionally, inform learners that tobacco smoking is a leading risk factor for cardiovascular disease and cancer.
2) Alcohol abuse and health – use information provided in student book – 10.8.2. Additionally, let learners know that alcohol use disorders constitute an important burden of disease. Alcohol abuse has a negative effect on people's health in a number of ways. Among other things, it increases the risks for hypertension, liver damage, pancreatic damage, hormonal problems, and heart disease. Moreover, alcohol intoxication is associated with accidents, injuries, accidental death, and a variety of social problems, including the first sexual encounters of teens, unprotected sex, and intimate partner violence. It is also possible to become dependent on alcohol, with a number of negative psychological and physical consequences.
3) Substances abuse and health – refer to student book 10.8.3 and additionally inform learners that it is associated with many health related problems, such as overdose and infections among others.

**Answer to self-assessment 10.8:**

1) Nicotine is a highly addictive chemical found in the tobacco plant. The addiction is physical, meaning habitual users come to crave the chemical, and also mental, meaning users consciously desire nicotine's effects. Nicotine addiction is also behavioural. People become dependent on actions involved with using tobacco
2) Drug abuse is the use of illegal drugs or the use of prescription or over-the-counter medications in ways other than recommended or intended. It also includes intentional inhalation of household or industrial chemicals for their mind altering effects.

3) Drug addiction and other risk taking behaviour have been termed as a disease because their effects cause permanent changes in the dopamine reward pathway of the brain leading to compulsive use even after the initial pleasurable effect of the drug has warm off. Therefore, the repetitive use of the drug leads to craving and withdrawal symptoms which lead to continuation and maintenance of drug abuse

## 10.6 Summary of the Unit

Sociology is a study of social facts, which are ways of acting, feeling and thinking common to a society which coerce individuals in that society to conform. Sociological knowledge enables us to look at society and human relationships in a certain way and to understand, explain and make predictions about members of that society. Medical sociologists use social constructionist theory to explain health and illness. In medical profession, disease is a biological condition while in sociology, illness is the social meaning of that condition. The biomedical model of health is to focus on the human body solely and treat the illness and diseases separate from the mind but the holistic approach does not solely examine the body; it treats the body as whole.

Many factors combine together to affect the health of individuals and communities. Whether people are healthy or not, is determined by their circumstances and environment. To a large extent, factors such as where we live, the state of our environment, genetics, our income and education level, and our relationships with friends and family all have considerable impacts on health, whereas the more commonly considered factors such as access and use of health care services often have less of an impact.The determinants of health include:

- The social and economic environment,
- The physical environment, and
- The person's individual characteristics and behaviours.

Religious practice substantially contributes to physical and mental health. Theory and literature suggests that the reasons religiously involved people tend to have good health outcomes are because they have healthy lifestyles and behaviors in accord with religious beliefs. On another hand people in some cultures believe that illness is the will of a higher power, and may be more reluctant to receive health care. Additionally, there are many more cultural related risk behavior in the society therefore health care professionals should pay attention while setting health promotion and illness prevention programs.

## 10.7 Answer to end unit assessment

1) C
2) B
3) B
4) C
5) D
6) 1= C, 2= B, 3 = A, 4 = D

7) Difference between biomedical model of health and holistic approach

| | Biomedical model | Holistic approach |
|---|---|---|
| Focus | Human body parts/system | Treat the human as a whole unit |
| Advantage | It has a high success rate regarding research and diagnosis of humans.<br>Can be used to learn about the disease and avoid it recurring.<br>states that health can be restored through treatment and a variety of techniques including nuclear medication and drugs | The holistic approach allows alternative. Eg herbal medicine which use herbs and plants as alternative.<br>Consider yoga and massage which have proven to reduce stress. |
| Disadvan-tage | The biomedical model fails to include other factors like psychosocial that are sometimes found to be the main influences of illness.<br>The model fails to address any illness or disease which doesn't display any physical signs and symptoms | -For people who has serious medical illness like cancer, time spent looking for other treatments can cause the disease to spread which could lead to the disease to become untreatable.<br>Holistic drugs don't always reveal the true ingredients on the packaging, so you could take a holistic medication which may have a contraindication when taking conventional medication. |

8) Sociology may help nurses to achieve their primary objective of caring for patients in four ways:
   a. implications of changing patterns of disease, dependency and death;
   b. social and cultural variations in perceptions of, and responses to, pain and diseases;
   c. organizational analyses, with particular reference to the importance of nurse-patient communication and;
   d. sociological studies on interpersonal relationships.
9) Religious practice substantially contributes to physical and mental health. Regular religious practice lessens depression, promotes self-esteem, and builds familial and marital happiness. Religious worship also increases longevity, improves an individual's chances of recovering from illness, and lessens the incidence of many diseases.

