Course Code **NSC219**
Course Title FOUNDATION OF PROFESSIONAL NURSING PRACTICE 1
Course Team

Course Material developer and Writers

Dr Reuben Fajemilehin (Course Developer/Writer) - OAU
Mr. Olufemi Ayandiran (Co-developer/Co-writer) - OAU
Mr Kayode S. Olubiyi (Co-developer/Co-writer) – NOUN
Prof. (Mrs) O. Nwana (Programme Leader) - NOUN

Course Reviewer Dr Elizabeth Joseph-Shehu – NOUN
Course Coordinator Dr Elizabeth Joseph-Shehu – NOUN

National Open University of Nigeria
Headquarters
University Village
Plot 91, Cadastral Zone
Nnamdi Azikiwe Expressway
Jabi, Abuja

Lagos Office
14/16 Ahmadu Bello Way
Victoria Island, Lagos

e-mail: centralinfo@nou.edu.ng
URL: www.nou.edu.ng

Printed 2010
Reviewed 2022
ISBN: 978-978-058-277-7

STUDY UNITS

There are thirteen study units in this course as follows:

CONTENT **PAGE**

INTRODUCTION

Welcome to NSC 211 – Foundation of Professional Nursing Practice I is a four-credit unit course for students pursuing BNSc. It is one of the courses meant to lay your desired foundation for the choice of nursing as a course of study and profession.

The course consists of 4 Credit units (60 hours of instruction online; 48 hours of laboratory & Clinical Practice). This is a second-year first-semester concurrent BNSc degree programme course.

The course comprises the bedrock of acquiring necessary elementary skills amidst health care reforms. The changes in response to social, political, economic factors, health technology, and advances in the health care system call for reform in health care delivery have greatly influenced the setting where nursing is practised coupled with the recipient of care itself.

WHAT YOU WILL LEARN IN THIS COURSE

The overall aim of this course is to introduce you to the ability to assess the nurse's patient skills regardless of the practice setting. All settings where nurses provide care, eliciting complete history and using appropriate assessment skills are critical to identifying physical and psycho- emotional problems experienced by the patient. The course will provide you with a broad understanding of nursing and what made up nursing as a profession.

COURSE AIMS

The aim of the course is to give you a better understanding of the fundamental of the nursing profession. The aim of the course will be achieved by:

- Providing you a comprehensive historical development of Nursing
- exposing you to the concept of Nursing
- helping you to understand the various factors that affect health and the human environment
- giving you insight into the fundamentals of Nursing practice.

COURSE OBJECTIVES

To achieve the aims set out above, the course sets overall objectives. In addition, each unit also has specific objectives. The unit objectives are always given at the beginning of a unit; you should read them before you start working through the unit. You may also want to refer to them during your study of the unit so as to check on your progress. You should always look at the unit objectives after completing a unit. In this way, you can be sure that you have done what was required of you by the unit.

Below are the wider objectives of the course as a whole. By meeting these objectives, you should have achieved the aims of the course as a whole. On successful completion of the course, you should be able to:

- define History and state the stages of nursing development in Nigeria
- describe the events that occurred in the past that positively moved Nursing forward to the present date
- explain the nature of Nursing

- explain the importance of nursing to the health and human environment
- examine the role of the nurse as a teacher, counsellor, caregiver, manager and researcher
- explain what integrated approach of health, wellness, and illness is
- describe physical assessment and diagnostic measures in the care of patients
- explain the problems militating against nursing development
- proffer solutions to these problems.

WORKING THROUGH THIS COURSE

To complete this course, you are required to read the study units and other related materials. Each unit contains self-assessment exercises, and at certain points in the course, you will be required to submit assignments for assessment purposes. At the end of the course, you are going to sit for a final examination. The course should take you about fifteen weeks, in total, to complete. Below you will find listed all the course components, what you have to do and how you should allocate your time to studying the course.

You will be expected to read every module and all assigned readings to prepare you to have meaningful contributions to all sessions and complete all activities. It is important that you attempt all the Self-Assessment Questions (SAQ) at the end of every unit to help your understanding of the contents and to help you prepare for the in-course tests and the final examination.

You will also be expected to keep a portfolio to keep all your completed assignments.

Specifically, each unit has activities and videos that will guide your ability to learn health history and physical assessment skills.

COURSE MATERIALS

STUDY UNITS

There are thirteen study units in this course as follows:

TEXTBOOKS AND REFERENCES

- Berman, A., Snyder, S. J., Kozier, B., Erb, G. L., Levett-Jones, T., Dwyer, T., Hales, M., Harvey, N., Moxham, L., & Park, T. (2014). *Kozier & Erb's fundamentals of Nursing Australian edition* (Vol. 3). Pearson Higher Education AU.
- Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.
- Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences.
- Cherry, B., & Jacob, S. R. (2016). *Contemporary nursing: Issues, trends, & management*. Elsevier Health Sciences.

- DeLaune, S. C., & Ladner, P. K. (2011). *Fundamentals of nursing: Standards and practice*. Cengage learning.
- Dolan, J. A., Fitzpatrick, M. L., & Herrmann, E. K. (1983). *Nursing in society: A historical perspective*. WB Saunders Company.
- Donahue, M. P. (2011). *Nursing, the finest art: An illustrated history*. Mosby.
- McCormack, B., & McCance, T. (2011). *Person-centred nursing: theory and practice*. John Wiley & Sons Mortimer, B. (2004). Introduction: the history of nursing: yesterday, today and tomorrow. In *New Directions in Nursing History* (pp. 17-37). Routledge.
- Potter, P. A., Perry, A. G. E., Hall, A. E., & Stockert, P. A. (2009). *Fundamentals of nursing*. Elsevier Mosby.

EQUIPMENT AND SOFTWARE NEEDED TO ACCESS COURSE

You will be expected to have the following tools:

1. A computer (laptop or desktop or a tablet)

2. Internet access, preferably broadband rather than dial-up access

3. MS Office software – Word PROCESSOR, PowerPoint, Spreadsheet

4. Browser – Preferably Internet Explorer, Mozilla Firefox

5. Adobe Acrobat Reader

NUMBER AND PLACES OF MEETING (ONLINE, FACE-TO-FACE, LABORATORY PRACTICALS)

These details will be provided to you at the time of commencement of this course.

DISCUSSION FORUM

There will be an online discussion forum, and topics for discussion will be available for your contributions. It is mandatory that you participate in every discussion every week. Your participation links you, your face, your ideas and views to that of every member of the class and earns you some mark.

ASSIGNMENT FILE

The assignment file will be the Tutor Marked Assignment (TMA), which will constitute part of the course's continuous assessment (CA). There are 20 assignments in this course, with each unit having an activity/exercise for you to do to facilitate your learning as an individual.

Assessment There are two aspects to the assessment of the course. These are the Tutor marked assignments and written examinations. In tackling the assignments, you are expected to apply information, knowledge and strategies gathered during the course. The assignments must be turned in to your tutor for formal assessment in accordance with the stated presentation schedules. The works you submit to your tutor for assessment will count for 30% of your total course work. At the end of the course you will need to sit for a final written examination of three hour's duration. This examination will also count for 70% of your total course mark.

Tutor-Marked Assignment (TMA*)* There are 30 tutor-marked assignments in the course. You are advised in your own interest to attempt and submit the assignments at the stipulated time. You will be able to complete the assignments from the information and materials contained in your reading and study units. There is other self activity contained in the instructional material to facilitate your studies. Try to attempt it all. Feel free to consult any of the references to provide you with broader view and a deeper understanding of the course. The assignment accounts for 30% of the total assessment pack for the course. Continuous self-assessment materials will be enclosed with the instructional materials so that you can monitor your progress through the course.

GRADING CRITERIA

Grades will be based on the following percentages

Tutor- Marked Assignments		
Computer- marked Assignment	30%	
Group assignments	5%	40%
Discussion Topic participation	5%	
Laboratory practical		
End-of-Course examination	60%	

GRADING SCALE

A = 70-100
B = 60 - 69
C= 50 - 59
F = $\underline{<}$ 49

HOW TO GET THE MOST FROM THIS COURSE

i. Read and understand the context of this course by reading through this Course Guide paying attention to details. You must know the requirements before you will do well.

ii. Develop a study plan for yourself.
iii. Follow instructions about registration and master expectations in terms of reading, participation in discussion forum, end of unit and module assignments, laboratory practical and other directives given by the course coordinator, facilitators and tutors.
iv. Read your course texts and other reference textbooks.
v. Listen to audio files, watch the video clips and consult websites when given.
vi. Participate actively in online discussion forum and make sure you are in touch with your study group and your course coordinator.
vii. Submit your assignments as at when due.
viii. Work ahead of the interactive sessions.
ix. Work through your assignments when returned to you and do not wait until when examination is approaching before resolving any challenge you have with any unit or any topic.
x. Keep in touch with your study centre and Department of Nursing Science website as information will be provided continuously on this site.
xi. Be optimistic about doing well.

MODULE 1 NATURE OF NURSING I

UNIT 1 HISTORICAL DEVELOPMENT OF NURSING I

CONTENTS

1.0 INTRODUCTION

Where are we coming from? What developments have brought us to the present state? What problems were encountered during the journey? What factors have facilitated or obstructed our movements? When we delve

into the events of the past for one reason or the other, we are concerned with history, with past events. There are many advantages to the study of history. It provides foundation for the present and the future. It helps us to plan strategies for a smooth transition. It provides us with the knowledge of persons and resources that had supported and strengthened our course over the past years. This is a general phenomenon of any development in life.

There are two dimensions to the study of history, the process and the content. In this unit you will be studying the content of the historical development of nursing. The events that occurred in past that positively moved Nursing forward to the present date. You will learn the contents of the events in chronological order. The discussions shall cover the following periods: Pre-Nightingale Era; Nightingale era, Pre and Post First World War; Pre- and Post-2nd World War; and the modem times. United Kingdom, North America and Nigeria shall receive the most attention. The content enumerated shall be presented in two units (Units 1 & 2).

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- explain the significance of the study of history
- summarise the development of nursing in Pre-Nightingale in Europe and the UK
- identify the major areas of society and nursing that Florence Nightingale's impact was felt.

3.0 MAIN CONTENT

3.1 Significance of the Study of History

Try to recall a history course you had at High School or the historical aspects of one of your courses in your school of Nursing. The course titled History dealt with the process of reviewing events. There are subjects such as History of Political Movements in Nigeria; History of the Church Missionary Society in Nigeria; History of Education - all these examine the content of events. By the same token, when we talk about the historical development of Nursing, we are concerned with the content of development over a period: and how one developmental state influences the subsequent stages. What is the significance of History in Nursing? History allows us to link the past with the present. It shows the achievements at each milestone. Knowledge of history serves as reference points for the future.

You will now study the development of nursing during the different eras stated in the introduction.

3.1.1 Pre-Nightingale Development of Nursing

Nursing was distinguished in its early history as a form of community service and was originally related to a strong instinct to preserve and protect the family (Donahue 1985). The desire to keep people healthy and provide comfort, care and comfort for the sick were the initial focus of nursing. This focus has remained relatively the same over the centuries, but the practice of nursing has been modified because of societal influence and changing needs. Nursing has evolved into what we now know as modern nursing. Nursing is as old as medicine. Nursing and

medicine have been interdependent throughout history. During the era of Hippocrates, Medicine was practiced without Nursing. While in the Middle Ages, nursing was practiced without medicine.

In ancient cultures, religious leaders assumed responsibility for health and medical care because the causation of illness was tied to myths and religion. Hence nurses were seen to be below religious leaders. Nurses then worked under priests and physicians, performing custodians and personal hygiene care. The physician directed nursing activities, except the role of midwifery where nurses had always been accepted. Throughout this period, nurses did not participate in activities to promote health or teach the families how to care for the sick.

Under the influence of Christianity, nurses began to gain respect and the practice of nurses expanded. The order of Deaconesses, a group similar to today's public health or visiting nurses was one of the earliest records of Christian nursing. According to Dolen et al. (1983), (Brooker & Waugh,m2013)., the order's goals included the meeting of the following needs:

- Feeding the hungry
- Giving water to the thirsty
- Clothing the naked
- Visiting the imprisoned
- Sheltering the homeless
- Caring for the sick
- Burying the dead

Historically, men and women held the role of the nurse. The entry of women into nursing could be traced to AD 300 because of the improvement in the social position of Roman women. Christianity taught that men and women are equal before God. There was an appeal to women to carry on God's work towards those who were in distress. The Benedictine Order comprising men was founded in the 6th century, and this increased the number of women in nursing.

During the Middle Ages, the Crusades became a stimulus for expanding nursing and healthcare. Military nursing orders for men were formed, and hospitals were established. After the Crusades, and with the decline

of the feudal system, large cities began to develop and grow. This extensive growth of cities resulted in associated health problems.

SELF-ASSESSMENT EXERCISE

Nigeria is experiencing a similar population shift from rural to urban. List five health hazards associated with an extensive population growth of cities.

Example of an answer: Overcrowding, poor ventilation; Hot and humid environment, poor sanitation, inadequate water supply, air, food and water contamination; disregard of personal and environmental hygiene, inter-personal feuds.

Because of the enormity of the health problems, secular groups were formed and nurses to meet specific health care needs in the Middle Ages.

In response to the serious health problems of the 15th to 17th centuries, which were the consequence of societal factors, nursing responded by founding the Sisters of Charity in AD 1633 by St. Vincent de Paul. The Sisters cared for the people in hospitals, asylums, and poor houses. In addition, they cared for sick people in their homes, hence labelled 'visiting nurses'

The first supervisor of the Sisters of Charity was Louise de Gras, a widow of high social standing. She established perhaps the first educational programme associated with a nursing Order. She recruited intelligent, refined and compassionate women. The programme included experience in the care of the sick in hospitals as well as home visits. The sisters of Charity were introduced in America in 1809, but their name was later changed to Daughters of Charity. The 18th Century saw further growth of cities in Europe, including the United Kingdom, and consequently, an increase in the number of hospitals and more roles for the nurses. Nursing skills and knowledge were generally passed on by experienced nurses because there was still little formal education for them.

While nursing in continental Europe, especially in Germany, was beginning to make progress, the UK could not say the same. Hospitals in the UK were built in response to similar health problems, but the 'nurses'

came from the low social status, lacked responsible leadership, and were illiterate.

3.1.2 The Florence Nightingale Era (1820-1910)

Florence Nightingale went to study with the sisters of Charity in 1853 and was later appointed superintendent of the English General Hospitals in Turkey. During this period, she instituted major reforms in hygiene, sanitation, and nursing practice, thereby reducing the mortality rate at the Barracks Hospital in Sentari, Turkey, from 42.7% to 2.2% in 6 months (Woodham Smith, 1983). Florence Nightingale was a proficient bedside nurse with a great concern for the soldiers she nursed. Her ward round at night with the lamp earned her the title "The Lady with the Lamp". Organised nursing began in the mid-1800s under the leadership of Florence Nightingale; before her era, nursing care was done by paupers and drunkards and persons unfit for any work.

Florence Nightingale's beliefs about nursing form the basic foundation of nursing practice today. Her religious convictions and experience in nursing during the Crimean War influenced her approach and beliefs about the care of the sick. She came from the upper social class, was educated and possessed a good communication ability as judged by her various letters and book, *Notes on Nursing: What It Is and What It Is Not.* She travelled widely and had the ability to deal with government and politics. Florence Nightingale possessed many outstanding qualities. By today' s terminology, she would be called an epidemiologist and statistician. She was a researcher, a politician and a caring nurse of the sick and the well. Her philosophy of nursing practice reflected the changing needs of society. She saw the role of Nursing as having 'charge of somebody's health' based on the knowledge of "how to put the body in such a state to be free of disease or to recover from disease" (Nightingale, 1860).

Considering the role women were expected to assume during her time, Florence could be regarded as an activist of some sort. She was the one who vehemently objected to the female Victorian role of indolence and marriage and viewed the development of nursing as a "respectable livelihood and constructive utilisation of women". She saw activities as being based not only on compassion but also on observation and experience, statistical data, knowledge of sanitation and nutrition, and

administrative skills (Donahue 2011). The greatest achievement to the world of nursing was the establishment of the first organised programme for training for nurses: The Nightingale Training School for Nurses at St. Thomas' Hospital in London in 1860 AD. The professionalisation of nursing commenced from henceforth, and nursing began to be accorded some respectability in society. Educated ladies from the respectable social backgrounds were selected for training. A distinct body of knowledge was developed for nursing, and this was based on observed societal health needs.

4.0 CONCLUSION

The writings of Florence Nightingale which are over a century old, remain the reference points for all aspects *of* nursing development today. Her focus of nursing was directed at the client, sick or well; the environment for nursing, the knowledge and expertise required by nurse, and the interactions of these parameters towards the achievement of desired goals. Florence Nightingale's thrusting forces were Religion, Science, and Society. Could there have been a better combination to initiate change and sustain progress?

5.0 SUMMARY

In this unit, you have learnt that the importance and advantages of studying history and the historical development of nursing in particular were examined. Contributions of various individuals and groups to public health and the care of the sick and less privileged in societies in Europe and the UK were highlighted. The extraordinary contributions *of* Florence Nightingale to Nursing, society, and science were fully discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. Explain 'historical development' in the context of nursing history.
2. Briefly summarise the place of nursing in pre-Nightingale Europe.
3. Highlight the impact of Florence Nightingale on the following:
   -Victorian women -Nursing science -Nursing education -Care of the sick -Nursing management.

7.0 REFERENCES/FURTHER READING

- Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences.
- Cherry, B., & Jacob, S. R. (2016). *Contemporary nursing: Issues, trends, & management.* Elsevier Health Sciences.
- DeLaune, S. C., & Ladner, P. K. (2011). *Fundamentals of nursing: Standards and practice*. Cengage learning.
- Dolan, J. A., Fitzpatrick, M. L., & Herrmann, E. K. (1983). *Nursing in society: A historical perspective*. WB Saunders Company.
- Donahue, M. P. (2011). *Nursing, the finest art: An illustrated history*. Mosby.
- McCormack, B., & McCance, T. (2011). *Person-centred nursing: theory and practice*. John Wiley & Sons Mortimer, B. (2004). Introduction: the history of nursing: yesterday, today and tomorrow. In *New Directions in Nursing History* (pp. 17-37). Routledge.
- Nightingale, F.: Notes on Nursing: what it is and what it is not, London, 1860, Harrison and sons.
- Potter, P. A., Perry, A. G. E., Hall, A. E., & Stockert, P. A. (2009). *Fundamentals of nursing*. Elsevier mosby

UNIT 2 HISTORICAL DEVELOPMENT OF NURSING II

CONTENTS

1.0 INTRODUCTION

You will recall that unit 1 of this course dealt with the first part of the Historical Development of Nursing in Europe and the UK. The last part of the presentation focused on Florence Nightingale, who heralded major reforms in nursing. The concept of nursing proposed and practised by Florence Nightingale became the foundation for professional nursing in the UK, USA, and British colonial territories.

The dominant functions of nursing have been modified as an inevitable consequence of changes in the social, economic, political, educational, and scientific-technological value in which the consumers and the practitioners of the nursing meeting. With the above changes and facilitation by information/communication media, nurses worldwide are now in better positions to share ideas and strategies and move nursing forward globally. By the beginning of the 20th Century, the Florence Nightingale concept of nursing and the various implementation strategies have crossed oceans and seas to the USA and British colonial territories.

In this unit, we shall continue with the historical development as the events occurred in the USA and Nigeria. As in the previous unit, significant developments shall be addressed.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- describe the historical developments of nursing in the USA and Nigeria
- discuss factors that influenced these developments
- explain factors that facilitated nursing education within Nigerian universities
- discuss the influence of globalisation of nursing-on-nursing development.

3.0 MAIN CONTENT

3.1 Historical Development of Nursing in the USA

Like the Crimean War in Europe, the Civil War in the USA stimulated the growth of nursing. The women in the American Red Cross played important nursing roles.

Clara Barton, founder of the American Red Cross attended to or cared for soldiers on the battlefields, cleansing their wounds, meeting their basic needs, and comforting them at points of death. The American Red Cross was ratified by the United States Congress in 1882 after 10 years of lobbying by Clara Barton. Dorothea Synde Dix, Mary Anne Ball (Mother Bickerdyke) and Harriet Tubman also influenced nursing during the civil war. As superintend- ent of the female nurses of the Union Army, Dorothea Dix organised hospitals, appointed nurses, and oversaw and regulated supplies to the troops. Mother Bickerdyke organised ambulance services, supervised nurses, and walked abandoned battlefields at night looking for wounded soldiers. Harriet Tubman was active in the Underground Railroad movement and assisted in leading over 300 slaves to freedom.

After the Civil War nursing schools in the USA and Canada started to pattern their curricula after the Nightingale School. Many nurses contributed to the development of nursing in the USA and Canada, but a few will be highlighted. Isabel Hampton Robb graduated from St. Catherine's School of Nursing, Ontario, Canada, a school which was

patterned on Florence Nightingale curriculum. She became the first superintendent of the Johns Hopkins Training School, Baltimore Maryland. She contributed immensely to the professionalisation of nursing through publications of nursing textbooks and formation of a professional nursing association that became the American Nurses Association in 1911. She was one of the original founders of the American Journal of Nursing. The textbooks she authored were:
Nursing: Its principles and Practice for Hospitals and Private Use (1894); *Nursing Ethics* (1900), and *Educational Standards for Nurses* (1907).

Advances were made in hospital care, public health, and nursing education in the early 20th century. Mary Adelaide Nutting, a member of the first graduating class of Johns Hopkins Training School was instrumental to affiliation of nursing education with universities. She became the first professor of nursing at Columbia University Teachers College in 1907.

The journey towards the placement of nursing education into universities was quickened in 1923 when the Rockefeller Foundation funded a survey of nursing education, popularly known as the *Goldmark Report.* The report recommended that nursing education needed increased financial support and suggested that the money should be given to University Schools of Nursing. Five universities benefited from the financial support. University schools of Nursing were able to expand, increasing opportunities for more nurses to have university education. As nursing education developed, nursing practice expanded. More clinical specialty programmes were started and so also were specialty nursing organisations that were concerned with quality care.

In 1965, the National Commission on Nursing and Nursing Education explored issues that included: the supply and demand of nurses, clarification of nursing roles and functions, education of nurses, and career opportunities available to nurses. The Lysaught Report, named after the study director called for clarification of nursing roles and responsibilities in relation to other health professionals; advocated greater financial support for nurses; and more career opportunities to attract nurses and retain them in the profession. (Lysaught 1970).

As nursing education and practice evolved to meet the changing needs of society, Nurses' code of Ethics also evolved. In 1926, American Nurses Association proposed its code of Ethics. The purpose of this code was to "create a sensitiveness to ethical situations and to formulate general principles which result in the formation of conscious and critical judgement resulting in action in specific situations" (ANA 1926).

As technology and needs of society changed, the code of ethics was revised to provide code of ethics for nurses with interpretative statements (ANA 1985) Nurses in the USA and Canada had made giant strides in the development of nursing. The resolve to move nurse's education into Universities and Colleges, and away from hospitals affiliated schools facilitated the: development of more nurse scholars who are committed to developing nursing science and theory. Developing science and theory in nursing involves generating knowledge from the nursing field and other disciplines. One method for creating nursing scientific knowledge base is through the development and use of nursing theory through the research process.

A significant milestone influencing the development of concepts and theory was the establishment of the Nursing Research Journal in 1952. The journal has encouraged scientific productivity and has helped to provide the framework for a questioning attitude that has set the stage for further enquiries into theoretical nursing (Meleis, 1985). These have produced theorists whose theories are influencing all aspects of nursing worldwide. Such persons are Peplau, Henderson, Roy, Orem, Johnson. Nurses in North America, particularly in the USA, have developed nursing to a truly professional status.

You have spent the past few minutes studying the historical development of nursing in the USA, the events that occurred and the persons responsible for these events. We have also seen how the social, economic, political, science and technological development of society as a whole affected the development of nursing in the USA.

Discuss one developmental factor with American society that facilitated the development of nursing.

3.2 Historical Development of Nursing in Nigeria

The following factors influenced the development of nursing in Nigeria. Religion, British colonial administration, inter-professional communication, and the world wars. Traditionally caring for the sick took place at home and care is given by women and family members. The concept of a nurse in the European sense was not part of the traditional community set up. It was considered to be the responsibilities of the families to care for their members both in health and sickness. But the midwife had been a constant figure in all traditional societies. Nigeria had and still has the traditional midwives who care for pregnant women from conception, through labour and delivery. Post-natal care is also given to both mother and baby. Caring includes provision of basic comfort, feeding, bathing and also the care of other siblings in the family.

3.2.1 Religious Influence

When the missionaries arrived in Nigeria from the UK in the 19th Century, their objectives were to convert (evangelise), to educate and to provide health care. Hence you find the church, the school and the hospital/clinic clustered in the mission grounds. With trained missionary nurses, some of them products of Florence Nightingale School of Nursing or curriculum. They recruited young men and women mostly with primary school education for on-the-job training in nursing- procedures and skills. The emphasis was on skills training starting from simple to complex. It was purely task-oriented training. Initially, there was no organised curricula, hence no central certification. The missionary Nursing sisters provided physical, psychosocial and spiritual care for their followers. The health care. needs of the communities were constantly assessed and appropriate health care facilities were provided. The first set of nursing personnel in the country were those trained on the job by UK trained missionary Nursing sisters. These locally trained nursing personnel also imbibed the tenets of the Christian religion and served as local contacts for evangelism. The two McCarter sisters ran the mother and child health centers in Abeokuta and its environs, while Mary Slessor was known in Calabar for her work with abandoned twins.

3.2.2 The British Colonial Service

The British colonial service in conjunction with the Royal Niger Company provided health care services for their serving citizens and their families in Nigeria. Medical teams were also brought from the UK to run the medical services. The medical teams included professional nurses trained in the UK. Two parallel health care services were provided: one for those in the colonial service Administration and the other for the local Nigerians. Hence, there were the European and African Hospitals.

The nursing sisters in the Medical Teams also trained women and men on-the-job and supervised their work. They were taught a lot of task and skills but with little theory. These young women and men were referred to as 'probation nurses' and they worked under supervision, mostly in the African Hospitals. There was no formal curriculum, each Nursing sister taught from her experience. There was no certification as there was no controlling or Examination body.

After the Second World War, which ended in 1945, many Nigerian girls with High School Education traveled to the UK, to train as professional nurses. Upon their return, most of them were employed in the Civil Service. The working environment was hostile, and many found that they could not put to practice the knowledge and skills they had acquired in the UK. Some left nursing for other disciplines, but others persevered. As more nurses returned from the UK, they collectively resolved to improve the standard of nursing education and practice in the country. These standards pioneering nurses included Adetoun Barley who later became the first Nigerian Registrar of the Nursing Council, Francis Oguntolu the retired Director of Nursing, Lagos University Teaching Hospital; Kofoworola Pratt, first Nigerian Matron of University College Hospital, Ibadan; Oluyinka Sofenwa, retired Deputy Director of Nursing, University College Hospital lbadan.

First on the list of improving standards was the inauguration of the first Nursing Council for Nigeria and the appointment of an interim Registrar in 1947 -an expatriate.

The changes effected in nursing were facilitated by the political climate in the country. It was the period of negotiation for the country's independence from Britain. During this period there were plans for the

improvement of health care. The Richards constitution which divided the country' into three regions (East, West and North) and the capital Lagos created a School of Nursing for each region located at Enugu, Ibadan and Kaduna, plus the one in Lagos. These schools started to function in 1949 with formal syllabus to direct the educational programme. Qualified nursing tutors were employed from the UK to direct the programmes. Preceptors were employed from amongst Nigerian nurses trained in the UK to supervise the practical training of students in government hospitals.

The Health Policy also stipulated those Nigerian boys and girl with good high School education be sponsored to study general nursing, midwifery and other nursing sub-specialties of National needs in Great Britain. This was a great departure from the traditional practice of training individuals with only 6 to 8 years of primary education. The new direction encouraged boys and girls with good high school education to choose nursing as a career.

The Health Policy also directed that a School of Nursing be established at the University College Hospital, Ibadan in 1952. It was patterned after the Nightingale School of Nursing at St. Thomas' Hospital London. Girls with good education also qualified for admission into the school. From all indications, the government was bent on changing the poor image of nurses and consequently improving the quality of nursing. This was linking good general and professional education with qualitative nursing practice.

With the Nursing Council in place and the instrument of authority approved, the Council proceeded to set minimum standards for, nursing curricula in Schools of Nursing, clinical teaching facilities, and the minimum educational qualification for entry into the Schools of Nursing. The authority of the Nursing Council was felt more in nursing than in midwifery. This was probably due to the fact that midwifery services were less organised than the nursing services. Fewer of the highly trained professional nurses went into midwifery practice. Furthermore, midwifery practice was more controlled by nongovernmental organisations.

3.2.3 Nursing Education within the University System in Nigeria

The developments in nursing education in Canada and the USA started to influence nursing education development in Nigeria especially in the old Western Region. In line with its health manpower development and to meet its expanding health care services, the Western Region government embarked on a programme of sending qualified nurses overseas to train as Nurse Tutors. In 1960, the Canadian government offered to educate nurses at university degree level. In 1960, there were technical aids from the British and Canadian

Governments to prepare nurse tutors at diploma and degree levels respectively. Nursing administration and nursing clinical specialisations were not left out of the development; there were German and British technical assistance for those areas. The immediate post-independence period saw nursing in Nigeria enriched with new ideas from the USA, UK, and Western Germany. Impressed by the Professional performance of the nurses trained abroad, many men and women went to these countries for their nursing education. The return of the five graduate nurses from McGill University in 1962, was the turning point for university education in Nigeria. These graduates were deployed to different schools of nursing where through their interpersonal relationships, influenced students' attitudes to nursing. By 1966, twelve graduate nurse teachers sponsored by the Canadian government, had taken up appointments with the Western Region government and later with other governments and health care institutions. This crop of nurse teachers were able to impress on the governments, formal and nonformal groups the benefits of university education in nursing and especially at the administrative and education levels. There was also a world-movement through Inter- National Nursing Organisations to move nursing education from hospitals schools to universities. The first stage was sourcing for funds, followed by staff development, then programme development, identification and negotiation with institutions and government, student's selection and admission.

These processes were embarked upon consequently. In 1965 the University of Ibadan after creating a Department of Nursing admitted the first set of 10 students into the post-basic Bachelor of Science (Nursing) programme with options in Nursing Education and Nursing

Administration, and Clinical Electives in Medical Surgical Nursing, Material and Child Health and Midwifery, Psychiatric Nursing, and Community Health Nursing.

The Rockefeller Foundation provided the building, the World Health Organisation (WHO) provided fellowships for students and teaching aids and other teaching materials, and Boston University admitted students for post graduate studies. WHO also provided supporting staff for the first five years of the programme. The University provided the administrative support, pending the take-over after five years.

By the time the first set of students graduated many more nurses wanted university education. The number of applicants increased every year, even when financial support was no longer available.

In 1971, the University of Ife (now Obafemi Awolowo University) started a Faculty of Health Sciences with a philosophy of educating the health professions students together, since they were expected to work together in real situations. Based on this philosophy, a generic degree BNSc. was started in 1973. More and more nurses and individuals who want to become nurses want university nursing education. More universities now run the generic nursing programme. Those Nigerian nurses and other persons who spearheaded nursing education within the University system include the late, Professor Frida O. Adebo, Olufemi O. Kujore'' Adetoun Bailey, Ayodele Tubi, Lola Alade, Stella Savage Vye. Okusoga, Late Grace Afamefuna, Adebisi Fabayo and Later Professor T.A.I. Grillo

3.3 Globalisation of Nursing

Florence Nightingale through her definition of nursing has shown the universality of nursing. She showed how the role of nursing is to utilise the laws of nature to facilitate health and recuperation from illness. Long before Maslow's hierarchy of human needs, Nightingale has called nurses' attention to the manipulation of the elements in the environment in order to meet Man's health needs. Nurses in different countries have evolved concepts and theories from Nightingale's concepts.

Nurses, through research, are identifying global problems and issues that affect man and sharing or offering solutions. The communication media for the sharing could be by the printed materials in the form of journals,

books; electronic materials and software; face-to-face communication as occurs at meetings and conferences. We can now access information on nursing issues from the Internet. Nursing is no longer a calling shrouded in secrecy. The ability to produce knowledge by the scientific process through the fastest possible means is a work of professional growth and development of the 21st century.

Globalisation of nursing is also fostered through communication among various national nursing associations and specialty nursing groups. At international conferences issues and/or phenomena of common concerns are discussed, for example the International Council of Nurses (ICN). The ICN is an organisation focused on 'Advancing Nursing World Wide'. In 1998 identified three key areas as crucial to the improvement of nursing and health. These are known as ICN Pillars and they are: Professional Practice, Regulation, and Socio-economic welfare. The International Classification for Nursing Practice (ICNP) and Leadership for Change are two significant ICN projects which come under the professional practice pillar, Negotiation in Leadership is a project which comes under the socio-economic welfare pillar.

EXERCISE 2

Access the Websites of:

i. International Council of Nursing (ICN),
ii. World Health Organisation (WHO),
Summarise the nursing roles within the organisations *Regional nursing organisations (RNO).*

The trend in the past 20 years is for nurses within a geographical location to corporately develop nursing. A typical example is the West African College of Nursing (WACN) which is also an agency of the West African Health Organisation (WAHO). It is concerned with the nursing and health needs of people in countries of WAHO. The West African College of Nursing (WACN) is composed of five faculties offering fellowship programmes in specific nursing specialties Community Health Nursing, Nursing Education and Administration, Maternal and Child Health, Medical Surgical Nursing, and Mental Health and Psychiatric Nursing. Its responsibilities include inauguration of the nursing and midwifery councils, with the appropriate instruments of authority, the establishment

of better equipped secondary, tertiary and specialist and teaching hospitals and the provision of articulated health policy. The cumulative effects of all the above resulted in communication between Nigerian nurses outside, particularly in the UK, Canada, and the USA.

4.0 CONCLUSION

From the presentation in this unit, it is clear that nurses in North America, particularly in the United States, were the main force in the development of nursing. The immediate pre and post independent periods in Nigeria witnessed a formalisation of nursing education and nursing practice through government policies on health; the raising of the educational standard for entry into the nursing profession; the starting of formal schools of nursing in all the political regions and at the University College Hospital, Ibadan and other University Teaching Hospitals in the Nation; government support for deserving students to study nursing in the United Kingdom with scholarships, employment of many British trained Nigerians and British nurses into the health services whereby much higher quality of nursing education and nursing practice were demonstrated, and these serving as encouragement to well-educated persons to come into the nursing field.

5.0 SUMMARY

This unit examined the historical developments of nursing in the United States of America. Discussions showed you how the development has moved nursing to a high professional status.

It also examined the development of Nursing in Nigeria and the factors that influenced the historical development. Lastly, globalisation of information in nursing through various communication media are highlighted.

6.0 TUTOR-MARKED ASSIGNMENT

1. List three major areas of development of nursing in the USA during the first five decades of the 20th century.
2. Discuss the relationship between the development of the Nightingale Era and post Nightingale Era in the US.
3. Describe two factors that influenced Nursing history and development in Nigeria.

7.0 REFERENCES/FURTHER READING

- Dolan, J. A., Fitzpatrick, M. L., & Herrmann, E. K. (1983). *Nursing in society: A historical perspective*. WB Saunders Company.
- Donahue, M. P. (2011). *Nursing, the finest art: An illustrated history*. Mosby.
- McCormack, B., & McCance, T. (2011). *Person-centred nursing: theory and practice*. John Wiley & Sons Mortimer, B. (2004). Introduction: the history of nursing: yesterday, today and tomorrow. In *New Directions in Nursing History* (pp. 17-37). Routledge.
- Potter, P. A., Perry, A. G. E., Hall, A. E., & Stockert, P. A. (2009). *Fundamentals of nursing*. Elsevier Mosby
- International Council of Nurses (ICN) http://www.ICN/ch/progrtam.htrn

UNIT 3 CONCEPTS OF NURSING

CONTENTS

1.0 INTRODUCTION

I hope that you have read and understood the course guide. You are therefore in a better position to appreciate how this unit (Concept of Nursing) fits into the course as a whole. Concept of Nursing focuses on the idea and meaning of nursing as a professional occupation. Different people express different ideas as to what nursing actually is. The unit will describe the ideas of nursing by six distinguished nurse leaders who had influenced the development of nursing worldwide.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- define the word 'concept' from the point of a general usage and from the point of nursing as a concept
- mention at least three concepts of nursing stated by distinguished nurse leaders from the time of Florence Nightingale to the contemporary time

- identify the common focus of nursing activity for concepts of nursing
- compare and contrast your concepts of nursing before and after the study of this unit.

3.0 MAIN CONTENT

3.1 Concepts of Nursing

The concept of nursing expresses the opinion of recognised practitioners of nursing as a profession. It is seen by some people as an art, and by others as a science, skill or as a calling. But, here, we shall consider the opinions of only six distinguished nurse leaders. These include:

-Florence Nightingale,
-Virginia Henderson,
-Hildegard E. Peplau,
-Myra Levine,
-Dorothea Orem, and
-Calista Roy.

These people have been specifically chosen because of the uniqueness of the statement each of them has made. You are expected to study at least three of the six statements from the point of view of uniqueness and focus.

EXERCISE 1

1. Think and state your concept of nursing that had influenced your decision to choose nursing as a career.
2. State the focus of nursing activity that could be derived from your statement.

Very often, the way a situation, a thing, or an event is conceptualised directs the type and focus of activity that would be engaged in it. For example, Imogene M. King's concept of nursing is that it is 'a process of human interaction between nurse and client'. This statement when examined shows that the focus is on communication whereby both nurse and client share information, recognise each other, agree on set goals and take actions for their attainment. This type of concept of nursing demands collaborative interaction aimed at attaining planned set of goals.

There is a thread of ideas which connect from one nurse leader to another. As we examine the concepts of nursing of different nurse leaders, we should look out for the linking ideas. The attempt to define nursing started before the 20th century.

3.1.1 Florence Nightingale

Florence Nightingale, the founder of professional nursing espoused nursing to be a profession for women, the goal of which is to discover and use nature's law governing health in the service of humanity. In addition, nursing was stated to be an art and a science and required an organised scientific and formal education to care for those suffering from disease. Both sick nursing and health nursing are to "put the patient in the best condition for nature to act upon him". From this concept of nursing, it is possible to deduce the actions, activities, educational preparation, and organisational support for the concept.

Nightingale concept of nursing dominated the development of nursing for nearly 100 years roughly from late 19th century to mid-20th century. It gave birth to the professionalisation of nursing.

The concept of nursing continued to receive attention of nurse leaders after Florence Nightingale. The dominant functions continue to be modified as an inevitable consequence of changes in the social, economic, political, educational, scientific and technological milieu in which the consumer and practitioner of nursing meet. Positions in the first half of the 20th century on the nature and contribution of nursing have resulted more often from deductive than from inductive reasoning.

3.1.2 Virginia Henderson

The relatively stable essence of nursing is captured in one of the most widely quoted concepts of nursing by Virginia Henderson:

The unique function of the nurse is to assist the individual, sick or well in the performance of those activities contributing to health or its recovery (or to peaceful death) that he would perform unaided if he had the necessary strength, will or knowledge. And to do this in such a way as to help him gain independence as rapidly as possible. This aspect of her

work is thus part of her function. She initiates and controls. She initiates and masters. In addition, she helps the patient to carry out the therapeutic plan as initiated by the physician. She also, as a member of a medical team, helps other members, as they in turn help her, to carry out the total programme whether it be for the improvement of health, or the recovery from illness or support in death.

Henderson proposed 14 activities contributing to health which nursing is responsible for -assisting the individual and suggested that existing or potential loss of the power to control or perform those activities signals the existence of a nursing problem. The 14 proposed components are:

1. Breathing normally.
2. Eating and drinking adequately.
3. Eliminating body waste.
4. Moving and maintaining desirable postures.
5. Sleeping and resting.
6. Selecting suitable clothes -dressing and undressing.
7. Maintaining body temperatures within normal range by adjusting clothing and modifying the environment.
8. Keeping the body clean and well-groomed and protecting the integument.
9. Avoiding changes in the environment and avoiding injuring others.
10. Communicating with others expressing emotions, needs, fears or opinions.
11. Worshipping according to one's faith.
12. Working in such a way that there is sense of accomplishment.
13. Playing or participating in various forms of recreation.
14. Learning, discovering, or satisfying the curiosity that leads to normal development and health and using the available health facilities. -(Henderson, pp 16-17, 1966).

The above components guide the selection of educational content and practice/intervention activities either in health or sickness.

3.1.3 Hildegarde Peplau

Hildegarde Peplau came into limelight in 1950s. She was one of the nurse leaders dedicated to the development of nursing as a recognised

professional discipline, focusing much of her effort on the development of knowledge base to guide clinical practice. Peplau differentiated nursing and medicine by stating that physicians address themselves to within person phenomena, to dysfunctions, deficits, defects and the like, in relation to the organism. Physicians define the diseases of a person and prescribe treatment for them. In contrast to this statement, Peplau defines nursing as "a significant therapeutic interpersonal process which functions cooperatively with other human processes that make health possible for individuals".

Peplau's definition of nursing as a "nurturing force and educative instrument", represent her view of the facilitative nature of the discipline. Its primary purpose is the application of scientific principles in facilitating human health.; Initially, Peplau viewed nursing as an applied science and as a process which aids patients to meet their own needs and recover from illness. More recently, her conceptualisation of nursing is that of a social and scientific force in the exploration and organisation of factors relevant to the maintenance of health.

Although Peplau considers nursing as a collaborative part of the health profession team, all the same, she sees a' unique focus for nursing as resting in the reactions of the patient or client to circumstances of illness or health problem. This is helping patients to gain intellectual and interpersonal competences.

Nursing activity is, more specifically, depicted as six identified roles which the nurse assumes at various times during inter-personal encounters with the patient. Details of the roles as components of Peplau' s Model will be discussed in subsequent units of this Course.

The next three nurse leaders produced their concepts of nursing during the last three decades of the 20th century. Previous ideas by earlier nurse leader were expanded upon.

3.1.4 Myra Levine

Myra Levine defines nursing as:
a human interaction -an exchange between individuals. Nursing is regarded as a sub-culture, processing ideas and values which are unique to nurses, and which reflect society.

Nursing knowledge allows for a sensitive and productive relationship between the nurse and the individual needing care.

Levine, like Nightingale, place great emphasis on observation. Observation allows the nurse to evaluate the patient's condition as well as anticipate the patient's future course of events.

Levine sees Nursing as a human interaction between individuals and for which nursing has an extant body of knowledge.

3.1.5 Dorathea Orem

Dorathea Drem defines nursing as:

a human service that is different from all other human services. She indicates that nursing's special concern is man's need for the provision and management of self-care action on a continuous basis in order to sustain life and health or to recover from disease or injury.

Of those who preceded Orem, Henderson's and Orem's definitions/concepts appear to be closely related. Both focus primarily on the individual stress, assisting the individual with activities he/she can no longer do for himself/herself and extending the defined boundaries of nursing to include assisting the individual toward independence from nursing or assistance toward a peaceful death.

Nursing's special concern or uniqueness rests with the individual's need for self-care action and the provision and management of it on a continuous basis in order to sustain life and health, recover from disease or injury, and cope with their effects. Nursing is characterised as action and as assistance. For activities to be considered as nursing, they must be consciously selected and directed by the nurse toward accomplishing nursing goals.

3.1.6 Callista Roy

Callista Roy defines nursing as:

a theoretical system of knowledge which prescribes a process of analysis and action related to the care of the ill or potentially ill person. Nursing

is concerned with the person as a total being, interacting with a changing environment and responding to stimuli present because of his/her position on the health-illness continuum. When unusual stressors or weakened coping -mechanisms make a person's usual attempts to cope ineffective, then, the person needs a nurse.

Nursing consists of both the goal of nursing and nursing intervention. Although the above statements of concepts of nursing originated from different nurse leaders, nevertheless they share at least one focus.

SELF-ASSESSMENT EXERCISE

1. Read each concept of nursing statement again and identify one common focus.
2. You have decided to study professional nursing as a career.
   -State your idea/concept of nursing
   -Mention two factors that influenced your idea/concept of nursing.

You will recall, as pointed out earlier, that a concept of nursing directs and guides the nurse in her focus, choice of nursing activities and basis for model and theory development. For example, Nightingale's concept of nursing focused on the manipulation of the environment in line with the laws of nature. The concept environment is further broken down into less abstraction, whereby we now have physical, psychological and social environment. As these are further broken into observable activities, they provide further direction for the intervention activities.
This process will be further developed in subsequent nursing courses.

SELF-ASSESSMENT EXERCISE

Think again of your own concept of nursing:

List five specific nursing activities that you can generate from it. The activities should be things you can do (for example, making a patient's bed, feeding).

4.0 CONCLUSION

In this unit you have been introduced to the concept of nursing. The unit started with a general introduction to the topic, followed by statements of specific objectives to be achieved at the end of the interaction. The definition of concept as a general term was discussed and followed by definition of 'concept of nursing'.

The concepts of nursing of six renowned nurse theorists were presented. The importance of concepts in the derivation of nursing activities, as foundations for nursing models and nursing theories was mentioned. Exercises were given to assist you to monitor your learning.

5.0 SUMMARY

In this unit, you have learnt about concepts, and concepts of Nursing. Definitions from selected nurse theorists were made for illustrations, starting from Florence Nightingale who is regarded as the founder of Modem Nursing. This Unit serves as a theoretical foundation for the subsequent Units in this and other nursing courses.

7.0 TUTOR-MARKED ASSIGNMENT

1. Define the term *concept* in the context of its general usage, and state briefly how concepts evolve.
2. Define a concept of nursing and describe the roles concepts of nursing play in the development of nursing.

7.0 REFERENCES/FURTHER READING

- Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences.
- Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson
- Cherry, B., & Jacob, S. R. (2016). *Contemporary nursing: Issues, trends, & management.* Elsevier Health Sciences

- Fitzpatrick, J. J., & McCarthy, G. (2014). *Theories guiding nursing research and practice: Making nursing knowledge development explicit*. Springer Publishing Company.
- Henderson, V. (1966) *The Nature of Nursing*. New York: The MacMillan Co.

UNIT 4 NURSING AS AN ART AND A SCIENCE

CONTENTS

1.0 INTRODUCTION

Historically, the practice of nursing concentrated on groups of activities identified, organised and practiced in such ways that the sick would have succour and comfort. These activities are based on the natural needs of man for survival. These natural needs are air, water, food, excretion (elimination), stimulation, exercise, rest, sleep, comfort, safety, love and belonging, self-esteem, and self-fulfillment. Nursing initially was equated with mothering; hence activities were centred on these parameters. The focus of nursing historically centered on the sick and the injured that were unable or incapable of providing for themselves the natural needs which Abraham Maslow later identified as basic human needs.

Nursing, as a human service, designed activities and skills (tasks) that facilitated recovery from sickness and injury. The skills constituted nursing knowledge; hence the memorisation of the various skills formed the process for learning nursing. The consumers also view competent performance of the technical skills as the focus of nursing. The greater the automaticity with which a task is performed, the higher the competency rating.

This initial interpretation of the art of Nursing was very narrow. It assumes that this task-oriented nursing does not require an understanding of why the tasks are necessary, how they work, or what the effects will be. This view assumes that nursing has no knowledge base of its own, nor does it need one. The skills are regarded to be essentially manual and technical and reflect the knowledge of other disciplines, especially medicine. Hence the common expression: "Nursing is tied to the apron string of medicine". This might have been true for much of the pre-and early Nightingale era. Nursing as a science, on the other hand, views nursing as an intellectual process and activity. "

In current professional nursing art and science are not discrete entities. They are on a continuum of interpersonal interaction, which has specific goals and involves particular kinds of activities/tasks. A universally accepted process is applied in the practice of nursing science. Some aspects of this topic have been discussed in units 2 and 3 and will also be expanded in unit 5, *Nursing as a Profession.*

2.0 OBJECTIVES

By the of this unit, you will be able to:

i. define the concepts art and science as in general usage
ii. describe the historical development of art and science in Nursing
iii. enumerate at least two factors that influenced the art and science of nursing
iv. discuss the application of art and science in the content and process of nursing.

3.0 MAIN CONTENT

3.1 Definitions

Most of the general definition of ‘Art’ are applicable to Nursing. The Oxford Advanced Learner's Dictionary defines *Art* as:

The Oxford Advanced Learner's Dictionary defines *Art* as:

- Skill acquired by experience, study, or observation.
- An occupation requiring knowledge or skill

- The conscious use of skill and creative imagination; A skillful plan
- The faculty of carrying out expertly what is planned or devised.
- An ability or skill that can be developed with training and practice.

Science is defined as:

- Possession of knowledge as distinguished from ignorance or misunderstanding.
- Knowledge attained through study or practice
- Something that may be studied or learned like systematized knowledge.
- Knowledge covering general truths, or the operation of general laws especially as obtained and tested through scientific method.
- Such knowledge concerned with the physical world and its phenomena
- A system or a method based or purporting to be based on scientific principles.

The realisation of these definitions may not be fully experienced by you at the end of the study of this unit. But, as you progress in your nursing studies, each definition will unfold with a variety of nursing situations. You need to keep this foundation information in constant perspective.

EXERCISE 1

Select one definition each from the Art and the Science. Think of your past experiences in nursing (education, practice/care, management), March the definition with narration of your experience.

3.2 Nature of Nursing as an Art and a Science: Historical Development

3.2.1 Nursing as an Art

Nursing as an art encompasses the organisation and care of the clients' environment communication, general care of clients, and performance of clinical procedures and miscellaneous nursing skills. All these are performed with the application of Levine's four conservation principles which are: conservation of energy, Conservation of Structural Integrity,

conservation of Psychological Integrity and Conservation of Social Integrity. These principles consider the clients, Nurses, families, community members, and other health professionals.