   Theory and literature suggests that the reasons religiously involved people tend to have good health outcomes are because they have healthy lifestyles and behaviors in accord with religious beliefs. Other literature suggests that religious involvement may play a negative role in health outcomes due to beliefs about illness originating as punishment for sins.
10) Health beliefs are what people believe about their health, what they think constitutes their health, they are also what they consider the cause of their illness, and ways to overcome an illness. Healthy practices mean the actions intending for "first do not harm". Healthy practices mean to teach or advise patients to use their own non-specific mechanisms of defense to promote health and prevent illness in order to live a healthy life.

   People will not change their health behaviors unless they believe that they are at risk. Example: Individuals who do not think they will get the sexual transmitted disease are less likely to use condom during sex intercourse. People who think they are unlikely to get malaria are less likely to sleep under mosquito net.

## 10.8 Additional activities

### 10.8.1 Remedial questions

1) Which of the following statements characterize better Sociology as a Social Science and not a physical Science?
   a. Sociology Studies things "as it is" and not "as they ought to be."
   b. Sociology has its own field of study, boundary and method of approach.
   c. Sociology concentrates its attention on man, his Social behavior, Social Activities, and Social life.

d. Sociology is a pure Science because the immediate aim of Sociology is the acquisition of knowledge.

**The answer is c.**

2) Referring to the social determinants of health studied, relate the key topics in Column A with their domains in Column B

| Column A | Column B |
|---|---|
| 1. Health insurance coverage<br>2. Language and literacy<br>3. Discrimination<br>4. Quality of housing | a. Education access and quality<br>b. Economic stability<br>c. Health care access and quality<br>d. Neighborhood and built environment<br>e. Social and community context |

**Answers: 1. c; 2.a; 3.e; 4.d**

3) In terms of health, illness, disability and dying; which aspects do the Nurses holistically need to be aware of?

**Response**: The Nurses need to be aware of the following aspects of health, illness, and disability and dying: the physical, psychological, social and spiritual aspects

### 10.8.2 Consolidation questions

1) The following examples describe someone who is socially healthy, EXCEPT:
   a. Mourning when a close family member dies.
   b. Celebrating traditional festivals within your community.
   c. Going to a football match or involvement in a community meeting.
   d. Having a memory and being able to reason rationally and solve problems.

**The answer is d.**

2) Regular ... practice lessens depression, promotes self-esteem, and builds familial and marital happiness.
   a. Culture
   b. Religious
   c. Norms
   d. Language

**The answer is b.**

3) Outline any 10 risk-taking behaviors which can have serious negative implications for young people's health

**Answers:** risk-taking behaviors which can have serious negative implications for young people's health include:

- Early and/or high risk sexual activity
- Drink driving
- Substance or alcohol abuse
- Running away from home
- Dropping out of school
- Criminal activity
- Severe dieting
- Dissociation
- Suicidal thoughts and talk
- Self-harm
- Assaulting others

4) In which four ways may Sociology help nurses to achieve their primary objective of caring for patients?

**Response**: Sociology may help nurses to achieve their primary objective of caring for patients in four ways:

**(1)** Implications of changing patterns of disease, dependency and death;

(2) Social and cultural variations in perceptions of, and responses to, pain and diseases;

(3) Organizational analyses, with particular reference to the importance of nurse patient communication and;

(4) Sociological studies on interpersonal relationships.

### 10.8.3 Extended questions

1) ____________________are what people believe about their health, what they think constitutes their health, they are also what they consider the cause of their illness, and ways to overcome an illness.

a. Health beliefs
b. Healthy practices
c. Health promotion
d. Illness prevention

**The answer is a. health beliefs**

2) In one or half page, Discuss on the following statement: "Blaming individuals for having poor health or crediting them for good health is inappropriate".

**Answer:**

The context of people's lives determines their health, and so blaming individuals for having poor health or crediting them for good health is inappropriate. Individuals are unlikely to be able to directly control many of the determinants of health. These determinants—or things that make people healthy or not—include the following:

- The social and economic environment,
- The physical environment, and
- The person's individual characteristics and behaviours.
- Income and social status - higher income and social status are linked to better health. The greater the gap between the richest and poorest people, the greater the differences in health.
- Education – low education levels are linked with poor health, more stress and lower self-confidence.
- Physical environment – safe water and clean air, healthy workplaces, safe houses, communities and roads all contribute to good health.
- Employment and working conditions – people in employment are healthier, particularly those who have more control over their working conditions
- Social support networks – greater support from families, friends and communities is linked to better health. Culture - customs and traditions, and the beliefs of the family and community all affect health.
- Genetics - inheritance plays a part in determining lifespan, healthiness and the likelihood of developing certain illnesses.
- Personal behaviour and coping skills – balanced eating, keeping active, smoking, drinking, and how we deal with life's stresses and challenges all affect health.
- Health services - access and use of services that prevent and treat disease influences health
- Gender - men and women suffer from different types of diseases at different ages.