Historically, the practice of nursing concentrated on groups of activities identified, organised, and practiced in such ways that the sick would have succour and comfort. Nightingale described two different types of nursing, sick nursing or "nursing proper" and healthy nursing, which required an organised, scientific, and formal education. Nightingale meaning of nursing activity was a departure from the previous common belief that nursing is a collection of tasks or procedures requiring some skills, and are initiated and directed by others, particularly physicians whose functions they exist to assist. So, there were no independent nursing functions. Because they required skill, some training was necessary. But competent performance did not require an understanding of why the task is necessary, how it works, and what the effect would be. Nursing had no knowledge base of its own; its skills were essentially technical.

Nightingale saw nursing proper as both an art and a science that require organised scientific formal education. She perceived nursing as being distinct from medicine, asserted that nursing concern was with the client who was il1, rather than the illness which was the focus of medicine. Although nurses were to carry out physicians' orders, they were to do these only with an independent sense of responsibility for their actions. talking about Nursing as an Art, one needs to examine the various activities in nursing, of goals of securing comfort and succour to the clients be it in health or sickness. Nightingale in her book *Notes of Nursing* discussed various activities of the nurse and how these could be artistically organised that the goals of care are achieved. Safety, comfort, pleasing to the sense, are essentials of a nursing activity, which are to be directed towards the environment as well as the client.

The basic nursing focus, activities and procedures identified by Nightingale and taught to her students of St., Thomas Hospital, School of Nursing London, are still the Nursing Arts of professional nursing today. Why? Because the process has consistently focused on clients personal and universal needs in the context of the human environment. However, the process of arriving at needs had been greatly influenced by knowledge

and the scientific method: Nightingale emphasised the importance of observation and documentation in the nurse-client interactions.

SELF-ASSESSMENT EXERCISE

1. You are asked to apply a bandage dressing to the forearm and wrist of a client who sustained a soft tissue injury. Describe your activity in terms of Nursing as an Art.
2. List two factors that have aided your skill development of a chosen nursing care task.

3.2.2 Nursing as a Science

In the bid to achieve the professional status nursing has striven hard in the 1st 100 years to fulfill the characteristics of a profession. A very important requirement for professional status is that the profession has a theoretical body of knowledge leading to defined skills, abilities, and norms. Nursing knowledge has been developed through nursing theories. Theoretical models serve as frameworks for nursing curricula and clinical practice. Nursing theories also lead to further research that increases the scientific basis of nursing practice.

Although the outward and visible signs of nursing care are what the nurse does for, with or on behalf of a client, her actions are based on a series of intellectual processes that are not directly visible. Together these intellectual activities and nursing actions are called the nursing process. Essentially, the nursing process is a systematic method of problem solving applied to nursing situations and based on scientific method. Other non-systematic problem-solving methods such as intuition, experience, tradition, trial and error are used in nursing. But the reliability under is often low.

The purposes of the nursing process are to meet the general objectives towards which the nursing care of all clients is directed. The objectives may include:

- Personalising the care of each client.
- Ascertaining, supporting, and maintaining client's capacity for meeting the physiological, psychological, social and spiritual needs, as well as recognising the client's strengths and limitations

- Protecting the client from threats to his safety comfort and wellbeing
- Supporting, comforting and sustaining the client and to ease his suffering during all phases of illness.
- Assisting in the restoration of the client to the fullest capacity of which he/she is capable.
- Considering the client's family members and friends as persons with legitimate interest and roles to play in his well-being
- Assisting the client and the family in planning for the required care.

For these general objectives to be achieved, there must be a complementarity between the type of problems presented by the clients and the goal the nurse pursues in an effort to help the client meet an otherwise unmet need (patient problems). It is at the point of intervention that nursing art manifests. The relevance, quality quantity and organisation of the art as an outcome of a scientific process that confirms nursing care as scientific and nursing as a profession. In addition to the process knowledge from relevant disciplines would be consulted and utilised.

4.0 CONCLUSION

In essence Nursing as an Art and as a science could be described as two faces of a coin. Just as the task, skill or procedure is an outcome of a scientific process, the task, skill, or procedure may become a source for scientific investigation. The emphasis on nursing as an art without obvious intellectual activity might have been responsible for the view that nursing is just a collection of tasks and procedures, which requires some skill and therefore some training. The competent performance does not require understanding of why the task is necessary, how it works, and what the effects would be. But the intellectual activity of nurses by the application of the scientific process, clinical judgement based on knowledge, and research in nursing and publications in nursing journals continue to strengthen the professional image of nursing.

5.0 SUMMARY

In this unit, you have examined nursing as an art, and as a science. Definitions of the concept’s art and science in the broad general usage

were presented. Discussion of each concept from the professional perspective was presented, and the relationships in terms of the scientific process and practice of nursing were also presented.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define the concepts art and science.
2. Explain briefly the development of (i) nursing as an art (ii) nursing as a science.
3. Explain how nursing as an art and nursing as a science could be considered as the two faces of a coin.

7.0 REFERENCES/FURTHER READING

- Benner, P. (1984). From *Device to Expert: Excellence and Power in Clinical nursing practice*, Men! Park, Calif, 1. Addison-Wesley.
- Benner, P., Tanner C (1987). *How Expert Nurses Use Intuition.* Am. J. Nurse 87 (1): 23,1987.
- Berman, A., Snyder, S. J., Kozier, B., Erb, G. L., Levett-Jones, T., Dwyer, T., Hales, M., Harvey, N., Moxham, L., & Park, T. (2014). *Kozier & Erb's fundamentals of Nursing Australian edition* (Vol. 3). Pearson Higher Education AU.
- Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.
- Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences.
- Cherry, B., & Jacob, S. R. (2016). *Contemporary nursing: Issues, trends, & management.* Elsevier Health Sciences.
- Clark, J. *Nursing: An Intellectual Activity,* International Nursing Review 39, 2, 1992.
- DeLaune, S. C., & Ladner, P. K. (2011). *Fundamentals of nursing: Standards and practice*. Cengage learning.
- Dolan, J. A., Fitzpatrick, M. L., & Herrmann, E. K. (1983). *Nursing in society: A historical perspective*. WB Saunders Company.
- Donahue, M. P. (2011). *Nursing, the finest art: An illustrated history*. Mosby.

- McCormack, B., & McCance, T. (2011). *Person-centred nursing: theory and practice*. John Wiley & Sons Mortimer, B. (2004). Introduction: the history of nursing: yesterday, today and tomorrow. In *New Directions in Nursing History* (pp. 17-37). Routledge.
- Potter, P. A., Perry, A. G. E., Hall, A. E., & Stockert, P. A. (2009). *Fundamentals of nursing*. Elsevier mosby.

UNIT 5 NURSING AS A PROFESSION

CONTENTS

1.0 INTRODUCTION

You will recall that the science and art of nursing are important contributors to the professionalisation of Nursing. In this unit we shall discuss nursing as a profession. Take a few minutes off to review your last lesson before starting on todays. It will help you to appreciate the close inter-relatedness of the two units.

The discussion will start with the definition of 'profession' as a general concept; some disciplines that are usually referred to as professions will be identified; how nursing in its practice and development has been progressing towards the attainment of an ideal profession will be examined and attempts made by nursing in Nigeria towards professionalism will be highlighted.

You will be requested to respond to tutor-marked assignment and exercises in the text to help monitor your progress, and a Tutor -Marked Assignment (TMA) will serve as the summative evaluation for the unit, References to further reading and resources are also provided.

The following unit objectives indicate what you should accomplish at the of this unit.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

i. define 'profession'
ii. enumerate the characteristics of a professional discipline
iii. discuss how nursing is progressing towards the ideal professional status
iv. identify the efforts being made towards realisation of professional nursing status in Nigeria.

3.0 MAIN CONTENT

3.1 Definition

You might have read and heard discussions about some occupations being referred to as professions. How about the occupations such as accountancy teaching? There are many more. Although the occupations mentioned many others are distinct in emphasis and activities, they share the recognition being professions. What then does being a profession mean? Is your dictionary with you? Check the dictionary meaning of the word 'profession'.

The Webster New Collegiate Dictionary states a few definitions, but those found to be most relevant are Profession being:

1. A calling requiring specialised knowledge and often long and intensive academic preparation.
2. A principal calling. Vocation or employment.
3. The whole body of persons engaged in a calling.

Do you have similar statements in your dictionary? Remember! That I mentioned that there are a few statements, but that those quoted appear to be the most relevant composite. The statements can be reconstructed to read: "Profession is the whole body of persons engaged in a principal called, vocation or employment requiring specialised knowledge and often long and intensive academic preparation".

It is worth noting that unlike many concepts, *profession* is not defined with a single statement but with a construct. Hence it is from the construct or characteristics that the meaning can be inferred. To construct is to make or form by combining parts. Which means that all parts are necessary for a meaningful whole. Some authors have also offered descriptions of the concept -profession. Let us examine the one described by Etzioni (1961). He describes professions in terms of the following primary characteristics.

SELF-ASSESSMENT EXERCISE

List five occupations that are of professional status applying the definitions/constructs.

3.2 Characteristics of a Profession

The primary characteristics of a profession as described by Etzions (1961) are as follows among others:

- It requires an extended education of its members as well as a basic liberal foundation.
- It has a theoretical body of knowledge leading to defined skills, abilities, and norms.
- It provides a specific service.
- Members of a profession have autonomy in decision-making and practice.
- The profession has a code of ethics for practice.

EXERCISE 2

Can you find similarities in the two sets of characteristics of a profession and an occupation? Try to match them.

3.3 Progress of Nursing Towards Professional Status

Most occupations do not acquire the elements of a professional status over-night. It is a gradual developmental process. Hence in reality, any specific occupational group might be placed or ranked along a continuum ranging from 'non-professional to professional status, according to the degree which the occupational group manifested the elements of professionalism. In Nursing, the bid for professional status started with Florence Nightingale reforms. It has taken nursing over a century to travel to its present profession status.

Let us examine the occupation of Nursing. It is a professional occupation Having been part of the development in nursing for over hundred years, a witnessed and participated in various development, I want you to know that nursing is not simply a collection of specific skills and the nurse is not simply a person trained to perform specific tasks only. Nursing has come a long way to becoming a profession.

No one factor absolutely differentiates an occupation from a profession; because the difference is important in terms of how nurses practice. When we say that a person acts professionally, we are implying that the person is conscientious in actions, knowledgeable in the subject, and responsible to self and others. Therefore, when one examines both the various descriptions of a profession one would see that nursing clearly possesses to some extent, the characteristics. However, nursing is still evolving as a profession and faces controversial issues as nurses strive for greater professionalism.

3.3.1 Elements of Professionalism in Nursing

If one says that Nursing is a profession, then it is necessary to discuss the activities that support such an assertion.

3.3.1.1 Education

Nursing requires that its members possess a significant amount of education The issue of standardisation of nursing education is a major discussion today in the wide world of nursing. Most nurses agree that nursing education is important to practice and that it must respond to

changes in health care created by scientific and technologies advances. The race for education for nurses started by Florence Nightingale in the 19th Century in the United Kingdom and Germany had moved to different parts of the world where it has developed and is still developing. Nurses in North America and Canada started the movement of nursing education into universities, and this movement is influencing nursing education in practically all countries of the world. It is a universal agreement that education is important to the type of practice that would meet today's client's needs. As discussed in Unit 2, *Historical development of nursing*, nursing in the USA has led the world in lifting nursing education to unprecedented heights by relocating nursing education from sole apprenticeship system in hospitals to universities. The American Nurses Association (ANA) in 1984 directed that professional nurse require the Bachelor of Science in Nursing before practicing nursing. Many universities offer higher degrees in nursing making it possible for nurses to undertake research and develop nursing theories. Research facilitates the development of new knowledge and modes of nursing practice. Continuing education programmes are available for older nurses.

In the UK, the Royal College of Nursing and the UKCC embarked on various advanced and continuing education programmes inside and outside the universities. Universities and other higher institutions of learning offering nursing courses at degree levels have risen by over 60 percent the past twenty years.

In Nigeria, the Nursing and Midwifery Council of Nigeria, the National Association of Nigerian Nurses and Midwives and the Ministry of Health have been working towards the improvement in nursing education through curricular reviews, support for undergraduate and graduate programmes in nursing, and the enabling legislation. Today in Nigeria we have numbers of universities offering nursing programmes

3.3.1.2 Theory Development

As nursing emerged as a profession and with the quality of education improving, nursing knowledge began to develop through nursing theories. Theoretical models serve as frameworks for nursing curricula and clinical practice, nursing theories also lead to further research that increase the scientific bases of nursing practice. A theory is a way of

understanding a reality, and in this general sense all practicing nurses use the theories they have learnt.

You have come across the word's 'model' and 'theory' in Concepts of Nursing, where they were mentioned in passing. They will be discussed in detail next semester in NSC212 - Foundation of Professional Nursing Practice II

3.3.1.3 Specific service

A profession is expected to provide a specific service relating to identified needs of clients. The clients also recognise the need for the service being rendered. Nursing has always been a service profession, although usually viewed as a charitable one. The nurse is no longer primarily limited to the hospital environment but has increasingly moved out into the neighbourhood and community in identifying health care needs and planning and executing appropriate interventions.

In addition to effecting change, nursing is offering an increasing number of services to society. You will recall from discussion in unit 2 - Historical Development of Nursing, 'service' form the major emphasis of all the definitions of nursing. The focus of activities in the-Nightingale and post-Nightingale era was service to humanity. You should review the Units again.

3.3.1.4 Autonomy in Decision Making and Practice

Autonomy is the quality or state of being self-governing. Have you experienced autonomy before? When you had to look after your own affairs without someone looking over your shoulders, think of how you felt. The same applies to Nursing. Autonomy means that a person, group or organisation' reasonably independent and self: -governing in decision making and practice.

It has been difficult for nurses to attain the degree of freedom enjoyed by other professionals. Until recent times, physicians, hospital administrators and others directed nurses in the health care delivery system because they could not understand why nurses require autonomy. Thank goodness for increased clinical competence and better education

preparation. Nurses are increasingly taking independent roles in nurse run clinics, collaborative practice, and advanced nursing practice.

In Nigeria nursing autonomy remains a thorny issue. The tradition of the physician holding tightly to the reins of control is evident. This is an area of conflict between the two professions. The genesis of this has been the great disparity in the educational level, the nurses' being much lower. The educations of the nurses did not prepare them for self-confidence and assertiveness. With the upgrading of nurses general and professional education inclusion of liberal arts subjects in the professional education, and the gradual relocation of nursing education into institutions of higher learning, the nurse is beginning to gain control of their profession. Nurses are becoming more self-confident and assertive. The quality of education is having this effect on nurses. Other health care professionals are also beginning to appreciate the new qualities in nurses. Communication and Interpersonal Relationships are becoming positive.

3.3.1.5 Accountability

Like it is in normal life, the greater the autonomy one has the greater the responsibility and accountability. Accountability simply means being answerable for one’s actions or deeds. For the professional nurse however, accountability means that the nurse is responsible, professionally, and legally for the type and quality of nursing care provided. The nurse is accountable for keeping abreast of technical skills and the knowledge required for performing nursing care. A nurse is accountable to self, the client, the profession, the employer, and society. For example, if a nurse injects a drug into the wrong site, she will be accountable to the client who received the drug, the physician who prescribed it, the nursing service that set standards of expected performance, and society that demands professional excellence. To be accountable, the nurse acts according to the Code of Ethics. Thus, when an error occurs, the nurse reports it, and initiates care to prevent further injury.

The nursing profession in most parts of the world regulates accountability through the process of nursing audits and setting of standards of practice. In summary professional accountability serve the following purposes:

- Evaluates new professional practices and assesses existing ones: Maintains standards of healthcare.
- Facilitates personal reflection, ethical thought, and personal growth on the part of the health professionals and
- Provides basis for ethical decision-making.

In Nigeria nursing area, accountability has not received the attention it deserves. This analysis is not confined to nursing alone, it is a public problem that thrives because clients hardly exercise their rights. Human Rights issues are now topical, and the general population is becoming enlightened about their rights. Human Rights, Accountability and Standards of Nursing practice have feature prominently in nursing curricula and in practice manuals. Nurses are now more knowledgeable about nursing Standards, Nursing Audit and Human Rights than two decades ago. There is a general political will towards the implementation of these concepts.

3.3.1.6 Code of Ethics

In all human cultures, there are ethical codes that govern interactions between people and the environment-physical, psychological, social and spiritual. Most cultures inculcate into their offspring values and ethical behaviour characteristic of their groups. So at the professional level, the values and codes of ethics of the profession must be internalised. Many countries have developed their Codes of Nursing Ethics, guided by the Code of Nursing Ethics from the International Council of Nurses (ICN). Write on a sheet of paper one Ethical statement in your culture. Compare it with the Ethical Principles below. Is there one with similarity in meaning or characteristic?

Nursing operates under a code of ethics, which defines the principles by which nurses' function. In addition, nurses incorporate their own values and ethics into practice. The discussion on ethics will be brief here, as a Unit solely on ethics will be discussed in *Foundation of Nursing.* It is being mentioned here as a requirement for professionalism. Only the ethical principles will be highlighted.

High on the list of ethical principles is Respect for autonomy, nonmaleficence; beneficence; and justice. The secondary principles include veracity, confidentiality, and fidelity.

Check the definitions of these ethical principles

Which other profession would use the ethical principles in their professional discourse?

3.3.1.7 Professional Organisations

Members of a professional group are required to form formal professional associations that are to deal with issues of concern to those practicing in the profession. In Nigeria, there is the National Association of Nigeria Nurse and Midwives (NANNM). The mandate is to improve the standards of nursing education of nursing practice; foster a higher standard for nursing, and to promote the professional development, general and economic welfare of nurses and midwives. NANNM is affiliated to the International Council of Nurses (ICN) whose aims are to promote National Association of Nurses, improve standards of nursing practice, seek a higher status for nurses, and provide an international power base for nurses.

Some specialty areas such as preoperative, Orthopedic, Intensive Care, Public Health, Ophthalmology, Association of Nigeria Nurse Educators, also formed Associations that seek to improve the standards of practice, expand nursing roles, and foster the welfare of nurses within the specialty areas. In addition, some of these professional organisations present education programs and public journals. The Nigeria Nurse, Nigerian Nurse-Educator Journal, are examples of publications.

4.0 CONCLUSION

As any occupation of discipline approaches professional status, there occur important internal and structural changes and changes in the relation of the practitioners to society at large. A useful way of discussing these changes is by reference to the criteria of professionalisation. The traditional focus of nursing is service to society. The elements of professionalisation have greatly influenced the direction and development of nursing, and invariably the quality of service to society.

5.0 SUMMARY

You have learnt from this unit the definition of the concept profession as shared by many professional occupations. The basic characteristics shared by professions are highlighted. Professionalisation in an occupation is a gradual and continuing process. You have learnt the process of professionalisation in Nursing and how this has influenced the direction of, and quality of care. How professionalism is influencing nursing in Nigeria was discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define 'profession'.
2. Enumerate the six basic characteristics of a profession.
3. Discuss the role education plays in the professionalisation of nursing generally and Nigeria in particular.

7.0 REFERENCES/FURTHER READING

- Berman, A., Snyder, S. J., Kozier, B., Erb, G. L., Levett-Jones, T., Dwyer, T., Hales, M., Harvey, N., Moxham, L., & Park, T. (2014). *Kozier & Erb's fundamentals of Nursing Australian edition* (Vol. 3). Pearson Higher Education AU.
- Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.
- Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences.
- Cherry, B., & Jacob, S. R. (2016). *Contemporary nursing: Issues, trends, & management.* Elsevier Health Sciences.
- DeLaune, S. C., & Ladner, P. K. (2011). *Fundamentals of nursing: Standards and practice*. Cengage learning.
- McCormack, B., & McCance, T. (2011). *Person-centred nursing: theory and practice*. John Wiley & Sons Mortimer, B. (2004). Introduction: the history of nursing: yesterday, today and tomorrow. In *New Directions in Nursing History* (pp. 17-37). Routledge.
- Potter, P. A., Perry, A. G. E., Hall, A. E., & Stockert, P. A. (2009). *Fundamentals of nursing*. Elsevier mosby.

MODULE 2 NATURE OF NURSING II

UNIT 1 THE ROLE AND FUNCTIONS OF THE NURSE

CONTENT

1.0 INTRODUCTION

The last two units examined the nature of nursing as a science and as an art and as a profession. By this, the foundation you require for the assumption of your roles and functions as a nurse has been laid. A nurse is anyone who has undergone the prescribed type and length of training and certified by the Nursing and Midwifery Council of Nigeria to practice nursing. A nurse may be prepared as a generalist or a specialist as midwifery, psychiatry or community health nursing etc. Nursing then is primarily assisting the (sick or well) in the performance of those activities contributing to health or its recovery (or to a peaceful death) that he would have done unaided if he had the necessary strength, will or knowledge (Henderson, 1966).

There has been changing scene in nursing practice with the polyvalent care provider adaptation in response to changes in the society, thus nurses assume several roles when they provide care to clients. The International Council of Nursing in 1983 decide to shift the focus of nursing from curative care, medically circumscribed and hospital-based orientation to be involved in all aspects of decision-making. The American Nurses Association (ANA) developed standards of nursing practice that are generic in nature using the nursing process as a guide regardless of area of specialization.
This unit will examine the roles and functions of the nurse as a teacher, counselor, caregiver, manager, communicator, client advocate, change agent, leader, case manager and researcher.

You will be expected to observe colleagues in your hospital playing these roles while you can also role play the same as part of your clinical demonstration.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

i. identify the polyvalent role of a nurse in a changing society
ii. describe the changing roles of the nurses and effects on health care delivery
iii. discuss the managerial process required by a nurse manager

3.0 MAIN CONTENT

3.1 The Nurse as a Teacher

A nurse offers her services to a client and assists the individual in the performance of those activities leading to healthy living through teaching and observation.

A nurse as a teacher at both hospital and community level explains the concept and facts about health and illness to clients, demonstrates procedures such as self-care activities (wound dressing, treatment of pressure areas, changing of position, etc.); reinforces learning or client behavior and evaluate progress in learning. The ultimate goal is to provide knowledge that will lead to change of attitude and practice. The

nurse assesses the client's learning needs and readiness to learn, sets specific learning goals in conjunction with the client, enacts teaching strategies, and measures learning. The nurse-teacher may be formal or informal in her teaching. It may be planned or unplanned (as it depends on wherever it is required).

Appropriate methods matching clients' capabilities with needs and incorporating other resources such as the family in the process. Health education is a major activity when a nurse truly demonstrates the teaching role. As a role model in hygiene and interpersonal relationship, he/she teach on self-care, ante-natal care, exercise, administration of insulin and urine testing by diabetic patients. Health behaviour and risks are identified, and preventive measures are packaged to help clients.

Nurses should understand the culture and values of the people to foster and promote cooperation and understanding. As she teaches, she also listens and, observes the effect on the client to establish therapeutic nurse-patient relationship.

Nurses also teach unlicensed assistive personnel (UAP) to whom they delegate care, and they share their expertise with other nurses and health professionals.

SELF-ASSESSMENT EXERCISE

1. What are the 3 main activities of a nurse-teacher?
2. What does a nurse teacher intend to achieve afterwards?

3.2 The Nurse as a Counsellor

Counseling is the process of helping a client to recognize and cope with stressful psychological or social problems, to develop improved interpersonal relationships, and to promote personal growth. It involves providing emotional, intellectual, and psychological support. The nurse counsels primarily healthy individuals with normal adjustment difficulties and focuses on helping the person develop new attitudes, feelings, and behaviors by encouraging the client to look at alternative behaviors, recognize the choices, and develop a sense of control

The nurse is faced daily with issues that have psychological influence on her clients. A nurse counselor puts herself in the place of the client (empathic), creates a conducive atmosphere to discuss thereby getting into root cause of the expressed problem, dissolve doubts and fears which are the underlying issue that may affect client's recovery.

A nurse counselor sees beyond her client's expression; observes clients' attitudes, looks, involves the relation in the care of the client and establish healthful relationship. Health is perceived in bio-psycho-social realms whereas physical care provides health to the physical and social areas, psychological/mental health is often neglected. Couple will require counseling on marital harmony, family planning, identifying the predominate symptoms of a maladaptive lifestyle and re-integrating a psychiatric patient to the life in the community. A nurse counsellor ought to be sensitive to his/her client's needs, commend him/her when there is an improvement and encourage her to keep it up. The aim of the nurse is to assist client to willingly accept treatment for an identified problem in order to recover early and live a healthy life. The nurse counselor also keeps records.

SELF-ASSESSMENT EXERCISE

1. List 4 qualities of a nurse counsellor.
2. Now go back to 3.1 and 3.2 to see (of any) the difference(s) in the identified role. Discuss with your colleagues.

3.3 The Nurse as a Caregiver

The **caregiver** role has traditionally included those activities that assist the client physically and psychologically while preserving the client's dignity. The required nursing actions may involve full care for the completely dependent client, partial care for the partially dependent client, and supportive-educative care to assist clients in attaining their highest possible level of health and wellness. Caregiving encompasses the physical, psychosocial, developmental, cultural, and spiritual levels. The nursing process provides nurses with a framework for
providing care.

Caregiving is the conventional role of a nurse as expressed in the definition of nursing by Henderson (1966). Also, Nursing as

demonstrated by Florence Nightingale (1860) is the act of caring not only for the sick, but also the well. The commitment of a nurse to patient's care is total (physical, mental, social) wellbeing thereby providing holistic care.

A nurse helps the client regain health through the healing process, addresses the needs of client, restore emotional and social wellbeing, sets goals for client and family for care. Even at the primary health care level, the nurse as a care giver cuddles a child, 'lay hands or touch' as in nursing a sick child or adult with fever, immunisation, ante-natal care, care during labour and after delivery.

A nurse care giver possesses scientific knowledge with which she uses her judgment in assessing client's needs, plan appropriate nursing care, implement and evaluate in order to make decisions. The nurse as a caregiver is health oriented, continuity of care through referral among other health and social agencies is also included. She is available in the 3 (three) tiers of health care primary, secondary and tertiary. Nurses shifting period covering the 24 hours provides closest contact with a multidimensional role in the maintenance and promotion of health, prevention and curing of disease, rehabilitation and advocate better nursing care for the clients/patients. A nurse may provide care directly or delegate it to other caregivers.

3.4 The Nurse as a Manager

The nurse manages the nursing care of individuals, families, and communities. The nurse **manager** also delegates nursing activities to ancillary workers and other nurses and supervises and evaluates their performance. He/she co-ordinates the activities of nursing as well as other members of healthcare working with her in the provision of total clients' care. The tools employed include planning, organising, directing, coordinating, budgeting and the reporting. The nurse in the performance of her daily professional work employs these tools unknowingly. For example, a nurse on morning shift organises the daily schedule, monitors and supervises them and report at the end of the shift to ensure continued care by the incoming nurse. The nurse manager plans her time, resources (human and materials), engages everyone around her in one thing or the other and supervises them to ensure the ultimate interest of the client.

The utilisation of the management process by a nurse makes her an adviser to the community, individual client, interactions with various organisations, consultations on perceived needs, evaluation of task performed based on set goals and objectives, and professing solutions to identified problems. Managing requires knowledge about organizational structure and dynamics, authority and accountability, leadership, change theory, advocacy, delegation, and supervision and evaluation.

3.5 The Nurse as a Communicator

Communication is integral to all nursing roles. Nurses communicate with the client, support persons, other health professionals, and people in the community. In the role of **communicator**, nurses identify client problems
and then communicate these verbally or in writing to other members of the health care team. The quality of a nurse's communication is an important factor in nursing care. The nurse must be able to communicate clearly and accurately for a client's health care needs to be met

3.6 The Nurse as a Client Advocate

The nurse as a **client advocate** acts to protect the client right. An advocate informs clients about their rights and provides them with the information they need to make informed decisions. In this role the nurse
may represent the client's needs and wishes to other health professionals, such as relaying the client's request for information to the health care provider. They also assist clients in exercising their rights and help them speak up for themselves. Advocacy requires accepting and respecting the client's right to decide, even if the nurse believes the decision to be wrong.
In mediating, the advocate directly intervenes on the client's behalf, often by influencing others. An example of acting on behalf of a client is asking a primary care provider to review with the client the reasons for and the expected duration of therapy because the client says he always forgets to ask the primary care provider.

3.7 The Nurse as a Change Agent

The nurse acts as a **change agent** when assisting clients to make modifications in their behavior. Nurses also often act to make changes in a system, such as clinical care, if it is not helping a client return to health. Nurses are continually dealing with change in the health care system. Technologic change, change in the age of the client population, and changes in medications are just a few of the changes nurses deal with daily.

3.8 The Nurse as a Leader

A **leader** influences others to work together to accomplish a specific goal. The leader role can be employed at different levels: individual client, family, groups of clients, colleagues, or the community. Effective leadership is a learned process requiring an understanding of the needs and goals that motivate people, the knowledge to apply the leadership skills, and the interpersonal skills to influence others.

3.9 The Nurse as a Case Manager

Nurse case managers work with the multidisciplinary health care team to measure the effectiveness of the case management plan and to monitor outcomes. Each agency or unit specifies the role of the nurse **case manager**. In some institutions, the case manager works with primary or staff nurses to oversee the care of a specific caseload. In other agencies, the case manager is the primary nurse or provides some level of direct care to the client and family. Insurance companies have also developed several roles for nurse case managers, and responsibilities may vary from managing acute hospitalizations to managing high-cost clients or case types. Regardless of the setting, case managers help ensure that care is oriented to the client, while controlling costs

3.10 The Nurse as a Researcher

Nursing has moved from being task oriented to knowledge oriented. Research is a quest for new knowledge pertinent to an identified area of interest through application of the scientific process. Nursing has

embraced research in her practice thus becoming self-regulatory and self-determining.

A nurse researcher identifies, investigates, and analyses clients/patients' problems/needs. She sets out plan for care, implement and then evaluate. Findings are communicated in writing and applied to a whole group or class of clients. The process of research helps the nurse to provide care on a one-to-one basis focusing on every patient as an individual requiring an individualised care. A nurse researcher through her holistic approach coupled with the research skills uses an interdisciplinary team in providing comprehensive care to the clients.

SELF-ASSESSMENT EXERCISE

1. List the 5 steps required by a nurse researcher.
2. Describe the polyvalent role of a nurse in a changing society

4.0 CONCLUSION

The nursing role is multidimensional despite her expected role of maintenance and promotion of health, prevention and curing of diseases and rehabilitation, the nurse still functions as an advocate interceding for patients to obtain health services from various community health agencies.

The nurse interprets patient's needs to his family to carry them along as well as articulating the services of all disciplines in the health care. The decision making *of* a nurse helps her to employ different skills for effective care. The scope and range of nursing responsibilities become enlarged, specialties in nursing as depicted by the changing roles of nurses will assist greatly, support new and promising methods of delivering health care services more effectively.

5.0 SUMMARY

In summary the roles and functions of the nurse is presented below

Role	Function	Examples
Caregiver	Addressing the physical, emotional, social, and spiritual needs of the client	Listening to lung sounds Giving medications Patient teaching

Communicator	Using interpersonal and therapeutic communication skills to address the needs of the client, to facilitate communication in the healthcare team, and to advise the community about health promotion and disease prevention	Counselling a client Discussing staffing needs at a unit meeting Providing HIV education at a local school
Client/patient teacher/educator	Assessing and diagnosing the teaching needs of the client, group, family, or community. Once the diagnosis is made, nurses plan how to meet these needs, implement the teaching plan, and evaluate its effectiveness.	Preoperative teaching Prenatal education for siblings Community classes on nutrition
Client advocate	Supporting clients' right to make healthcare decisions when they are able to voice their opinions and protecting clients from harm when they are unable to make decisions	Helping a client explain to his family that he does not want to have further chemotherapy
Counsellor	Using therapeutic communication skills to advise clients about health-related issues	Counselling a client on weight-loss strategies
Change agent	Advocating for change on an individual, family, group, community, or societal level that enhances health. The nurse may use counselling, communication, and educator skills to accomplish this change.	Working to improve the nutritional quality of the lunch program at a preschool
Leader	Inspiring others by setting an example of positive health,	Florence Nightingale Francis Oguntolu Kofoworola Pratt,

	assertive communication, and willingness to improve	Oluyinka Sofenwa,
Manager	**Coordinating and managing the activities of all members of the team**	Charge nurse on a hospital unit (e.g., assigns patients and work to staff nurses)
Case manager	Coordinating the care delivered to a client	Coordinator of services for clients with tuberculosis
Researcher	Applying evidence-based practice to provide the most appropriate care, to identify clinical problems that warrant research, and to protect the rights of research subject	Reading journal articles Attending continuing education; seeking additional education

6.0 TUTOR- MARKED ASSIGNMENT

1. Discuss (in less than 300 words) the 5 roles of a nurse in a changing society.
2. Identify and describe the managerial skills/process required by a nurse in-charge of the outpatient department of a Specialist Hospital.

7.0 REFERENCES/FURTHER READING

- Berman, A., Snyder, S. J., Kozier, B., Erb, G. L., Levett-Jones, T., Dwyer, T., Hales, M., Harvey, N., Moxham, L., & Park, T. (2014). *Kozier & Erb's fundamentals of Nursing Australian edition* (Vol. 3). Pearson Higher Education AU.
- Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.
- Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences.

- Cherry, B., & Jacob, S. R. (2016). *Contemporary nursing: Issues, trends, & management.* Elsevier Health Sciences.
- DeLaune, S. C., & Ladner, P. K. (2011). *Fundamentals of nursing: Standards and practice*. Cengage learning.
- Dolan, J. A., Fitzpatrick, M. L., & Herrmann, E. K. (1983). *Nursing in society: A historical perspective*. WB Saunders Company.
- Donahue, M. P. (2011). *Nursing, the finest art: An illustrated history*. Mosby.
- Henderson, V. (1966). *The Nature of Nursing,* New York, Mac Milan Publishing Co. (15th ed.).
- McCormack, B., & McCance, T. (2011). *Person-centred nursing: theory and practice*. John Wiley & Sons Mortimer, B. (2004). Introduction: the history of nursing: yesterday, today and tomorrow. In *New Directions in Nursing History* (pp. 17-37). Routledge.
- Potter, P. A., Perry, A. G. E., Hall, A. E., & Stockert, P. A. (2009). *Fundamentals of nursing*. Elsevier Mosby.
- Santhosh, M. et al. (2000). *Role of Nurse in Primary Health Care Primary Health Nursing (PHN) Handbook of the Indira Gandhi National Open University,* New Delhi, Berry Art Press.

UNIT 2 NURSING CARE DELIVER

CONTENTS

1.0 INTRODUCTION

Delivery of nursing care is a means to achieve the goals of a healthcare organisation. The effective delivery of nursing care requires efficiency in an organisation that promotes high productivity and staff adequately. Clients are usually placed in various categories to help in determining staffing needs based on the kind and amount of care needed. When clients with similar conditions or treatments are grouped together, special equipment needed in the care of these clients may be kept in one department, thus eliminating duplicating; however, there is danger that the clients will become so stereo- typed that their individual needs are ignored. Some of the categories that are being used are based on:

- the amount of care needed, e.g., self-care or manorial care, partial care, or complete or intensive care.
- Age, e.g., pediatric or geriatric.
- diagnosis of condition being treated, e.g., cardiopulmonary or bums.
- therapy being given, e.g., dialysis, chemotherapy.
- sex, sometimes on religious grounds. population of clients.

In Nigeria, a combination of these categories is used. Classification of clients guides the staffing pattern and the assignment pattern used for nursing care delivery. The philosophy and the goals of the health care organisation also influence the staffing and assignment patterns. Identify the categories being used in the organisation of the care of clients. How do the categories compare to those discussed above? The discussion that follows will identify the major nursing care delivery patterns commonly used in Nigerian healthcare institutions.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

i. define 'nursing care delivery'.
ii. list the major categories used in determining nursing care delivery system.
iii. describe the four common nursing care delivery systems
iv. recognise the application of each system in client care settings
v. discuss the strengths and weaknesses of each nursing care delivery system.

3.0 MAIN CONTENT

3.1 Definition of Nursing Care Delivery System

Client care delivery refers to the way nursing care is organised and provided. It is organised at the unit level. The type of client care delivery system used in a healthcare organisation reflects the organisation's philosophy; it also depends on factors such as organisational structure, nurse staffing, client population, and client's health problems and nursing care needs.

SELF-ASSESSMENT EXERCISE

i. Define 'nursing care delivery'.
ii. List 3 factors within a healthcare organisation that could influence client nursing care delivery.

3.2. Types of Client Care Delivery Systems

In this unit four systems will be discussed. They are:

- Case management nursing
- Functional nursing
- Team nursing
- Primary nursing

3.2.1 *Case management*

This is the first and oldest approach to client care. It involves a 1 to 1 nurse patient ratio, with the one nurse responsible for caring for one patient and providing all, the patient, care required while on duty. The nurse responsible for the care reports to a head nurse, charge nurse, or nurse manager. Although this approach to patient care is expensive it continues to be used in critical care units, labour, delievery and in other life-threatening situations. Depending on the education or philosophy of the nurse, either task oriented or patient-centered care may be given. The care given by the nurse is not fragmented during the time the nurse is on duty. Staffing for case management considers the acuity of patients and the standards of care that the organisation wants the nursing personnel to provide. In this method the patient's needs are quickly met, the nurse and the patient work more closely together and the nurse has a greater autonomy.

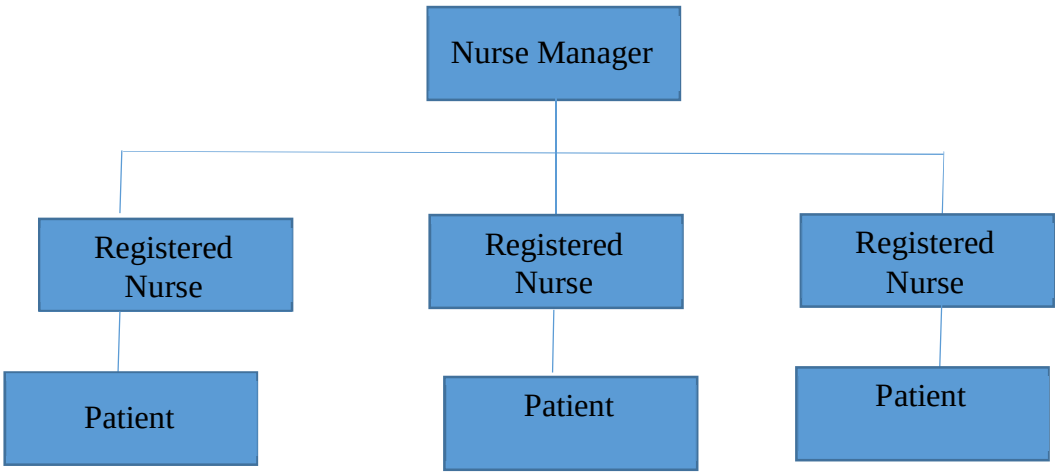


Figure 2.1 Structure of case management Nursing

3.2.2 Functional nursing

This is fragmented approach to care, and it focuses on tasks and procedures, and emphasises efficiency, division of labour and rigid control. It reflects a bureaucratic, centralised organisations. Tasks are assigned to various personnel based on complexity and required skill, e.g. nursing aides might bathe clients, while nursing assistants might provide certain treatments, and registered nurses would administer medications. Each staff member is responsible only for assigned tasks while on duty. The charge nurse is responsible for coordinating the activities of the unit, and reports to the nurse manager~ in some cases a nurse manager may act as the charge nurse.

Although functional nursing may be useful during times of critical staff shortages job satisfaction may be reduced and patient dissatisfaction may increase because the nurse and the patient do not see the effects or impact of the total client care. The nurse sees the client through a series of tasks which the client might consider disturbing. The diagram below shows the structure of functional Nursing. Note the interaction network between the nursing personnel and the patients.

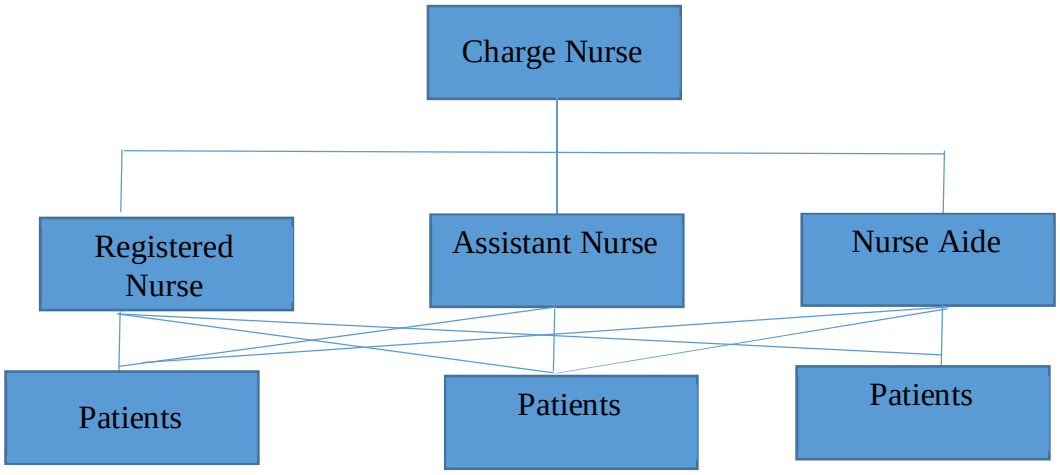


Figure 2.2 Structure of Functional Nursing

3.2.3 Team Nursing

Team Nursing is a method of assigning patient care used when the teams would be composed of nursing caregivers with diversities in education and abilities. It is based on the beliefs that:

- Every patient has the right to receive the best care possible with the available staff and time.
- Planning nursing care is basic in providing this care,
- All nursing personnel have the right to receive help in doing their job, and
- A group of caregivers with the leadership of a professional nurse can provide better patient care than those same people working as individuals.

The following concepts guide the practice of team nursing:

- Leadership of the team must be provided by a registered nurse who accepts responsibility for making decisions about priorities of patients' needs and for the planning, supervision, and evaluation of the nursing care.
- Team leaders should also examine how their philosophy affect their implementation of team nursing; as those who are task-oriented will continue to practice this kind of nursing, while those who are more patient-oriented will find team nursing one method of implementing their philosophy.
- Effective communication is needed to ensure continuity in the delivery of planned nursing care.
- The team leader must use all the techniques of leadership/management
- Team members must accept the leadership of the team leader.
- The practice of team nursing should be limited by a fixed procedure.

Team nursing may be used throughout the day, evening, and night shifts of any unit. The size of the unit and the number of registered nurses and other staff members will determine the number and the size of the teams.

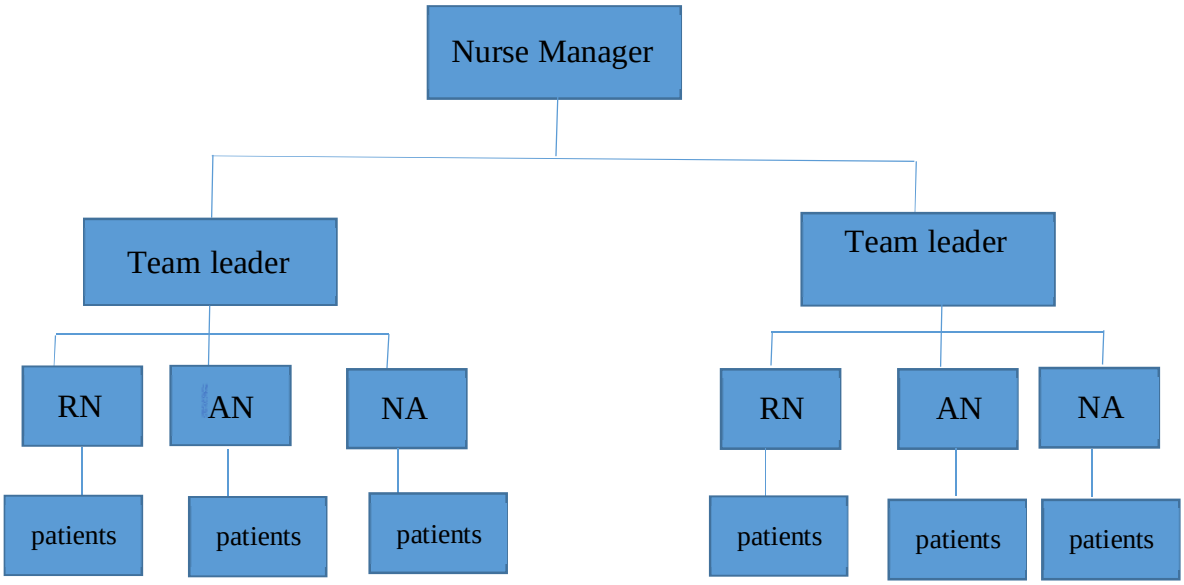


Figure 2.3 Structure of Team Nursing

3.2.4 Primary Nursing

This is the last type of nursing care delivery for this unit. It is a method of delivering nursing care in which a registered nurse is responsible and accountable for the care of a patient 24 hours a day. The responsibility includes assessing, planning, implementing and evaluating the nursing care from the time the patient is admitted to the nursing unit until the patient is discharged from the unit.

The concept of primary nursing was developed in 1968 under the direction of Marie Manthey at the University of Minnesota Hospitals. It was designed to return the Registered Nurse to the role of giving direct client nursing care, which would improve the quality of nursing care.

The focus of nursing is patient-centred, and promotes continuity of care planning, care giving, and evaluation. Changes in the care plans are the responsibility of the Primary Nurse. The primary Nurse usually selects the number of patients she can manage, but in some health care institutions, the head nurse assigns the clients to the Primary Nurse. The Primary nurse gives the care while on duty, while an associate nurse

carries on when she is not on duty. Primary nursing gives the opportunity to utilise and synthesise all the cognitive, psychomotor and affective skills needed to assess the patient's status and prescribe nursing care.

The primary nurse coordinates the care and thus must be cognisance of available resources. An associate nurse administered care in the absence of a primary nurse. A nurse can be an associate nurse for some clients while serving as a primary nurse for other clients. The associate nurse must be a registered nurse (RN).

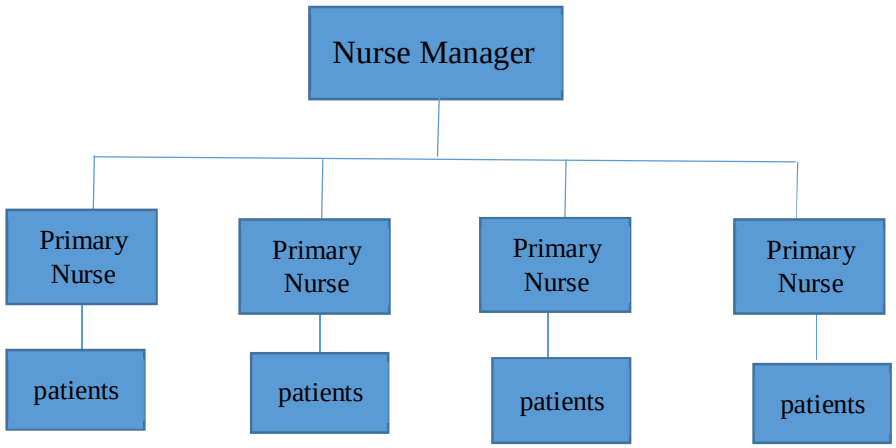


Figure 2.3 Structure of Primary Nursing

3.3 Strengths and Weaknesses of Nursing care Delivery Systems

In 3.2, the four common nursing care delivery system were described and illustrated, situations where each could be utilised were mentioned, we now proceed to highlight the strengths and weaknesses of each system.

Types of Patient-Care Delivery Systems: Strengths & Weaknesses

Delivery system	Description	Strengths	Weakness
Case management	1. Based on holistic philosophy of Nursing 2. Nurse is responsible for care and observation of specific client's 3. Involves a one-one nurse-client ratio	1. Improve nurse's responsiveness to client's changing needs 2. Improve continuity of care 3. May increase nurse's job satisfaction	Increase personnel cost
Functional nursing	1. Based on task-oriented philosophy of nursing 2. Nurse performs specific tasks according to charge nurses work schedule	1. Reduces personnel and care costs 2. Supports cost controls	1. Fragment's nursing care 2. May decrease staff job satisfaction 3. Decrease human interaction with client 4. Limit continuity of care
Team nursing	1. Based on group philosophy of nursing six or seven professional and nonprofessional personnel work as a team to supervised by a team leader	1. Supports comprehensive care 2. May increase job satisfaction 3. Increases cost effectiveness	1. Decreases contact with client 2. Limit continuity of care

Primary nursing	1. Based on comprehensive, personal philosophy of nursing. A nurse is responsible for all aspect of care from assessing patient condition to coordinating patient's care for specific patient 2. Involves a 1 to 4 or 5 nurse care ratio and care methods assignment	1. May increase job satisfaction 2. Improve continuity of care 3. Allow independent decision making 4. Supports direct nurse client communication 5. Encourages discharge planning 6. Improve quality of care	Increases personnel cost initially Requires property trained nurses to carry out system's principles Restricts opportunity for evening and night shift nurses to participate

SELF-ASSESSMENT EXERCISE

Describe each of the patient-care delivery system and identify their strength and weakness

4.0 CONCLUSION

You have learnt that the philosophy of nursing held by an individual nurse, or a health care organisation often determines the choice of nursing care delivery system which is also influenced by other factors such as organisational structure, available nursing staff, population of clients and the nursing needs of clients. You must have noted that the ultimate is the utilisation of a delivery system that would achieve the goals of nursing care, which is high quality care.

5.0 SUMMARY

In his unit you have examined four common types of nursing care delivery systems-care management functional, team and primary nursing. Factors that influence choice were highlighted, and the characteristics and assignment patterns of each discussed and illustrated with diagrams. The strengths and weaknesses of each system were also listed. The ultimate in nursing care is identifying and fulfilling clients' nursing needs at a high-quality level, utilising the most appropriate nursing care delivery

system. Nurses should be mindful of extraneous factors that might interfere with the achievement of high-quality nursing care, even when a seemingly appropriate delivery system has been chosen. Therefore, nurses must identify these extraneous factors and incorporate them into the total plan. No nursing care delivery system is stagnant in terms of knowledge, psycho-motor and effective skills. Therefore, nurses must make continuing education as an important aspect of their professional life.

6.0 TUTOR-MARKED ASSIGNMENT

1. a) Define 'client nursing care delivery system'.
   b. Discuss four factors that may influence the selection of a type of nursing care delivery system
2. a) List four common types of nursing care delivery system.
   b) Describe the strengths and weaknesses of any two under the headings: Delivery system, description, strengths and weakness.

7.0 REFERENCES/FURTHER READING

TEXTBOOKS AND REFERENCES

- Berman, A., Snyder, S. J., Kozier, B., Erb, G. L., Levett-Jones, T., Dwyer, T., Hales, M., Harvey, N., Moxham, L., & Park, T. (2014). *Kozier & Erb's fundamentals of Nursing Australian edition* (Vol. 3). Pearson Higher Education AU.
- Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.
- Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences.
- Cherry, B., & Jacob, S. R. (2016). *Contemporary nursing: Issues, trends, & management*. Elsevier Health Sciences.

UNIT 3 NURSING AND SOCIETY

CONTENTS

1.0 INTRODUCTION

The society is a system whereby people live together in organised community. It is dynamic with its attending challenges. Throughout history, nursing has responded to society needs and ceases to remain static/practicing solely on tradition with threats to her existence and relevance.

In this unit, we shall examine Nursing and the Society with the trends influencing Nursing practice. The overall effect will be considered vis-à-vis Nursing adaptation to the challenges posed by the societal trends.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

i. examine the societal changes and nursing practice
ii. discuss the current societal trends and influence on nursing practice

iii.identify the place of Nursing in the society.

3.0 MAIN CONTENT

3.1 Demographic Changes

Demography is the statistical description of population using birth, death migration, emigration, life expectancy, marriage, and divorce rates. Population in every society increase daily, which accounts for more people in need of health services with greater demand on health practitioners (Nurses inclusive). Urban shifts, peculiarities in the health care of older persons and youths which forms 75% of the population, increased divorce rates and weakened family ties requires nursing assistance to family and other social problems with health implications. These include incidence of chronic long-term illness, e.g. AIDS, Cancer, mental disorders and alcoholism, epidemics, etc.

Nurses therefore must explore new methods for providing care and establish practice standards in new areas.

Activity 1

a) What is the population of Nigeria today?
b) List three problems of over population.

3.2 Technological Advances

The ongoing scientific research has continued to uncover new knowledge at a faster pace. With the advent of computer and other management information systems, societal values and quest for services have been tailored towards this e.g. canned foods, drinks and additives. Scientific advances closely associated with health illness, organ transplants, family planning methods and sophisticated diagnostic sets such as CT. Scan machine, Ultrasound machines and Electrocardiograph machines. In the social sciences, great strides have been made in attempting to understand and predict human behaviour, which is an important area for nursing.

Nurses as agent of change uses the knowledge of values, attitudes and prejudices, social mobility, ethnic, social, and cultural backgrounds to design patient care. Empirical knowledge of practice is no longer

adequate as nursing programmes are increasingly teaching scientific principles that will guide the practice for all possible circumstances.

SELF-ASSESSMENT EXERCISE 1

Mention four (4) advancement in information and communication technology that can facilitate Nursing Care in a Hospital set up.

3.3 Increasing Consumer Knowledge

There has been an increase in health information on consumable items thereby encouraging consumer movement aimed at getting quality health to the worth of their money. The society made up of consumers is demanding health care with high quality. Nurses as consumer of someone's product in the society with high expectations, is expected to support the clients right in the quality and cost of health care being offered.

3.4 Human Rights Movements

Human Rights movements is a non-governmental organisation which seeks to address outright violation/negation of human rights to life, expression, association and religion that is considered as morally right or wrong in our relationship with others. The movement is concerned for the poor, lonely, neglected and oppressed.

Nursing respects the rights to good care for all and recognises the right to life, advocates clients' rights with recognitions of special needs of some groups: the dying, hospitalised, pregnant women, and other vulnerable groups to ensure that quality care is provided without sacrificing their rights. Nursing holds the key to maintenance of human individualistic concern for people and their health problems hence it must be zealously enlarged.

3.5 Women Liberation Movement

Women today are taking steps to be independent. Nursing traces its origin in the society to orders with unquestioned obedience to superiors. Nursing is predominately made up of women and this reveals the role of a nurse as a mother surrogate to nurture those who were ill and helpless.

Women in the society today seek for social, economic, political and educational quality with men. The Women-In-Nursing (WIN) is one of such group which joining forces with non-nurses strives for equality in the society and changing nursing care practices.

3.6 Professionalism in Nursing

Nursing in Nigeria has evolved through several philosophical eras. Having passed through the Nurses' Ordinance of 1947/1959, Registration of Nurses Regulation of 1962 and the legal status of as a professional trade union organization, trade Union Decree 21 and 22 of 1978, Decree 54 of 1989 and recently amended decree 54 of 1992. One common phenomenon that prevailed in all these has been that of uplifting the image of nursing.

This progress is attributed to the recognition accorded nursing by the society due to unique and essential contributions made. The emergence of professionalism in nursing has produce a self-regulatory, self-determining and a body of scientific knowledge of a group of people who can assume responsibility and accountable for their action.

3.7 Cultural and Societal Influence on Nursing

The range of human behaviour is dramatic and diverse and through many thousands of years, the human being has survived because of the remarkable ability to adapt to a variety of problems and situations. Human beings have demonstrated concern for their welfare, health, and existence. The responsibility of nursing is to assist human beings in their adaptation bid through promotive, preventive and restorative nursing activities. One major way by which the human being copes is through his/her cultural practices - the norms, values, mores, understanding and the likes that he shares with others in his/her group. This is man's culture. In this session we will discuss how Nursing is influenced by culture and society. You will learn the meaning of the care concepts, identify the major influential factors, and how Nursing responds to a few factors. You are expected to actively participate through your responses to exercises utilising your experiences in human society.

3.7.1 *Culture*

You must have come across the term 'culture' during your social studies at High School. Do you still remember how the social studies teacher defined it?

If you don't remember the school definition, you then need to check your dictionary. Culture refers to people in a group who share certain common values, artifact languages and understandings. Culture is everything that an individual learns from groups of which he is a part and that he transmits to succeeding generations. It is what all have in common. It includes understandings, values and mutual expectations. It is made up of certain ways of acting, thinking, feeling and communicating. We are born into a culture that teaches us over a period what to eat, what to wear, how to get along and communicate with others, how to rear our children, how to care for our health among others. Culture is a fundamental concept to the anthropologist.

3.7.2 Society

What is it? Do you belong to a society? You must have come across this word in your social studies. However, a common definition is that society is an organised group working together or periodically meeting because of common interests, beliefs, or professions. Or a voluntary association of individuals for common ends.

EXERCISE 1

List two activities you do that have been passed to you through culture. Can they be related to the discussion on culture? Read the paragraph again.

3.7.3 Culture and Nursing

From the two definitions one can conclude that society is the context in which culture takes place. We all belong to different societies in which different cultures are practiced. Nurses may come from different cultures from their clients; and this may have serious implications for the nurse-client interactions. Nursing and nurses are to render service to the clients according to the identified needs. Sometimes problems arise when the cultural backgrounds differ. For example, a mother with a malnourished

toddler refuses to give the child eggs because of her cultural belief that the child will grow up to become a thief. The nurse on the other hand sees the egg as an effective intervention for the malnutrition. The nurse gets annoyed with the mother and totally ignores mother and child. Would you consider the nurse to be culturally sensitive or ethnocentric? The answer is that she is ethnocentric she feels her culture is superior to that of the other woman. With this attitude, she has disrupted her focus of nursing. Therefore, it is necessary for the nurse to acknowledge and appreciate cultural differences. By so doing, the nurse will be in a better position to understand his/her clients/patients. The nurse does this by making concerted and conscientious efforts to study different cultures and subcultures.

SELF-ASSESSMENT EXERCISE

1. Check the meaning of the word "ethnocentric"
2. Visit a Library and write 3 titles of books on Culture. Read one and discuss the summary with your tutor.
3. State 2 ways by which the reading has improved your understanding of culture.

A study of culture requires an accepting, non-judgmental and objective attitude. Cultural differences require that the nurse conscientiously observe and listen. The study of man places reliance on the holistic approach. This means looking at man as a whole from all views and in the context of his total environment and considering every part as related to every other part. This approach is best accomplished using an inter-disciplinary team, which takes advantage of the knowledge and skills of various specialists. Holistic approach utilised in nursing is the concept of meeting the-clients physiological needs, promoting psychological development, fostering socio- cultural relationships and supporting the fulfillment of spiritual aspirations.

3.2. 1 Comprehensive Nursing Care

Total nursing care, team nursing and comprehensive nursing are all concepts of care that were derived from the study of culture. These concepts was discussed in the previous unit. The study of culture provides information that would assist nurses to render services that are relevant. Man is a very complex creature living in increasingly complex

societies. Nursing must continue to render needs-relevant services through the study of cultures, as it is common knowledge that cultural factors exert strong influences on health and illness and attitudes towards them.

3.3 Society and Nursing

Historically, nursing developments are closely tied to changes in society. Nursing responds to societal needs and forces in its environment influence society. Some of the forces also originate from society. Contemporary nursing education, practice, and research are outgrowths of economic, technological, demographic, sociological and political issues.

Let us examine each issue briefly and the influence each has on nursing and how nursing is responding.

3.3.1 Demographic Changes

Demographic changes affect all segments of the population. Changes that have influenced health care include:

- Rural urban population shift.
- Decrease in life span of young adults.
- Higher incidence of chronic long-term diseases, (HIV/AIDS)
- Increased incidence of deaths from trauma (road accidents), violence, prostate cancer, and breast cancer.

Nursing responds to these changes by exploring new methods of providing care, developing new curricula with appropriate emphasis; education of those affected families and communities.

3.3.2 Consumerism

Consumers, being more conscious of their rights want value for the expenses incurred on their health. Consumers are becoming more knowledgeable, therefore demanding quality care. Health care consumers are more aware of their rights as clients, and the nurse supports these rights in the role of client advocates.

3.3.3 Health Promotion

There is now a greater emphasis on health promotion and prevention of illness. Targets are set for eradication of communicable diseases such as measles and poliomyelitis in children, guinea worm in adults and HIV/AIDS prevention programmes. Nurses are vanguards of many health promotion programs, Health promotion activities are normal activity of Nigerian nurses.

3.3.4 Human Rights Movement

Human rights movement is changing the way society views the rights of all its members. They are calling attention to those who had been sidetracked. Nurses are responding by respecting all clients as individuals with a right to good care and with basic human rights. Nurses advocate the rights of all clients and also of those with special needs.

3.3.5 Technological Advances

In recent years, scientific and technological advances have affected almost every aspect of life. Health care has changed in many ways, including the use of new equipment, new diagnostic treatment measures and new drugs.

Nursing has adapted and will continue to respond to these changes with continuing education, in-service programs and other educational approaches such as new curricular developments. Nursing is also concerned with the human side of technological advances. Society as a whole seems to accept technological advances in health care, but clients often experience problems related to them. As health care technology becomes more complex and sophisticated, nurses must help clients to adjust to the use of technology in care.

3.3.6 Partnership in Nursing Care Delivery

Clients are demanding participation in decisions that affect their health. Nursing is responding by utilising the holistic approach and objectives directed care. Clients and nurses derive the objectives from collaborative need identification.

SELF-ASSESSMENT EXERCISE

1) List the six – (6) societal changes identified already.
2) I want you to look back into the past 5 years and list the changes you have noted in the Nigeria society under the following headings: Economic; Political; Demographic; Technological; Sociological. Consult Potter and Perry for more information.

4.0 CONCLUSION

The scope and range of nursing responsibilities in meeting the needs of society mean assuming increasing responsibility for patient care, developing collaboration with other health practitioners, supporting and embracing new and promising methods for delivery health care service more effective.

Nursing has demonstrated interest in caring for society's unfortunates. The emphasis of the care is on compassion and understanding, sympathy and empathy in accepting the patient who is a member of the society as the nurse. Nursing is a member of the society as the nurse. Nursing as a profession holds the key to the holistic client care.

5.0 SUMMARY

In this unit, we have identified and examine concisely nursing and society with six (6) changes in the society that has positively influenced nursing practice. A dynamic society requires understanding and commitment on the part of service providers that will not be compromised.

6.0 TUTOR-MARKED ASSIGNMENT

1. Discuss in detail the societal changes that have come on Nursing and its influence on the practice.
2. State four definitions of *culture* and one of *society*.
3. List four societal factors that influence nursing.
4. Describe briefly how nursing responds to any two of the societal factors listed in 3.

7.0 TEXTBOOKS AND REFERENCES

- Berman, A., Snyder, S. J., Kozier, B., Erb, G. L., Levett-Jones, T., Dwyer, T., Hales, M., Harvey, N., Moxham, L., & Park, T. (2014). *Kozier & Erb's fundamentals of Nursing Australian edition* (Vol. 3). Pearson Higher Education AU.
- Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.
- Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences.
- Cherry, B., & Jacob, S. R. (2016). *Contemporary nursing: Issues, trends, & management*. Elsevier Health Sciences.
- DeLaune, S. C., & Ladner, P. K. (2011). *Fundamentals of nursing: Standards and practice*. Cengage learning.

.

UNIT 4 NURSING AND HUMAN ENVIRONMENT

CONTENTS

1.0 INTRODUCTION

Human beings are constantly interacting with their environment. The environment influences human beings and vice versa. The relationship between human beings and the environment is a dynamic one, never static. The environment greatly influences the quality of life one enjoys. People need the environment that they can constantly manipulate so that they can develop their potentials. An environment that stifles may result in abnormal personality. The importance of the environment has been demonstrated in an account of creation. The Garden of Eden provided an environment that was physically pleasing with soil that supported all plants and animals in symbiotic relationship. Adam and Eve provided social supports to each other and were spiritual in harmony with God.

Everything was beautiful and peaceful. From this scenario, it could be deduced that the environment assumed the three dimensions of the physical, the psychosocial and the spiritual, the three being inter-related and inter-dependent. Any disruption in one area would affect the other areas. Adam and Eve's problems started with social disharmony, which affected the other two parameters. One could see the concepts of adjustment and adaptation at work.

What started millions of years ago in terms of equilibrium among the elements in the universe remain with us till today. This Unit will discuss the importance of a conducive environment in the promotion and maintenance of good health. The presentation will start with definitions and end with the discussion of nursing responsibility towards the provision of a healthy and safe environment.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- define 'environment'
- describe the components of the environment
- describe at least two ways by which the environment could affect Man's health
- list at least three professional activities of the nurse that would support a safe environment for a client.

3.0 MAIN CONTENT

3.1 Definitions of the Environment

The environment may be defined as the aggregate of human beings, things, conditions or influences surrounding human beings. It is all of the many physical socio-cultural, socio-economic, and physical and psychosocial factors that influence or affect the lives and survival or people. The promotion and maintenance of a wholesome environment is a major concern of most world governments including Nigeria. A principle concerning human beings and their environment implies that any environmental condition that interferes with the wellbeing, is a threat to the human organism when he is no longer able to cope with it

sufficiently well. Some people tolerate their environment better than others do. Also each individual may experience variations in ability to tolerate certain conditions depending on other factors in the situation. Concern for the physical as well as the sociological environment is global in nature. Nigeria is part of the global movement to make the world a safer place to live in. There is an Agency in Nigeria, specifically responsible for monitoring the environment and implementing measures that would make it safe, the Federal Environmental Protection Agency (FEPA).

EXERCISE 1

i. Name 2 major life-threatening environmental hazards in Nigerian cities. Are these problems present in the village?
ii. Name 2 intervention strategies of governments at the various administrative levels.

Here are some examples that violate a wholesome environment. The human organism enjoys optimum functioning when the air breathed is sufficiently free of physical and chemical pollutants so that irritation to the tissue is absent or at least negligible. But exhaust fumes from vehicles on our roads cause so much irritation to the eye and respiratory tissues. The noise emanating from music sheds and shops and every residence endanger our hearing mechanism. In recent years, Nigeria and the world population growths, and rural urban migration are leading to unprecedented congestion. Everywhere is being built up with temporary sheds, which often become permanent. Human welfare is being compromised due to lack of access to nature and beauty. All these should be of concern to nursing. An instability at the physical level can eventually affect the totality of well-being.

3.2 Types of Environment

The environment can be classified into two major types: External and Internal. The External Environment consists of:

- biological environment, which considers all living things such as plants, bacteria. etc.

- social environment, this is unique to human beings. It is concerned with the relationship between human beings and their environment.
- physical environment consists of non-living portions of the environment such as air, water and land.

3.3 Effects of Environment on Well-being

Now that the types of environments are identified, you will now proceed to learn how each type affects the well-being of individuals.

3.3.1 Physical Environment

The type of physical environment in which a person lives can lead to an increased incidence or certain health problems. For example, people living in urban areas with heavy industries are exposed to smoke and air pollution. People who live in rural areas are less likely to have this type of health concern, but they may experience other problems such as snake bites, contaminated water supply, and decreased access to healthcare.

The environment may restrict daily activity. The hustle and bustle in our cities have restricted the daily activities of many older adults. This has a negative consequence on the conditions of bones and joints. Women in their post-menopausal years are known to suffer from osteoporosis a result of long-term reduced physical activity.

The environment in which one works, and the type of physical activity engaged in, in terms of occupation, affect individual wellbeing. Those who work in coal mines, cement factories, flourmills, tobacco factories are subjected to environments that make them prone to lung disease. Those who work in rice paddies (wet land in which rice is grown) are more prone to guinea worm infection. In short, what you should learn from the discussion is that the environment affects the lifestyle of the inhabitants.

SELF-ASSESSMENT EXERCISE

Look around you and identify at least two environmental lifestyles that may have negative effective on the individual. What solutions would you suggest?"

3.3.2 Socio-cultural, environmental

Each culture defines health and illness in a manner that reflects its previous experience. You will recall from our previous discussion that culture was defined as the sum of traditions, practices, beliefs and values developed by a group of people and passed on most often by the family from generation to generation. Cultural factors determine which health behaviors people perceive as 'normal or abnormal'. Cultural influence also determines whether a person seeks health care, and how a person seeks such care. Health practices are also based on cultural beliefs. Let us look at one or two examples.

You must have heard or read about female circumcision being practiced by some cultural groups in Nigeria. The reason proffered is that it would deter sexual promiscuity as the girls grow up. While there is virtue in discouraging promiscuity, the method being employed has left many women grossly incapacitated for life. What a price to pay for being born into such a cultural environment. Take another cultural practice that forbids meat and eggs to be fed to children because the children will grow up stealing. While the rationale appears to be morally acceptable, but the child is being deprived the right to good health through good nutrition from being born into a particular socio-cultural environment.

SELF-ASSESSMENT EXERCISE

Find out from your community 2 other cultural practices that might have implications for the well-being of the people.

3.3.3 Socio-economic Environment

In many countries of the world, economic status is a major determinant of the quality of the physical and psychosocial environment available to individuals. We see that persons in the low-income group tend to congregate in the crowded inner-city slums, where cleanliness and

sanitation are poor, air is polluted by stench from public drains and refuse mountains. All these endanger well-being and often lead to high incidence of communicable and infectious diseases. The picture is more dismal when the people in these areas are outside the health care system because they could not afford the cost of healthcare.

On the other hand, people of high socio-economic status could afford to locate themselves in healthy environments; and could afford good medical care.

But, despite the problems of adjustment and adaptation, human beings continue to find solutions to problems created by his environment.

3.3.4 Spiritual/religious Environment

Spirituality refers to person's beliefs about a divine or a higher power or force, and related practices. Religion is an organised system of worship often directed towards the divine being, power or force. Spirituality and religion can affect a person's views of and actions towards health, illness and health care. For example, some religious groups regard illness as a form of punishment from God, and therefore refuse medical treatment or prevented care from being given. Some religious groups ban the use of drugs and alcohol for whatever reason. Being born and socialised into this type of environment means denying oneself or cause to be denied the rights to health care.

Conditions or circumstances in the external environment can be classified as life supporting or as hazardous. On the agents essential to survival are air, water, nutrients, and shelter. Other agents favoring survival include people and a variety of other living organisms, from microorganisms to highly complicated multicellular organisms of both plant and animal origin. Even essential agents may be harmful when exposure is excessive or unbalanced. As an example, oxygen is required for survival. However, continued high concentrations of oxygen damage the respiratory membrane, and can cause blindness in newborn babies.

You have learnt about the external environment and some of the adverse effects it could have on health. The next emphasis is on the internal environment. By the end of this section, you would have come to

appreciate the inter-relatedness and interdependency of the external and internal environment; and that Man is not so easily dissected.

3.4 The Internal Environment

The environment listed in 3.3 above lies outside the body and is in contact with the skin, mucous, membrane, and the sense organs. The internal environment is made up of the fluid surrounding the cells and carrying material to and from them.

Similar to the dependence of health on stability within the external environment, health is also dependent on the maintenance of relative stability of the physical and chemical characteristic of the fluid comprising the internal environment. Survival of the cells and maintenance of their functions are dependent on conditions in the cell's immediate fluid environment. It is from this environment that the cell obtains a continued supply of nutrients and into which it discharges its wastes. For all cells, this immediate environment is a pool of water in which a variety of substances such as sodium chloride and glucose are dissolved. For a unicellular organism such as the amoeba, the fluid environment is a pond or puddle of water.

Human beings and other multi-cellular organisms, the fluid environment consists of blood, lymph, and interstitial fluid form the immediate environment of the cells. These fluids are known as the internal environment. The fluids composing the internal environment not only serve individual cells as such but are the medium by which all body cells are united and affected by the activities of all other cells within the entire organism.

The physiological process which maintains most of the steady states is termed homeostasis, which implies variations within limits as long as the individual is capable of making appropriate adaptations to change.

3.4.1 Maintenance of Homeostasis

The maintenance of homeostasis depends on a variety of elements. Substance required by cells must be available in adequate quantities. Material supplies include water, oxygen, and a variety of nutrients, including sources of calories, tissue-building materials, electrolytes and

regulators not synthesised or present in the body. The intake, storage and elimination of excess supply are regulated so that the level of each substance is maintained within well-defined limits.

3.4.2 Structure Supporting Homeostasis I

The healthy organism is capable of responding to disturbances in such a manner that damage is prevented or repaired. The kinds of structures that fulfill this function include the following:

- Structure where required substances are absorbed from the external environment and when necessary, modified so that they can enter the internal environment. For example, Oxygen is absorbed into the blood unchanged., The air from which oxygen is taken however, requires conditioning. Nutrients usually require reduction to simpler forms before they can be absorbed and provision for the elimination of indigestible sub- stances is also necessary.

- Materials enter or leave the external environment through semipermeable membranes that separate the internal from the external environment. These semi-permeable membranes act to protect the internal environment from too rapid a change or from the entrance of potentially harmful or unusable particles.

- Structures to transport materials from point of entry to cells and from cells to points of elimination or exit such as the heart and blood vessels.

- Structures that store or eliminate excesses of intake and byproducts of metabolism. For example, glucose is stored as glycogen in the liver and muscles, much of the excess is stored as fat. Excess sodium is normally excreted in the urine.

- Structures that make movement in the external environment possible. They enable the individual to seek food and water, to alter the environment to suit his needs, to overcome or avoid danger and to find a partner.

- Structures that reproduce themselves to replace worm-out cells, to repair injury or to produce a new organism.

- Structures that protect the organism from injury.

- Finally, structures that regulate and integrate the activities of all individual cells and aggregates of cells so that the organism functions as a whole.

3.4.3 Conditions of Homeostasis

Conditions that must be maintained within limits include:

- Osmolality
- Blood pressure
- Level of glucose in the blood
- Cation-anion balance and concentration,
- Hydrogen ion concentration, and
- Body temperature

Conditions in the external environment must be within the limits to which human beings can adapt. For example, the capacity to adapt to extremes of temperature, high altitude, water and food supply, and physical trauma is limited. However, human beings are able to live in some hostile environments by adapting them to their needs.

This section now completes the discussion on the environment, you now have a picture of what a conducive or an ideal environment consist of the substrates and the structure that would support healthy living. We now proceed to examine the role nursing plays with regard to the patient's environment.

3.5 Nurses Responsibility Towards Promoting a Safe Environment

As earlier mentioned, a safe environment is one in which basic needs are achieved, physical hazards are reduced, transmission of pathogen and parasites is reduced, sanitation is maintained and pollution controlled.

Nursing care directed at health maintenance and illness prevention involves promoting the clients' safety in the community or within the health care environment and is just as essential as meeting other physiological and psychosocial needs. Protection and safety are basic to survival, and these needs continue throughout life.

Safety in the home reduces the risk of accidents and illnesses, and the subsequent need for healthcare services. Safety is positively correlated to health promotion.

A safe environment is essential to maintaining and restoring health. Nurses are the first line of defense against environmental hazards.

Management of the environment is possibly the nurses most nearly independent function Florence Nightingale recognized the significance of the natural environment in the care of the sick when she wrote. "The thing which strikes the experienced observer most forcibly is this, that symptoms or suffering generally considered to be inevitable and incident to the disease are very often not symptoms of disease at all, but of something quite different-of the want of fresh air, or of light, or of warmth or of quiet, or of cleanliness, or of punctuality and care to the administration of diet, of each or all of these". To this should be added the people. Nurses, physicians, paramedical personnel, family friends, and others who enter and leave the environment of the patient in the course of a day.

The nurse will concern herself with many additional environmental factors as she takes action to promote a healthy environment for her clients. First, the nurse must set exemplary examples by her personal behavior. The practice of washing hands thoroughly whenever indicated in order to control the spread of infection. The nurse knows that oxygen supports combustion, so she takes appropriate measures to decrease the likelihood of fire in the room of someone receiving oxygen therapy. Public education directed towards safe environment both in the healthcare institutions and homes watching electrical cords and connections, medications, house cleaning solutions and so on.

Water supply, good ventilation and clean air, balanced food, personal hygiene and environmental sanitation are all concerns of nursing. Florence Nightingale in her treatise on what nursing should do, wrote:

"nursing ought to signify the proper use of fresh air, light, warmth, cleanliness, quite, and the proper selection and administration of diet-all at the least expense of vital power to the patient." All these are vital elements in the external environment that are necessary for homeostasis in the internal environment.
In subsequent Units you will be introduced to how nurses should identify and meet basic human needs both in theory and in practice.

SELF-ASSESSMENT EXERCISE

1) Identify 3 elements that support a safe environment.
2) Identify 2 elements that would promote a health problem.

4.0 CONCLUSION

Environment is all of the many physical and psychosocial factors that influence or affect the life and survival of the individual. Environment is subdivided into external and internal. External environment lies outside the body and is in contact with the skin, mucous membrane and the sense organs. The internal environment is made up of the fluid surrounding the cells and carrying to and from them. Similar to the dependence of health on the stability within the external environment, health is also dependent on the maintenance of relative stability of the physical and chemical characteristics of the fluid comprising the internal environment. For human beings and other multi-cellular organisms, blood, lymph and interstitial fluid form the immediate environment of the cells. Materials utilized in the internal environment come from the external environment through specialized structures.

Therefore, the quality and state of the external environment determine the state of the internal environment. For man to be in a health state, there should be equilibrium between the external and internal environment. Hence a safe external environment determines the quality of the internal environment. Conditions in the external environment must be within the limits to which an individual can adapt to.

Management of the environment for positive clients' health is possibly the most nearly independent function of the nurse. Florence nightingale recognized the importance of the natural environment in the care of the sick and in the prevention of illness.

5.0 SUMMARY

You have just concluded the study unit on the human being and his environment. The unit started with an introduction, which gave you an overview of the concept Environment.

How human beings and their environment are constantly interacting and influencing each other, how the relationship is dynamic and how human beings manipulate their environment to meet their needs.

The major types of environment external and internal were analysed, showing the characteristics of each, and how each compliments the other to support health and general welfare.
The concept of homeostasis as a mechanism for internal environment regulation was discussed, finally the role of nursing in providing and protecting the environment was discussed.

6.0 TUTOR MARKED ASSIGNMENT

1. Define *environment.*
2. Describe the different types of environment.
3. Discuss how external environment in which a person lives can lead to an increased incidence of a certain health problem. Illustrate your answer with an example.

7.0 REFERENCES/FURTHER READING

- Berman, A., Snyder, S. J., Kozier, B., Erb, G. L., Levett-Jones, T., Dwyer, T., Hales, M., Harvey, N., Moxham, L., & Park, T. (2014). *Kozier & Erb's fundamentals of Nursing Australian edition* (Vol. 3). Pearson Higher Education AU.
- Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.
- Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences.

- Nightingale, Florence (1860) *Notes on Nursing: What It is and What It*
  Is Not. New edition, revised and enlarged, London; Harrison and Sons.p.56
- Potter, P. A., Perry, A. G. E., Hall, A. E., & Stockert, P. A. (2009). *Fundamentals of nursing*. Elsevier mosby.

MODULE 3 HEALTH AND HUMAN NEEDS

UNIT 1 CONCEPT OF HEALTH AND ILLNESS

CONTENTS

1.0 INTRODUCTION

To many people health and illness virtually means the same thing or as accompanying one another. In fact, most individuals and societies in the past have viewed good health or wellness as synonymous to absence of illness. This limited view overlooks the complex interrelationships between the physiological, emotional, intellectual, socio-cultural, developmental and spiritual dimensions of health and illness (Berman *et al., 2016*) However like Brooker & Waugh, (2013)rightly noted, health may not always accompany well-being as a person with terminal illness may have a sense of well-being while somebody else may lack a sense of well-being yet be in good health. As nurses we therefore need a comprehensive and robust understanding of health and illness as this go a long way to affect scope and nature of nursing practice. To this end, this unit employs a comprehensive and integrated approach of health, wellness and illness. It particularly examined illness behaviour, models of health and wellness, as well as the health-illness continuum.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

i. differentiate health, wellness and illness
ii. describe five dimensions of wellness
iii. differentiate between acute, chronic and terminal illnesses; primary and secondary illnesses; and hereditary, congenital, and idiopathic illnesses.
iv. distinguish between the terms illness and disease
v. outline the etiology of illnesses and diseases
vi. describe the health-illness continuum.

3.0 MAIN CONTENT

3.1 What is Health?

The term 'health' is so common a vocabulary in every culture; race or creed that one is often tempted to assume that it would have a homogeneous meaning. This is however not so. How each person perceives and defines health varies, and it is important to respect these individual differences rather than impose standards that may be personally unrealistic (DeLaune & Ladner, 2011). In Berman *et al.*, (2016) words 'Health' is a slippery concept to grasp in comparison with ill-health, which seems so solid and tangible.

Nonetheless, the World Health Organisation (WHO) asserts in the preamble of its constitutions that the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being regardless of race, religion, political belief, economic, or social conditions. According to WHO, health 'is a state of complete physical, mental and social well-being and not merely the absence of disease on infirmity'. By this definition, health is much more than physical wellbeing. It means more than not having a physical disease but to be in harmony. The question that quickly comes to mind however is harmony with what and how? To answer this question, there is need to explore cosmological framework to show how physical and social component of the society helps to explain or determine the notion of health and illness. Conception of health is therefore ultimately based on the perception of

the original and intended fashion of humanity. As a result, the body becomes an extension of moral perception.

Kozier *et al.,* (2016) in what looks like a critical review of the WHO definition submitted that the WHO definition

- Reflects concern for the individual as a total person functioning physically, psychologically, and socially. They noted that mental processes determine people's relationship with their physical and social surroundings, their attitudes about life, and their interaction with others.
- Places health in the context of environment. It takes cognisance of the fact that people live, and therefore their health, are affected by everything they interact with – not only environmental influences such as climate and the availability of nutritious food, comfortable shelter, clean air to breathe and pure water to drink – but also other people, including family, lovers, employers, coworkers, friends, and associates of various kinds.
- Equates health with productive and creative living. According to them it focuses on the living state rather than on categories of disease that may cause illness or death.
- Health therefore in its global/broadest sense encompasses:
- Physical health – physical fitness, the body fixing at its best.
- Emotional health – feelings and attitudes that make one comfortable with oneself.
- Mental health – a mind that grows and adjusts; in control, free of serious stress.
- Social health – a sense of responsibility and caring for health and welfare of others.
- Spiritual health – inner peace and security, comfort with one's higher power, as one perceives it.

One cannot but agree with Kozier *et al.,* (2016) that the concept of health encompasses such things as emotional and mental stability, spiritual well-being and social usefulness. And while it is very true that health is the fundamental right of every individual, it is also a limited resource as well as a personal responsibility. It is considered a resource and personal responsibility because it is valuable; has no substitute; and requires continuous personal effort. Health however is not an absolute entity; rather there may be fluctuations along a continuum from time to time.

Health is not a condition, it is an adjustment; it is not a state, it is a process (President's commission, 1953). Delaune and Ladner (1998) definition of health as a process through which the person seeks to maintain equilibrium that promotes stability and comfort aptly corroborate this fact. In other words, health is a dynamic process that varies according to the individual's perception of well-being.

Dubo (1978) views health as a creative process. In his words, individuals are actively and continually adapting to their environments. He stressed that individuals must however have sufficient knowledge to make informed choices about his or her health and also income and resources to act on choices. Pike and Forster (1995) compliments Dubo's statement by arguing that it is important to take into account people's own perceptions and views on health and that different people will see and express these in different ways. Individuals as they continuously adapt to their environment therefore are at different stages/level of wellness.

It is also noteworthy that man responds to the environment in which he finds himself as an integrated whole. This brings us to the concept of holism. Holism is a philosophy that views the "whole person". The person is seen as a complete unit that cannot be reduced to the sum of its parts. Health in holistic sense therefore is total wellness – wellness of mind, spirit as well as body (Berman *et al.*, 2016)). But in view of the fact that it is virtually impossible for someone to be well and stay well, or get well and remain well forever, nurses are expected to assists people in the prevention of illness and restoration of health through holistic health care i.e. comprehensive and total care of a person.

3.2 Concepts of Wellness

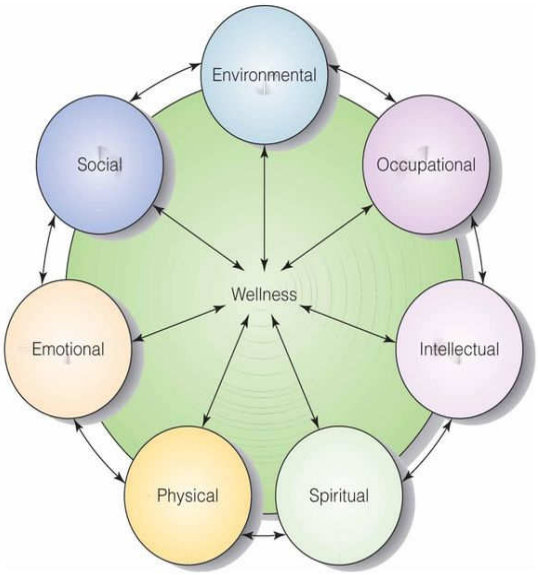
Simply put, wellness is a state of well-being. Berman *et al.*, (2016) contend that people do confuse the process of health with the status of wellbeing. Well-being is a state that can be described objectively and can be plotted on a continuum A more lucid definition however is the one given by Carroll and Miller (1991) which states that term wellness connotes good physical self-care, using one's mind constructively, expressing one's emotion effectively, interacting creatively with others and being concerned about one's physical and psychological environment. Akin to this, is the definition by Travis and Ryan (1988) which states that wellness is a choice; a process; efficient handling of

energy; integration of body, mind, and spirit; and loving acceptance of self. In synopsis, wellness can be interpreted as full and balanced integration of physical, emotional, social and spiritual health i.e. the condition in which an individual function at optimal level.

According to Berman *et al.*, (2016)the basic concept of wellness include self-responsibility; an ultimate goal; a dynamic, growing process; daily decision making in areas of nutrition, stress management, physical fitness, preventive health care, emotional health, and other aspects of health; and most importantly, the whole being of the individual. Anspaugh, *et al.*, (2011) propose seven components of wellness that lead to optimal health and wellness. These components are: • ***Environmental.*** The ability to promote health measures that improve the standard of living and quality of life in the community. This includes influences such as food, water, and air.
• ***Social.*** The ability to interact successfully with people and within the environment of which each person is a part, to develop and maintain intimacy with significant others, and to develop respect and tolerance for those with different opinions and beliefs.
• ***Emotional.*** The ability to manage stress and to express emotions appropriately. Emotional wellness involves the ability to recognize, accept, and express feelings and to accept one's limitations.
• ***Physical.*** The ability to carry out daily tasks, achieve fitness (e.g., pulmonary, cardiovascular, gastrointestinal), maintain adequate nutrition and proper body fat, avoid abusing drugs and alcohol or using tobacco products, and generally practice positive lifestyle habits.
• ***Spiritual.*** The belief in some force (nature, science, religion, or a higher power) that serves to unite human beings and provide meaning and purpose to life. It includes a person's own morals, values, and ethics.
• ***Intellectual.*** The ability to learn and use information effectively for personal, family, and career development. Intellectual wellness involves striving for continued growth and learning to deal with new challenges effectively.
• ***Occupational.*** The ability to achieve a balance between work and leisure time. A person's beliefs about education, employment, and home influence personal satisfaction and relationships with others.

Fig 2 – 1 Components of Wellness

Figure 17-2 The seven components of wellness. *From Wellness: Concepts and Applications, 7th ed. (p. 4), by D. J. Anspaugh, M. H. Hamrick, and F. D. Rosato, 2009, New York, NY: McGraw-Hill. Reprinted with permission.*



In conclusion, the seven components overlap to some extent, and factors in one component often directly affect factors in another. For example, a person who learns to control daily stress levels from a physiological perspective is also helping to maintain the emotional stamina needed to cope with a crisis. Wellness involves working on all aspects of the model

SELF-ASSESSMENT EXERCISE

explain the seven componentsof wellness.

3.3 Illness and Disease

The term illness and disease to the layman means the same thing and no wonder they are used interchangeably in everyday language. However, the two terms are not synonymous even though they may or may not be related. Hence the need to differentiate between the two terms. Any

deviation from the accepted standard of well-being is regarded as illness. According to Berman *et al.,* (2016),illness is highly personal state in which the person's physical, emotional, intellectual, social, developmental, or spiritual functioning is thought to be diminished. For instance, an individual may have a disease, say hypertension and not feel ill. By the same token a person can feel ill, that is feeling uncomfortable, yet have no discernible disease. By extension, illness may or may not be orchestrated by pathological abnormality. Therefore, illness can be described as a situation in which somebody fails to perform his/her normal roles in the society.

Disease on the other hand is a biological parameter of non-health a pathological abnormality that is indicated by a set of signs and symptoms. It could also be defined as a state of discomfort that results when a person's health becomes impaired through disease, stress or an accident or injury. Implicit in the above statement is that this state of discomfort or abnormality may be the aftermath of one organism invading another with predictable negatively valued outcomes or consequences on the host. It could also be a result of breakdown of anatomic structures of an organism or a result of stress that the body cannot cope with. It may even not be organic phenomenon interfering with body function but the fabric of antisocial behaviour. For instance, among the Yoruba ethnic group of western Nigeria, distasteful behaviour are labelled as sickness as this has something to do with the state of mind. In other words, such behaviour tends to exhibit the relationship between the mind and the body thus reflecting the state of disharmony between the mind and the body. Perhaps it is good to mention at this juncture that disease may not necessarily be symptom manifesting as many forms of diseases are hidden and allow the carrier or victim to go about their normal business.

3.4 Etiology of Illnesses and Diseases

In the dark ages before the advent of science, diseases were thought to be consequences of running foul to the laws of the gods/deity i.e. a punishment inflicted on man by demons or evil spirits secondary to offending the deity. This explains why the first line of action when somebody falls sick then is to appease the gods. This was later replaced by the single causation theory. Today we however know that multiple factors are considered to be instrumental to causing disease. Outlined

below therefore are some of the etiological agents of the various diseases confronting man:

- Inherited genetic defects
- Developmental defects/Congenital malformations. Example – Atria Septal Defect
- Biological agents or toxins
- Physical agents such as temperature extremes, chemicals, or radiations
- Generalised response of tissues to injury or irritation • Physiological and psychological reactions to various stressors
- Biochemical imbalances within the body.

It should however be mentioned as noted by Stephen (1992) that though many of these factors are interrelated, the causes of many diseases are still unknown.

3.5 Classification of Illnesses and Diseases

Illness may be classified as acute, chronic or terminal. Could also be classified as Primary (1^o) or Secondary (2^o). Let's quickly see what these means.

An **acute illness** is one that comes on suddenly and last a relatively short time. Example: Bacterial conjunctivitis, Gastroenteritis to mention a few. Acute illnesses are usually severe but curable; some however lead to long-term problems because of their sequelae. Sequelae are ill effects that result from permanent or progressive organ damaged cause by a disease or its treatment. A **chronic illness** on the other hand, is one that is gradual in onset and last a relatively long time. Stephen (1992) paraphrasing the work of Zindler-Wernet and Weiss on Health Locus of Control and Preventive Health Behaviour submitted that chronic illnesses are illnesses that lead to at least some of the following characteristics: (1) permanent impairment or deviation from normal, (2) irreversible pathological changes, (3) a residual disability, (4) special rehabilitation, and (5) long term medical and/or nursing management. Examples include Arthritis, Chronic renal failure [CRF], Hypertension, and Diabetes Mellitus. A **terminal illness** is one in which there is no known cure. The terminal stage of an illness is one in which death has become inevitable.

A **1º** illness is one that has developed independently of any other disease. Any subsequent disorder that develops from a pre-existing condition is referred to as **2º** illness Example - Hypertension leading to Congestive Cardiac Failure (CCF). Furthermore, illness could be classified according to their etiological factors as follows: Hereditary, Congenital and Idiopathic.

Hereditary – A hereditary condition is one that is transmittable down the family tree i.e. from parent to their offspring through their genetic code. A common example in our environment is sickle cell anaemia. Hereditary illnesses may be manifested immediately after birth or develop at some time later.

Congenital – Congenital disorders are those that are present at birth and are products of faulty embryonic development especially during the first three month of intrauterine life otherwise referred to as period of organogenesis. Example includes Tetralogy of Fallot.

Idiopathic – An idiopathic illness is one that for which there is no known cause. Treatment is usually palliative (directed at relieving symptoms alone). A typical example is cancer.

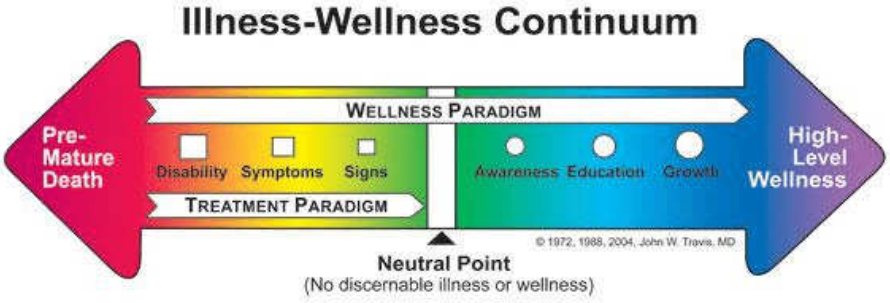
3.6 The Health – Illness Continua

A continuum is defined as a continuous whole. Our health is in a dynamic state of continuity and change constantly being challenged, stressed, abused and even enhanced by our genetic make-up and lifestyle, and by our wider ecological environment (Watkinson, 2002). Health and illness
or disease can be viewed as the opposite ends of a health continuum. From a high level of health a person's condition can move through good health, normal health, poor health, and extremely poor health, eventually to death. People move back and forth within this continuum day by day. There is no distinct boundary across which people move from health to illness or from illness back to health. How people perceive themselves and how others see them in terms of health and illness will also affect their placement on the continuum. The ranges in which people can be thought of as healthy or ill are considerable.

The Illness-Wellness Continua

The illness–wellness continuum ranges from optimal health to premature death The model illustrates arrows pointing in opposite directions and joined at a neutral point. Movement to the right of the neutral point indicates increasing levels of health and wellness for an individual. This is achieved through health knowledge, disease prevention, health promotion, and positive attitude. In contrast, movement to the left of the neutral point indicates progressively decreasing levels of health. Some people believe that a health continuum is overly
simplistic and linear when the real concepts are more complex than the diagram suggests

Fig 3 – 2 Illness–Wellness Continuum



Source:
https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.researchgate.net%2Ffigure%2FIllness-Wellness-Continuum_fig1_309430615&psig=AOvVaw2QPQRmUtThv1h6pDWlZYEG&ust=1641691984736000&source=images&cd=vfe&ved=0CAwQjhxqFwoTCID33bmBofUCFQAAAAAdAAAAABBu**.** Accessed 0n 8th January 2022. .

People do not tend to be totally healthy or totally ill at any given time. Individual's state of health however falls somewhere on a continuum from high-level wellness to death. There is no exact point at which health ends and illness begins. When needs are blocked or threatened, one moves towards the "illness" end of the continuum and vice versa. The body adapts to change in an attempt to maintain homeostasis but high-

level wellness is optimum. Nursing actions involving health promotion and illness prevention assist the patient/client not only in maintaining and increasing the existing level of health but also in achieving an optimal health. However, to assist the patient/client in health maintenance and promotion, illness prevention, and adaptation to the changes that illness produces in every dimension of functioning, the nurse must understand all the aforementioned components of wellness

SELF-ASSESSMENT EXERCISE

List the two main classification of illness?
Explain the health-illness continua

4.0 CONCLUSION

This unit has shown you that health is a dynamic state and its conception/perception is highly varied. There however seems to be a consensus that it involves the whole person – mind, body and spirit – functioning at optimal level. And contrary to the traditional view of illness, it has been shown to be a highly personal state in which a person feels unhealthy or ill. Though usually associated with disease may occur independently of disease. To provide effective nursing care and assist clients/patients in regaining and maintaining high-level wellness, nurses must therefore understand patients'/clients conception of health as this influences their health belief and health practices.

5.0 SUMMARY

In this unit, you examined the concept of health and illness. The unit employed a comprehensive and integrated approach to health, wellness and illness. It also examined the health-illness continuum. Nursing as a holistic and humanistic discipline is therefore concerned with promotion, maintenance and recovery of health. The subsequent chapter expatiates on how this is achieved.

6.0 TUTOR-MARKED ASSIGNMENT

Is health static or changing? Explain with particular reference to the health-illness continuum.

7.0 REFERENCES/FURTHER READING

- Berman, A., Snyder, S. J., Kozier, B., Erb, G. L., Levett-Jones, T., Dwyer, T., Hales, M., Harvey, N., Moxham, L., & Park, T. (2014). *Kozier & Erb's fundamentals of Nursing Australian edition* (Vol. 3). Pearson Higher Education AU.
- Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.
- Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences

- DeLaune, S. C., & Ladner, P. K. (2011). *Fundamentals of nursing: Standards and practice*. Cengage learning.
- Dolan, J. A., Fitzpatrick, M. L., & Herrmann, E. K. (1983). *Nursing in society: A historical perspective*. WB Saunders Company.
- Donahue, M. P. (2011). *Nursing, the finest art: An illustrated history*. Mosby.
- McCormack, B., & McCance, T. (2011). *Person-centred nursing: theory and practice*. John Wiley & Sons Mortimer, B. (2004). Introduction: the history of nursing: yesterday, today and tomorrow. In *New Directions in Nursing History* (pp. 17-37). Routledge.
- Potter, P. A., Perry, A. G. E., Hall, A. E., & Stockert, P. A. (2009). *Fundamentals of nursing*. Elsevier mosby.

UNIT 2 HEALTH AND HUMAN NEEDS

CONTENTS

1.0 INTRODUCTION

Health and human needs are inextricably interrelated. Humans need a number of essentials to survive. The assertion that all individuals irrespective or age, sex, race or creed have needs that they strive to satisfy is therefore no exaggeration. The Cambridge International Dictionary of English defined ‘Needs’ as things one must have or things required to live a satisfactory life i.e. things essential to life and quality living. As a corollary, illness or risk of illness occurs when individuals are not able to satisfy one or more of their basic needs.

Since the soul of nursing is caring, much of our career is weaved around helping people to satisfy these needs. This is consistent with the position of that renowned nurse theorist, Virginia Anderson, who submitted that Nursing is primarily assisting the individual (sick or well) in the performance of those activities contributing to health, or its recovery (or to a peaceful death) which he would have performed unaided if he had the necessary strength, will, or knowledge, as well as helping the individual to be independent of such assistance as soon as possible. Achieving this is however no mean work. This is because human beings are not merely physiological creatures, and their needs are multifaceted and multidimensional. Besides, every individual is a unique being and as such requires some unique needs in addition to the basic human needs.

This unit therefore takes a detailed look at human needs with a view to enhancing nurses' ability to help their clients meet these varied needs.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

i. state the basic human needs
ii. list at least five physiologic needs of all people
iii. describe relationships among the different levels of needs
iv. relate the achievement of basic human needs to health status

3.0 MAIN CONTENT

3.1 Overview of Individual Needs

Human needs are many. They encompass both physical and nonphysical elements needed for human growth and development, as well as all those things humans are innately driven to attain. Human needs therefore can be broadly classified into two major groups viz: Primary needs and Secondary needs (Rosdahl & Kowalski, 2012).

Primary needs otherwise known as Basic needs, are survival needs. They must be met to sustain life. Put differently, their absence or nonsatisfaction portends great threat to human existence. As such they take precedence over other needs called secondary needs. The beyond intractability project (2003) in their write-up on Leadership and Human Behaviour states that basic needs are physiological, such as food, water, and sleep; as well as psychological, such as affection, security, and selfesteem. According to this organisation, these basic needs are also called deficiency needs because if an individual does not meet them, then that person will strive to make up the deficiency and they are usually listed in hierarchical order.

Secondary needs or Meta needs (growth needs) as they are sometimes referred to, are additional higher needs that must be met to maintain the quality of life. They include justice, goodness, beauty, order, unity, etc. Basic needs normally take priority over growth needs. For example, a person who lacks food or water will not normally attend to justice or beauty needs. Unlike the basic needs, the Meta needs can be pursued in

any order, depending upon a person's wants or circumstances, as long as the basic needs have all been met.

3.2 The Basic Human Needs

There are at least five sets or categories of needs, which we can classify as Basic Human Needs. They are physiological, safety, love, esteem and self-actualisation needs. These needs are related to each other, being arranged in a hierarchy of prepotency. This means that the most prepotent goal will monopolise consciousness and will tend of itself to organise the recruitment of the various capacities of the organism. The less prepotent needs are minimised, even forgotten, or denied. But when a need is fairly well satisfied, the next prepotent ('higher') need emerges, in turn to dominate the conscious life and to serve as the center of organisation of behaviour, since gratified needs are not active motivators. Thus, man is a perpetually wanting animal. Ordinarily the satisfaction of these wants is not altogether mutually exclusive, but only tends to be. The average member of our society is most often partially satisfied and partially unsatisfied in all of his wants (Maslow, 1943; White *et al*., 2011).

3.3 Physiologic Needs

Undoubtedly the physiological needs are the most pre-potent of all needs. Why? They are basic biological needs for life sustenance. This means that in the human being who is missing everything in life in an extreme fashion, it is most likely that the major motivation would be the physiological needs rather than any others. A person who is lacking food, safety, love, and esteem would most probably hunger for food more strongly than for anything else. Stated differently, if the physiological needs are unsatisfied, all other needs may become simply non-existent or be pushed into the background. All capacities are put into the service of hunger-satisfaction, and the organisation of these capacities is almost entirely determined by the one purpose of satisfying hunger. The receptors and effectors, the intelligence, memory, habits, all may now be defined simply as hunger-gratifying tools. Capacities that are not useful for this purpose lie dormant or are pushed into the background. For instance, the urge to write poetry, the desire to acquire an automobile, the desire for a new pair of shoes are in the extreme case, forgotten or become of secondary importance. For the man who is extremely and

dangerously hungry, no other interests exist but food. He dreams food, he remembers food, and he thinks about food, he emotes only about food, he perceives only food and he wants only food (Maslow, 1943; White *et al*., 2011).

Perhaps it should be mentioned that any of the physiological needs and the consummatory behaviour involved with them serves as channels for all sorts of other needs as well. That is to say, the person who thinks he is hungry may actually be seeking more for comfort, or dependence, than for vitamins or proteins. Conversely, it is possible to satisfy the hunger need in part by other activities such as drinking water or smoking cigarettes. In other words, relatively isolable as these physiological needs are, they are not completely so (Maslow, 1943; White *et al*., 2011). In synopsis, the first need of the body is to achieve homeostasis and this is achieved through the consumption of food, water and air; elimination of exogenous and endogenous wastes; sleep and rest; activity and exercise; and sexual gratification. Let us then take a look at each of these physiological needs.

Air/Oxygen – This is the most essential of all basic needs. Air is a name for the mixture of gases present in the earth atmosphere. By volume, dry air contains approximately 78.1% Nitrogen, 20.9% Oxygen, 0.9% Argon, and 0.03% Carbon Dioxide. Oxygenation (the delivery of oxygen to the body cells and tissues) is necessary to maintain life and health (Christensen, 2011). The brain for instance cannot function without oxygen for longer than 4 – 5 minutes (DeLaune & Ladner, 2011)Oxygen is needed for internal respiration alongside the metabolic processes occurring in the body. The body meets its oxygen need via external respiration or what is called gaseous exchange. Variables affecting oxygenation include age, environmental and lifestyle factors and certain disease process. Consequently, anything that interferes with the airway, atmospheric oxygen content, human respiration and circulation can threaten the body's oxygen supply. Examples of such abound but briefly they include: some respiratory diseases like emphysema, asthma, pneumonia; air pollution; blockage of respiratory tract by secretion to mention a few (Rosdahl & Kowalski, 2012).

Clients with compromised oxygenation status need careful assessment and thoughtful nursing care to achieve adequate and comfortable level of oxygenation status (Christensen, 2011). Nursing measures to meet

oxygen needs range from teaching client to rest in position that increases respiratory volume and thus the level of oxygen, to emergency cardiopulmonary resuscitation for cardiac arrest and supportive measures such as administration of oxygen to patients/clients with pulmonary disease (DeLaune & Ladner, 2011)

Water and Fluids – It is no exaggeration that though a man can survive several days without food could last only a few hours without water. Water takes many different shapes on earth: water vapour and clouds in the sky, waves and icebergs in the sea, glaciers in the mountain, aquifers in the ground, to name but a few. From a biological standpoint, water has many distinct properties that are critical for the proliferation of life that set it apart from other substances. Water carries out this role by allowing organic compounds to react in ways that ultimately allows replication. It is a good solvent and has a high, surface tension and thus allows organic compounds and living things to be transported in it. 60 – 70% of the body cells are made up of fluids.

The body constantly loses fluid to the environment via the various regulatory systems in the body. Howbeit, body fluid is replenished by ingestion of liquids and food products such as meats and vegetables, which contain 65% to 97% water and through the chemical oxidation of food substances. The healthy existence or otherwise of the cellular system, indeed the entire body therefore depends on the maintenance of proper volume, chemical composition, and placement of these fluids. This balanced internal environment is what is called homeostasis. Virtually all illness states (unconsciousness, kidney dysfunctions, gastroenteritis, diabetes mellitus etc.) threaten this balance. It is even threatened in a healthy state, especially when one engages in prolonged outdoor exercises without adequate fluid intake. Prolonged administration of certain therapeutic regimen could also alter this balance, for instance the use of diuretics and corticosteroids.

Dehydration and oedema indicate unmet fluid needs. Dehydration is the excessive loss of fluid from body tissues; it is accompanied by a disturbance of body electrolytes. Could follow prolonged fever, vomiting, diarrhoea, trauma or any other condition that causes a rapid fluid loss. Oedema is the abnormal accumulation of fluid in the interstitial spaces of tissues, pericardial sac, intrapleural space, peritoneal cavity, or joint capsules. Oedema may be caused by decreased serum

protein level, altered functioning of the cardiovascular, renal, or hepatic system, or drugs. The nurse examines patients/clients for actual and potential fluid and electrolyte imbalance. Poor skin turgor (normal skin elasticity becoming lax), flushed dry skin, decreased tears or salivation, a coated tongue, decreased urine output (oliguria), confusion and irritability indicate dehydration (DeLaune & Ladner, 2011). Pitting bipedal oedema, facial puffiness, ascites (accumulation of fluids in the peritoneal cavity), positive shifting dullness are all manifestations of excessive body fluids. The nurse can assist in conditions of altered fluid balance through accurate assessment, measuring of intake and output, weighing of patients and monitoring of intravenous infusions and so on and so forth.

Food and Nutrients – Food is any substance that can be consumed, be it of plant or animal origin including liquid drinks, and it is the main source of energy and of nutrition for man and other animals. The phrase 'we are what we eat' is frequently used to signify that the composition of our bodies is dependent in large measures on what we have consumed (Berman *et al.*,2014). Today there is a greater awareness of the relationship between health and nutrition, nutrition and the onset of illness, nutrition and wound healing, and nutrition and effective immunity.

Optimal nutrition (intake matches energy expenditure; proper amount of each essential nutrient) is essential for: Normal growth and development; maintenance of bodily functions; optimal activities status; resistance to infection; and repair of injuries to cells and tissues. Lack of adequate nutrition produces specific identifiable diseases such as kwashiorkor, marasmus, rickets, etc. Poor nutritional habits, inability to chew and swallow, nausea and vomiting equally pose a threat to nutritional status. Over-eating on the other hand also adversely affect health (results in obesity, hypercholestraemia` and other related problems). Perhaps the point that could be safely made is that while good nutrition is not synonymous to good health, good health is not achievable without adequate nutrition.

To determine whether patients/clients are meeting nutritional needs, the nurse considers body weight and other markers of nutritional deficiency. These include the physique, body mass index, hair texture and colour, some laboratory data (e.g., PCV), and food intake patterns. Signs and

symptoms indicating that individuals are not meeting nutritional needs include failure to thrive, unplanned weight loss, fatigue, pallor and recurring mouth and gum sores (DeLaune & Ladner, 2011)To help individuals meet their nutritional needs, the nurse must have a good understanding of the various locally available foodstuffs and their nutritive values as well as the digestive and metabolic processes of the body. Nursing action targeted at resolving nutritional problems range from health education to assuming total responsibility for the planning and feeding of patients.

SELF-ASSESSMENT EXERCISE

List the basic human needs.

Elimination of Waste Products – This is essential to maintain life and comfort. The integumentary (the skin and its appendages), respiratory, urinary, hepatic, and digestive systems are the organs primarily concerned with elimination of wastes from the body. The skin eliminates water and salt in form of sweat; the kidney, excess fluids and electrolytes; the lungs, carbon dioxide and water; the intestine, solid wastes and fluids; and the liver, detoxified drugs and toxins. Many conditions (kidney or renal problems, bowel obstruction, diseases of the respiratory tract etc.) impair this process of waste elimination in the body with grave consequences.

A patient/client whose urinary elimination needs are unmet may become incontinent or develop urinary tract infection. Unmet urinary elimination needs also results in fluid and electrolyte imbalances. A patient unmet need for bowel elimination may lead to changes in pattern of elimination or diet intake . (White *et al., 2011)* . Nursing measures at helping clients/patients meet their elimination needs may be as simple as providing privacy or changing diet or giving enema or as complex as inserting a urethral catheter, conducting peritoneal dialysis or haemodialysis, or assisting with surgery to relieve bowel obstruction or administering medication to relieve constipation.

Sleep and Rest – Sleep is a recurrent, altered state of unconsciousness that occurs for sustained periods, during which the body experiences minimal physical activity and a general slowing down of physiological processes with resultant restoration of energy and well-being. It provides

time for the repair and recovery of body systems for the next period of wakefulness. Rest refers to a state of relaxation and calmness (Coy, 2011). Like sleep it reduces physical and psychological demands on the body. Activities during rest periods range from lying down to taking a quiet walk. While it is very true that the much of sleep required by individuals depends to a large extent on such factors as age, pregnancy, state of health; sleep deprivation has been implicated in the worsening of certain mental disorders. Although the length of time that can be considered as adequate sleep is still controversial, there is a general belief that about 6 to 8hours of sound sleep is sufficed for healthy living. Rest and sleep habits of persons entering the hospital or other health care facility can easily be changed by illness, the strange hospital environment culminating in fear and anxiety, and hospital routines. The nurse must be aware of patient/client's need for rest and sleep as lack of it aggravates the existing deteriorating state of health of the clients. As nurses, we can assist our clients to get enough rest and sleep by providing safe, comfortable, and quiet environment, maintenance of proper anatomical alignment or positioning, provision of adequate ventilation, giving of warm tub bath, soothing back rub, and prescribed sleep enhancing medications (Rosdahl & Kowalski, 2012) . Any bedtime habits, such as reading, walking, bathing or drinking milk should be incorporated into the care plan. When possible the nurse should plan care to fit the patient's/client's usual sleep-wake-cycle (Cox, 1995; . (White *et al., 2011*).

Activity and Exercise – Mobility or movement is an activity most people have taken for granted but the ability to move and be active brings about positive benefits to one's health status (Brillhart 2011). Mobility though not absolutely essential for survival is needed to maintain optimum health. According to Rosedale & Kowalskhi (2012) respiration activity stimulates the mind and body while exercise helps in maintaining body's structural integrity and health by enhancing circulation and respiration. Mobility enhances muscle tone, increases energy levels, and is often associated with psychological benefits such as independence and freedom. Functional mobility is governed by body mechanics, the purposeful and coordinated use of body parts and positions during activity. Use of proper body mechanics maximises the effectiveness of the efforts of the Musculoskeletal and neurological systems and reduces the body's exposure to strain or injury during movement (Brillhart 2011; White *et al., 201)*).

The nurse can assist her client to obtain needed exercises in the following ways: (a) Through the teaching of pre-operative breathing exercises; (b) Encouraging early ambulation post-surgery; (c) Conduction of passive range of motion exercises; (d) Turning of immobilised patients (non-ambulant patients) to mention but a few.

Sexual Gratification – Everyone is a sexual being regardless of health status (Hodge, 1995; DeLaune & Ladner, 2011), and sexual integrity is an integral part of a person's well-being. Even though there are no universal values about sexuality, individuals do experience sexual needs but unlike other physiologic needs, sexual gratification may be sublimated (Rosdahl & Kowalski, 2012). This is to an extent underscores the fact that the sex need is not vital to survival of individuals but it is vital to the survival of the species.

Nurses often encounter clients whose sexuality is threatened. Some illnesses such as diabetes mellitus, chronic pain, some disabilities, certain surgeries and some medications like certain antihypertensives, and even hospitalisation may impair a person's sexual integrity (Delaune & Ladner, 2011). The nurse can be of great help in managing client's sexual problems by demonstrating understanding, creating an atmosphere that communicates consideration, and making the patient feel comfortable. In addition, clients and sexual partner need to be informed about the cause of the problem. Medications reducing sexual libido could be substituted while clients with chronic pain could be taught methods of increasing their comfort level (e.g. relaxation techniques). However, Rosdahl & Kowalski, (2012),) rightly suggested, when a client present with major sexual problems such should be referred for professional counseling.

3.4 Security and Safety Needs

Once the physiological needs are relatively well gratified, there then emerges a new set of needs, which we may categorise roughly as the safety needs. All that has been said of the physiological needs is equally true, although in lesser degree, of these desires. They may equally well wholly dominate the organism. They may serve as the almost exclusive organisers of behaviour, recruiting all the capacities of the organism in their service, and we may then fairly describe the whole organism as a

safety-seeking mechanism. Again we may say of the receptors, the effectors, of the intellect and the other capacities that they are primarily safety-seeking tools. Again, as in the hungry man, we find that the dominating goal is a strong determinant not only of his current world outlook and philosophy but also of his philosophy of the future. Practically everything looks less important than safety, (even sometimes the physiological needs which being satisfied, are now underestimated). A man, in this state, if it is extreme enough and chronic enough, may be characterised as living almost for safety alone (Maslow, 1943; Delaune & Ladner, 2011).

Whereas the physiological drive has certain limit to their satisfaction, security needs seem to be infinite in nature. For example, excessive indulgence in eating could be harmful to people. Characteristics of safety include: predictability, stability, familiarity, as well as feeling safe and comfortable and trusting other people (Rosdahl & Kowalski, 2012). Inherent in the above statement is that safety needs contains both physical and psychological components. Freedom from harm, danger and fear, financial security, need for shelter and warmth all are therefore subsumed under safety and security needs.

Physical Safety – Maintaining physical safety involves reducing or eliminating threats to body or life. The threat may be illness, accident, danger, or environmental exposure, lack of shelter and warmth. The threat could even be orchestrated by medical or surgical complications following a protracted illness or surgical intervention. Although lack of shelter may not create an immediate threat to life, its cumulative effect may eventually squeeze out life out of people. Furthermore, it will thwart the ability of an individual to progress towards a higher level needs. The need for warmth is however predicated on the fact that the human body functions in a relatively narrow range of temperature and any deviation from this narrow range will spell doom for the whole body (Rosdahl & Kowalski, 2012). The nurse may assist in removing threats from patient's environment through keen observation and continual assessment, ensuring adequate bed spacing, keeping wards well illuminated and aerated, scrupulous hand-washing, aseptic wound dressing, locking up of poisons at home to safeguard children, to mention but a few.

Psychological Safety – According to Delaune & Ladner (2011) 'To be safe and secure psychologically, a person must understand what to expect

from others, including family members and healthcare professionals, and what to expect from procedures, new experiences, and encounters within the environment'. Delaune & Ladner, (2011) asserted that everyone feels some threat to psychological safety with new and unfamiliar experiences. By extension, a newly hospitalised patient may feel threatened by the strange hospital environment and a patient/client about to undergo a diagnostic test may equally feel threatened by the technology involved. The fact that people rarely open up that their psychological safety is threatened makes assessment of psychological safety often difficulty. To this end, the nurse will have to interpret the patient/client language and behaviour. The nurse may assist in alleviating psychological threat through explanation of procedures to patients before actual intervention, health education etc.

3.5 Affiliation and Social Needs (Love)

These encompass the need for friendship, love, belongingness, and acceptance. When both the physiological and the safety needs are fairly well gratified, then the affiliation needs will emerge and dominate the behaviour of human being. Now the person will feel keenly, as never before, the absence of friends, or a sweetheart, or a wife, or children. He will hunger for affectionate relations with people in general, namely, for a place in his group, and he will strive with great intensity to achieve this goal. He will want to attain such a place more than anything else in the world and may even forget that once, when he was hungry, he sneered at love (Maslow, 1943).

The drive to belong and be accepted by other people stems from the gregarious nature of human. Everyone needs to feel that they are wanted and belong to a group. Non-fulfillment of these needs may affect the mental health of the individual and indeed has implicated in the etiology of maladjustment and more severe psychopathology. For instance, a usually mild-tempered person may become easily irritated; an outgoing person may suddenly become withdrawn from friends and coworkers; could even affect a person's work habits leading to increased absenteeism or over commitment to the job.

For this reason, the nursing care plan for an ill hospitalised patient should include means by which love and belonging needs can be met. Some of the ways by which this need could be met include: getting patient/client

actively involved in the development of their care plan; giving nursing care in friendly and empathetic manner; encouraging presentation of greeting cards to patient and visits by friends and relatives; and short social visits by members of the health care team.

SELF-ASSESSMENT EXERCISE

describe human physiological needs.

4.0 CONCLUSION

You have learnt that since the attainment of highest level of health by any individual is predicated upon a complex maze of needs achievement, no effort should be spared at ensuring that individuals meet their basic human needs. Nurses, the set of health workers that spend the longest hours with the patients, therefore need to be equipped with knowledge and skill of assessing and meeting the multifaceted needs of their clients.

5.0 SUMMARY

This unit has taken a broad look at the relationship between health and human needs. You must have noted that all human need a number of essentials to survive and that all human beings are driven by physiologic and psychological needs. It classified human needs into two broad groups – Primary needs and Secondary needs noting that the first level needs (physiologic needs) must be met before a person can address higher level needs. Employing simple illustrations, the unit shows that physiological needs can control thoughts and behaviours, and can cause people to feel sickness, pain, and discomfort. In addition, the unit buttressed the view that 'as illness or injury can interfere with a person's ability to meet needs, the duo could also cause an individual to regress to a lower level of functioning'. Lastly, the unit emphasised that nurses can do a lot in identifying and assisting patients/clients to meet their basic human needs.

6.0 TUTOR-MARKED ASSIGNMENT

i. Classify the basic human physiological needs.
ii. Describe the relationship among the different levels of needs.

7.0 REFERENCES/FURTHER READING

- Berman, A., Snyder, S. J., Kozier, B., Erb, G. L., Levett-Jones, T., Dwyer, T., Hales, M., Harvey, N., Moxham, L., & Park, T. (2014). *Kozier & Erb's fundamentals of Nursing Australian edition* (Vol. 3). Pearson Higher Education AU.
- Delaune S.C & P.K. Ladner, (2011). *Fundamentals of Nursing, Standard and Practice*. Albany: Delmar Publishers.
- *Potters and Perry's (2009). Foundations in Nursing Theory and Practice*. Italy: Mosby, An Imprint of Times Mirror International.

- Maslow, A. H. (1943). A Theory of Human Motivation. *Psychological Review*, 50, 370-396. Retrieved August 2000, from http://psychclassics.yorku.ca/Maslow/motivation.htm
- Rosdahl, C. B. & Kowalski M.T. (2012). *Textbook of Basic Nursing*. 10th Philadelphia: J.B. Lippincott Company

UNIT 3 HEALTH AND HUMAN NEEDS II

CONTENTS

1.0 INTRODUCTION

The preceding unit opens the discussion on the universality of needs and the relationship between health and human needs but fail to address all aspects of this all-important issue. The present unit is therefore a continuation of that discourse. The unit particularly examines esteem needs, self-actualisation needs, Maslow hierarchy of human needs and other theories of human needs.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

i. differentiate between the esteem needs and self-actualisation needs
ii. discuss the Maslow hierarchy of needs
iii. describe what is meant by hierarchy of needs
iv. discuss Maslow Hierarchy of Needs and other Needs Theories
v. examine the flaws of Maslow Hierarchy of Needs
vi. discuss the clinical and other applicability of Basic Needs Theory.

3.0 MAIN CONTENT

3.1 Esteem and Self-Esteem Needs

The term self-esteem (self-image, self-respect, self-worth) is related to the person's perception of self / personal feeling of self-worth and recognition or respect from others. All people in every society (with a few pathological exceptions) have a need or desire for a stable, firmly based (i.e. soundly based upon real capacity), usually high evaluation of themselves, for self-respect, or self-esteem, and for the esteem of others. This is because self-respect and dignity are essential to the psychological well-being of individuals who have reached some degree of satisfaction in the first three levels of human needs. Cox (2009) declared that a change in roles whether anticipated (for instance retirement), or sudden such as injury, may threaten self-esteem. Similarly, changes in body image whether obvious like amputation or hidden (e.g. hysterectomy) may also influence self-esteem. Cox (2009) stressed further that it is not the magnitude of the change or role that affects self-esteem, but rather how the person perceives the self after the change.

Esteem and Self-Esteem needs are met when the person thinks well of himself or herself (achievement, adequacy, competence, confidence) and is well thought of by others (recognition, status awards, prestige) (Rosdahl & Kowalski, 2012). When both of these needs are met, a person feels self-confident and useful but thwarting of these needs produces feelings of inferiority, of weakness and of helplessness. These feelings in turn give rise to either basic discouragement or else compensatory or neurotic trends (Maslow, 1970; Berman *et al., 2014*). Consequently, indications of unmet needs for self-esteem include a feeling of helplessness/hopelessness/inferiority complex and becoming self-critical or unusually lethargic or apathetic about anything involving self, including appearance. In Cox (2009) words, a person feeling the lack of esteem of other people may test others by making such statements that call for their approval or praise, or may act in a way that prevents such approval if little self-esteem is present and the person is certain of failure.

Nursing intervention in cases of low self-esteem begins right from admission or first contact with the client/patient. The nurse can assist

client/patient to regain positive self-esteem by conveying a feeling of acceptance and respect, employing a non-judgmental approach in handling the values and beliefs of the client/patient, encouraging independence, rewarding progress, allowing the client/patient to do as much self-care as possible, and tailoring specific nursing actions towards the root cause of the altered self-concept. But if patients' self-esteem is so low that they fail to care for themselves, the nurse assumes total responsibility for meeting those other needs while taking steps to increase self-esteem (Rosdahl & Kowalski, 2012).

3.2 Need for Self-Actualisation

This term, first coined by Kurt Goldstein refers to the desire for self-fulfillment, namely, to the tendency for him to become actualised in what he is potentially. This tendency might be phrased as the desire to become more and more what one is, to become everything that one is capable of becoming. They are more ego oriented in nature and frequently express themselves in highly independent behaviours. However, the clear emergence of these needs rests upon prior satisfaction of the physiological, safety, love and esteem needs. That is, even if all aforementioned needs are satisfied, we may still often (if not always) expect that a new discontent and restlessness will soon develop, unless the individual is doing what he is fitted for. A musician must make music; an artist must paint, a poet must write, if he is to be ultimately happy. What a man *can* be, he *must* be (Maslow, 1943; Berman *et al., 2014*). It must however be stressed that the specific form that these needs will take, will of course vary greatly from person to person. In one individual it may take the form of the desire to be an ideal mother, in another it may be expressed athletically, and in still another it may be expressed in painting pictures or in inventions. It is not necessarily a creative urge although in people who have any capacities for creation it will take this form.

Present needs, environment, and stressors influence how well people meet their need for self-actualisation. As a matter of fact, many psychologists believe that people continue striving to reach this level in life and very few people believe that they are self-actualised. Self-actualised individuals have mature multidimensional personality, frequently they are able to assume and complete multiple tasks, and the achieve fulfillment from the pleasure of a job well done. They do not

totally depend on opinions of others about appearance, quality of work, or problem-solving methods. While it is true that they may have failings and doubts, they generally deal with them realistically (potter & Perry 2009).However, self-actualisers may focus on the fulfillment of this highest need to such an extent that they consciously or unconsciously make sacrifices in the fulfillment of the lower level needs.

Illness, injury, loss of loved one, change in role, change in status can threaten or disturb self-actualisation sometimes manifesting in behavioral changes. The gal of nursing care is to assist individuals to reach their fullest potential. As such nursing care is planned to encourage individual to make decisions when possible, particularly those that concern his health. Because the self-actualised person tends to be creative, nursing care should give room for expression of creativity as well as encouraging the individual to continue with specific projects. And since the healthy self-actualised person generally has a strong need for privacy, the patient's need for privacy must be respected (potter & Perry 2009).

SELF-ASSESSMENT EXERCISE

What is the positive link of esteem and self-esteem needs?

Theories of Human Needs

Quite a number of theories have been propounded on human needs but prominent among them are the Maslow Hierarchy of Needs and the Alderfer's Existence/Relatedness/Growth (ERG) Theory of Needs.

(a) Maslow Hierarchy of Needs

Abraham Harold Maslow was a renowned psychologist and philosopher who lived between April 1, 1908 and June 8, 1970. He was a scholar and was referred to as the father of humanistic psychology. In 1943, Abraham H. Maslow observed and concluded that:

- Needs are hierarchical in nature. That is, each need has a specific ranking or order of obtainment.

- The need network for most people is very complex, with a number of needs affecting the behaviours of each person at any point in time.
- People respond to these needs in a progressive manner from simple physiological needs (survival needs) to more complex (aesthetic) needs; and that they do so as whole and integrated beings.
- When one set of needs is satisfied, it seizes to be a motivator.
- Lower level need must be satisfied in general, before higher level needs are activated sufficiently to drive behaviour.
- There are more ways to satisfy higher level needs than there are for lower level needs

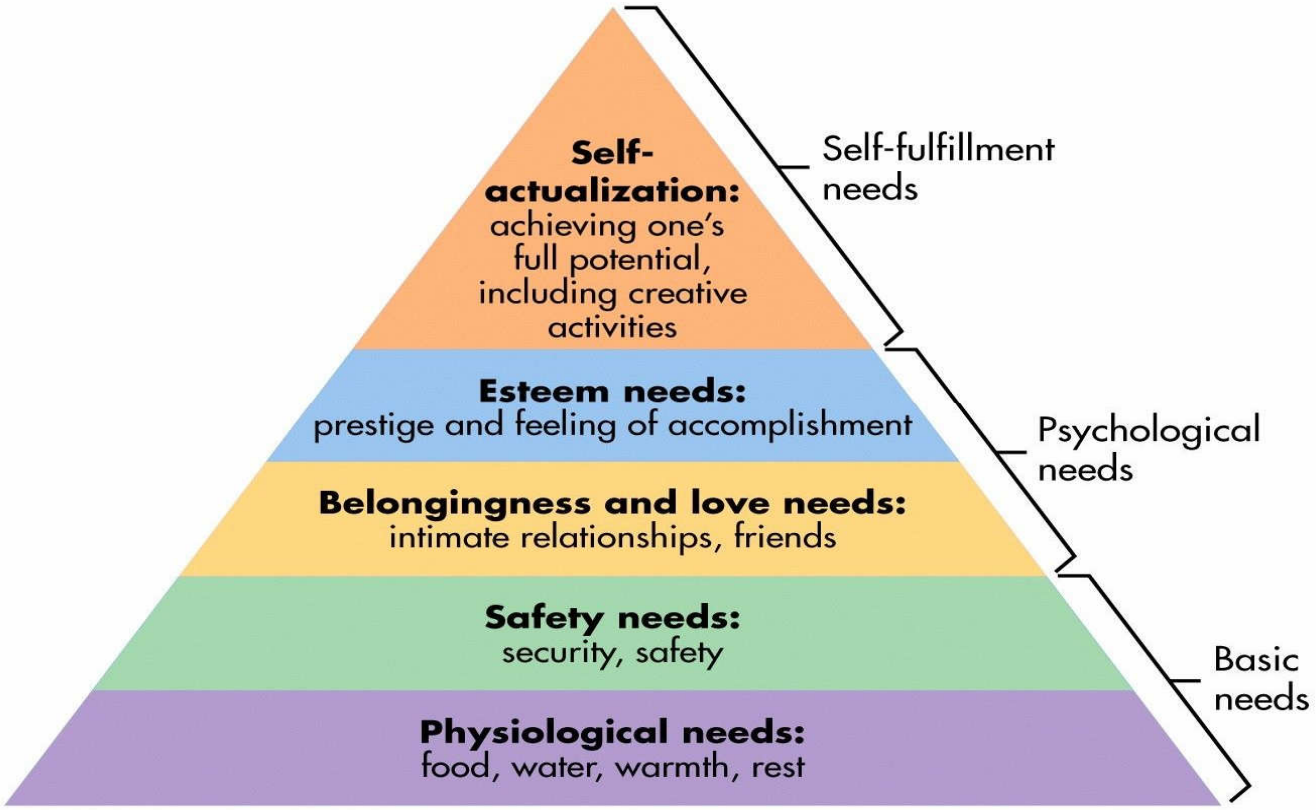
Consequently, he identified various needs that motivate behaviour and place them in sequential hierarchy or graded order according to their significance to human survival i.e. in ascending order from lowest to the highest needs. He posited that that the basic needs of all people regardless of age, sex, creed, social class, or state of health (sick or well) could be categorised into five levels:

Physiological: hunger, thirst, bodily comforts, etc.;

- **Safety/Security:** the need for structure, predictability, out of danger, free from harm, feel safe and secure;
- **Belongings and Love:** the need to be accepted by others and to have strong personal ties with one's family, friends, and identity groups;
- **Esteem:** the need to achieve, be competent, gain approval and recognition; and
- **Self-Actualisation:** the need to find self-fulfillment and reach one's potential in all areas of life;

Maslow's needs pyramid starts with the basic items of food, water, and shelter. These are followed by the need for safety and security, then belonging or love, self-esteem, and finally, personal fulfillment (Self-Actualisation). According to him, the first level needs, which are physiologic, occupying the bottom of the pyramid/ladder, are the most important as they are activities needed to sustain life such as breathing and eating.

Fig 3 – 1 Schematic Representation of Maslow Hierarchy of Needs



Source:

Each higher level represents one of lesser importance to human existence than the one previous to it. Maslow believed that it is when a particular physiological need is met with relative degree of satisfaction that other needs of lesser importance to human existence take precedence. However, by progressively satisfying needs at each subsequent level, people can realise their maximum potential for health and well-being (potter & Perry 2009).

(b) Alderfer's Existence/Relatedness/Growth (ERG) Theory of Needs

The ERG Theory of Clayton P. Alderfer is a model that appeared in 1969 in a Psychological Review article entitled "An Empirical Test of a New

Theory of Human Need". In a reaction to Maslow's famous Hierarchy of Needs, Alderfer, an American Psychologist, postulated that there are three groups of human needs that influence workers' behavior; existence, relatedness, and growth. These three needs categories are:

- **Existence -** This group of needs is concerned with providing the basic requirements for material existence, such as physiological and safety needs. (Maslow's first two levels). This need is satisfied by money earned in a job so that one may buy food, shelter, clothing, etc.

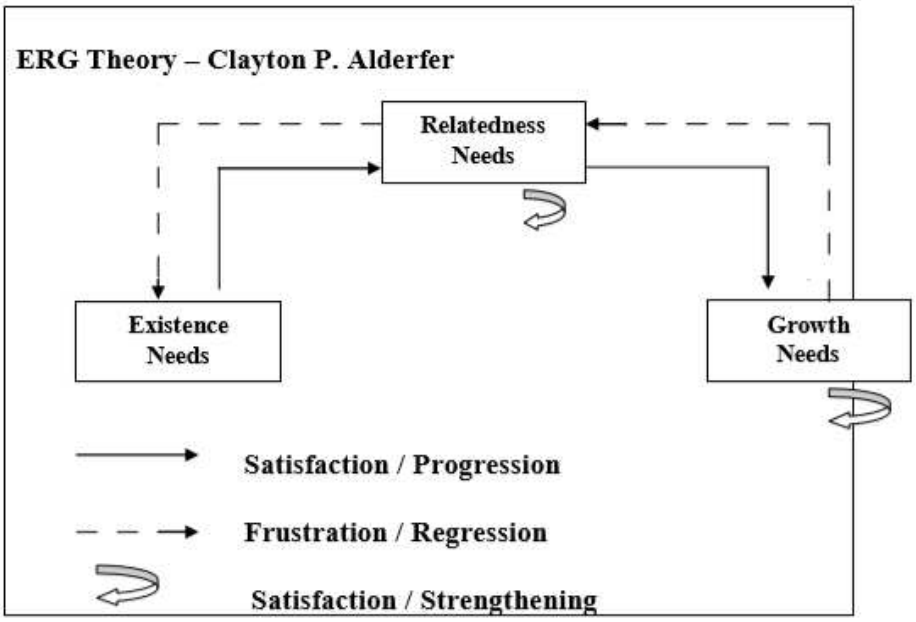
- **Relationships** - This group of needs center upon the desire to establish and maintain interpersonal relationships i.e. social and external esteem (involvement with family, friends, co-workers and employers) (Maslow's third and fourth levels.

- **Growth** – This encompasses internal esteem and self-actualisation (desires to be creative, productive and to complete meaningful tasks) (Maslow's fourth and fifth levels). These needs are met by personal development. A person's job, career, or profession provides significant satisfaction of growth needs.

Contrarily to Maslow's idea that access to the higher levels of his pyramid required satisfaction in the lower level needs, Alderfer declared that the three ERG areas are not stepped in any way. ERG Theory recognises that the order of importance of the three Categories may vary for each individual. Managers must recognise that an employee has multiple needs to satisfy simultaneously. According to the ERG theory, focusing exclusively on one need at a time will not effectively motivate. In addition, the ERG theory acknowledges that if a higher-level need remains unfulfilled, the person may regress to lower level needs that appear easier to satisfy. That is, if the gratification of a higher-level need is frustrated, the desire to satisfy a lower level need will increase. Alderfer identifies this phenomenon as the "frustration & shy aggression dimension." This frustration-regression dimension affects workplace motivation. For example, if growth opportunities are not provided to employees, they may regress to relatedness needs, and socialise more with co-workers. The relevance of this on the job is that even when the upper-level needs are frustrated, the job still provides for the basic physiological needs upon which one would then be focused. If, at that

point, something happens to threaten the job, the person's basic needs are significantly threatened. If there are not factors present to relieve the pressure, the person may become desperate and panicky (Alderfer, 1969; potter & Perry 2009)..

Fig 3 – 2 Schematic Presentation of Alderfer's ERG Theory of Needs



Source:

(c) Other Theories of Needs: A Summary

Huitt (2004) in what looks like a review of literature captures other scholars' contribution to 'Need Theory' as follows:

"Contrary to Maslow's categorisation of needs, James (1892/1962) hypothesised that there are three levels of needs namely: material (physiological, safety), social (belongingness, esteem), and spiritual. Mathes (1981) while agreeing with the three-tier categorisation of needs proposed that the three levels were physiological, belongingness, and self-actualisation; he considered security and self-esteem as unwarranted. Ryan & Deci (2000) also suggest three needs, although they are not necessarily arranged hierarchically: the need for autonomy, the need for competence, and the need for relatedness. Thompson, Grace and Cohen (2001) submitted that the most important needs for children

are connection, recognition, and power. Nohria, Lawrence, and Wilson (2001) provide evidence from a sociobiology theory of motivation that humans have four basic needs: (1) acquire objects and experiences; (2) bond with others in long-term relationships of mutual care and commitment; (3) learn and make sense of the world and of ourselves; and (4) to defend ourselves, our loved ones, beliefs and resources from harm. The Institute for Management Excellence (2001) suggests there are nine basic human needs: (1) security, (2) adventure, (3) freedom, (4) exchange, (5) power, (6) expansion, (7) acceptance, (8) community, and (9) expression".

As rightly noted by Huitt (2004), a common trait or regular feature of all these theories however is bonding and relatedness. Notice that there do not seem to be any other that are mentioned by all theorists. Franken (2001) suggests this lack of accord may be a result of different philosophies of researchers rather than differences among human beings. In addition, he reviews research that shows a person's explanatory or attributional style will modify the list of basic needs. This possibly explains why Huitt (2004) concluded that it will seem appropriate to ask people what they want and how their needs could be met rather than relying on an unsupported theory.

3.3 Criticisms of Maslow's Theory of Needs

Maslow concept of needs had been subjected to considerable research. For example, in their extensive review of research that is dependent on Maslow's theory, Wabha and Bridwell (1976) found little evidence for the ranking of needs that Maslow described or even for the existence of a definite hierarchy at all but rather are sought simultaneously in an intense and relentless manner. Other needs theorists have perceived human needs in a different way -- as an emergent collection of human development essentials (Marker, 2003). Some have contended that Maslow does not mention time period between various needs and that people do not necessarily satisfy higher order needs through their jobs or occupations. Besides, the concept of self-actualisation is considered vague and psychobabble by some behaviourist psychologists. They asserted that the concept is based on an aristotelian notion of human nature that assumes we have an optimum role or purpose. In their words, 'self actualisation is a difficult construct for researchers to operationalise, and this in turn makes it difficult to test Maslow's theory. Even if self-

actualisation is a useful concept, there is no proof that every individual has this capacity or even the goal to achieve it'. Other counter positions suggest that satisfaction which Maslow viewed as a major motivator has been found not to be directly related to production which is main goal of the manager.

3.4 Application of Basic Needs Theory

Huitt (2004) citing the works of Norwood (1999) submitted that Maslow Hierarchy of needs could be used to describe the kinds of information that individuals seek at different levels. For example, individuals at the lowest level seek coping information in order to meet their basic needs. Information that is not directly connected to helping a person meet his or her needs in a very short time span is simply left unattended. Individuals at the safety level need helping information. They seek to be assisted in seeing how they can be safe and secure. Enlightening information is sought by individuals seeking to meet their belongingness needs. Quite often this can be found in books or other materials on relationship development. Empowering information is sought by people at the esteem level. They are looking for information on how their ego can be developed. Finally, people in the growth levels of cognitive, aesthetic, and self-actualisation seek edifying information.

Maslow's theory of human needs has also gain a universal application in nursing care of patients/clients of all ages. It wide applicability in nursing is predicated upon the fact that illness often disrupt patients the ability to meet needs on different levels, hence patients/clients come up with many needs. It should however be noted that Maslow's hierarchy is a generalisation about the need priorities of most but not all people. As such when the nurse applies this theory in practice, the focus should be on the needs of the individual rather than rigid adherence to Maslow's hierarchy. In all cases, an emergency physiological need takes precedence over a higher-level need. However, the need for self-esteem may be a higher priority than a long-term nutritional need for one patient/client, whereas for another person, the reverse may be the case. Furthermore, although the hierarchy of needs suggests that one should be met before the other, nursing care often addresses two or more at the same time. As Potter & Perry (2009),suggests the provision of most effective nursing care therefore entails an understanding on the part of the nurse, the relationship among different needs for the individual.

Indeed, in some nursing situations, it is unrealistic to expect a patient's/clients basic needs to be fulfilled in the fixed hierarchical order. The example given by Potter & Perry (2009) of a person who possibly enters the health care system as a result of chronic respiratory infection but presents with multiple related unmet needs for nutrition, sleep, etc. aptly buttress this assertion. Nursing care in this situation will not simply be directed at meeting the respiratory needs but will be directed at resolving the pressing/life threatening needs while simultaneously addressing the higher level needs.

It should also be noted that for different individuals, needs on different levels may be related in different ways. Some people may give sexual need a higher priority than the need for love, whereas for others, sexual need is deferred until the need for love is met. Similarly, people with unmet needs for self-esteem may be unable to seek fulfillment of the need for love if their self- esteem is so low that they feel inferior and fear rejection. In these and many other ways, needs on different level may be closely related for individuals. When assessing needs and planning care, the nurse must not assume that lower–level need always takes priority. As with all other aspects of providing care, the nurse individualises the nursing care plan to provide for the unique needs and desires of the patient / client Potter & Perry (2009). Factors influencing need priorities include: (a) A person's personality and mood. For instance, a depressed person may react negatively to a suggestion for an activity that could increase self-esteem, although in another mood the person might respond with enthusiasm. Thus, when providing care to help meet several needs, the nurse can adjust the care plan to correspond most effectively to the patients/client's personality and mood. (b) The health status of the client/patient. A frail looking anaemic patient for example, should not be encouraged to resume physical activities related to need for self-esteem until need for physical safety and security have been met. (c) Socio-economic status and cultural background – this affects a person's perception of needs.

To make any meaningful impact in meeting the hydra-headed needs of clients/patients, the nurse must therefore take into consideration all the aforementioned factors. In addition, in view of the interrelatedness of needs (e.g. if nutritional needs are not met for a long time, the person not

only begins to grow lean and malnourished but also become deficient in meeting safety, love and self-esteem needs.

SELF-ASSESSMENT EXERCISE

Sketch a diagrammatic representation of Abraham Maslow's Hierarchy of needs**.**

4.0 CONCLUSION

In conclusion, the human needs theory, no doubt, is a set of concepatients important for the nurse understanding of health and illness and the patient's/client's position on the health-illness continuum. Nonetheless, the nurse must as a necessity consider the uniqueness of each individual, their need References/Further Reading/Further Reading and the significance of each need in prioritising nursing care.

5.0 SUMMARY

The unit is a follow up of the discussion on health and human needs. You must have observed that it discussed the esteem and self-actualisation needs with particular reference to how nurses could assist patients/clients to meet these needs. The unit also incorporates a comprehensive discourse of the Maslow hierarchy of needs with its flaws/ weaknesses and other need theories. You also noted that the unit acknowledges that Maslow hierarchy of needs is a theoretical representation of the need priorities of most people and not all people and therefore cautioned that when the nurse applies this theory in practice, the focus should be on the needs of the individual rather than rigid adherence to Maslow's hierarchy.

6.0 TUTOR-MARKED ASSIGNMENT

1. Write an essay on Maslow's Hierarchy of needs**.** Discuss the application of Maslow's Hierarchy of Needs in a clinical setting.
2. What is its criticism?

7.0 REFERENCES/FURTHER READING

Alderfer, C. P. (1969). *Existence, Relatedness, and Growth; Human Needs in Organisational Settings.* Retrieved from, http://www.valuebasedmangement.net/methods_alderfer_erg_theory.html

- Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.

Huitt, W. (2004). Maslow's Hierarchy of Needs. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved from, http://chiron.valdosta.edu/whuitt/col/regsys/maslow.html.

Maslow, A. H. (1943). A Theory of Human Motivation. *Psychological Review*, 50, 370-396. Retrieved August 2000, from http://psychclassics.yorku.ca/Maslow/motivation.htm

Maslow, A.H. (1970). *Motivation and Personality* (2nd ed.). New York: Harper & Row.

- Rosdahl, C. B. & Kowalski M.T. (2012). *Textbook of Basic Nursing*. 10th Philadelphia: J.B. Lippincott Company

- Potter, P. A., Perry, A. G. E., Hall, A. E., & Stockert, P. A. (2009). *Fundamentals of nursing*. Elsevier mosby.

UNIT 4 PROMOTING HEALTH

CONTENTS

1.0 INTRODUCTION

The popular axiom – prevention is not only better than cure but also cheaper than cure – cannot be more relevant than in today's world. This is because the recent past had witnessed more natural disasters than ever recorded. Emerging infectious diseases had been on the rampage with the resurgence of those hitherto eradicated communicable diseases, that have not only become more virulent but resistant to the simple therapeutic agents. All these coupled with the global economic recession and depreciation of currencies in many African states had compounded the already precarious level of people in the African nation. Therefore, health promotion becomes a veritable weapon to stem the all-time high morbidity and mortality rate that has been trailing the African nation.

Interestingly health promotion is an important component of nursing practice. According to Berman *et al., (2014),* health Promotion is a way of thinking that revolves around a philosophy of wholeness, wellness, and well-being.' Implicit in the above statement is that there is a level of commitment that should be displayed by the individual, community, organisation, and the government if the goal of health promotion is ever to be achieved. The role of each of this player and how the nurse can assist in health promotion therefore forms the focus of this unit.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

i. identify variables affecting health and explain the relationship between such and health
ii. define health promotion and distinguish it from illness prevention
iii. enumerate health promotion goals and discuss the levels of
iv. preventive care
v. describe the behaviours that promote health
vi. discuss theoretical models of health and illness together with their assumptions
vii. differentiate health preventive or protective care from health promotion
viii. discusses the nurses' role in health promotion and illness prevention.

3.0 MAIN CONTENT

3.1 What Affects Health?

Health status of individuals in any community depends to a large extent on their level of awareness of factors that enhance and/or militate against their health. (White *et al., 2011)*contends that a great many things affect health. She groped them into four broad categories namely:

1. ***Genetic/Human Biology*** – It is not uncommon to hear that certain diseases run in families or have familial tendency. This is because human traits are transmissible from parents to offspring via the genes. Hence an individual genetic make-up to a large extent affects his state of health.

2. ***Personal Lifestyle/Behaviour*** – This is the area that exerts the most influence on health and well-being, and it is controlled entirely by the individual. As such it is the individual's decision whether these factors will promote health or lead to ill health. Although an increasing number of people are becoming aware of the relationship between health, lifestyle and illness, and are

already developing health-promoting habits, but a sizeable proportion of the population are still naïve of this relationship. Simply put health promoting habits encompasses such things as: Diet, Exercise, Personal Care, Safe sex and Control sex, Tobacco and Drug use, Alcohol Consumption, and safety.

3. ***Environmental Influences*** – The aggregate of people, things, conditions, or influences surrounding man is what is referred to as the environment. It could be physical, biological or social. Man and his environment are constantly interacting. The environment influences man and man influences his environment at all times i.e. the relationship is never static but always changing. Interestingly, health and the quality of life are greatly affected by this interaction.

Human beings enjoy optimum functioning when the air they breathe, the food they eat, the houses they live in, indeed the neighbourhood in which they stay is of good quality. If they are bad, they tend to promote disease, disability and discontent. For instance, in metropolitan cities where domestic and industrial pollution is high, tarry particles, which contain cancer-producing chemicals, may exist. As such irritation to the eye and respiratory tissue may be rampant. In addition, overcrowding secondary to rural-urban migration and problems of population control enhances the spread of communicable diseases such as droplet infections. Besides, bad housing, lack of adequate facilities for the storage, preparation, and cooking of food are also intricately related to the development of malnutrition, poor growth and low immunity among people. Poor sanitation as well as lack of provision of drinkable water will also promote the spread of water borne disease with adverse consequences on healthy living.

It is also worth mentioning that technological advancement and industrialisation with its attendant problems has placed new stresses on man such as transport difficulties, noise, and loneliness. All these factors are associated with greater incidence of hypertension, mental disorder and suicide. Noise can produce alteration in respiration and circulation, in the basal metabolic rate, and in muscular tension. Even the fetus is affected by certain factors in the mothers' environment. For instance, the baby's well-being to a large extent depends on her mother's

capability and knowledge of standard of hygiene, good nutrition, and avoidance of harmful substances e.g. some drugs.

4. ***Health Care*** – This encompasses such things as immunisation, regular examinations and screening tests, prophylactic medications, to mention a few that man undertakes to prevent invasion of disease causing organisms and prevent the body from breaking down. Failure to undergo such treatment could spell doom for the body with serious adverse consequences on healthy living.

3.2 Defining Health Promotion

The concepts of health promotion, self-care and community participation emerged during 1970s, primarily out of concerns about the limitation of professional health. Since then, there have been rapid growth in these areas in the developed world, and there is evidence of effectiveness of such interventions states system although these areas are still in infancy in the developing countries (Bhuyan, 2004). The Ottawa charter, an important milestone in Health Promotion practice worldwide, defines Health Promotion as the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realise aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasising social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy lifestyles to well-being (WHO Ottawa charter for health promotion, 1986). Consequently, the Ottawa charter noted that five key strategies for Health Promotion action are building healthy public policy, creating supportive environments, strengthening community action, developing personal skills and reorienting health services). This no doubt, settles any storm about the genesis of Health Promotion but has not addressed what Health Promotion is all about and how it is different from illness prevention.

Health promotion and illness prevention are closely related concepts, and in practice, overlap to some extent. Activities for **health promotion** help the patients/clients maintain or enhance their present levels of health

while activities for **illness prevention** protect patients/clients from actual or potential threats to health. Both types of activities are future orientated. The difference between them involves motivations and goals. Health promotion activities motivate people to act positively to reach the goals of more stable levels of health. Illness prevention activities motivate people to avoid declines in health and functional states (Berman *et al., 2016*).

Health promotion activities can be passive or active. With passive strategies of health promotion, individuals gain from the activities of others without doing anything themselves. The fluoridation of municipal drinking water, the fortification of salt with iodine and milk with vitamin D are common examples of passive health promotion strategies. The active health promotion strategies on the other hand, involves active participation of individuals i.e. individuals are motivated to adopt specific health programs. For instance, the weight reduction and smoking cessation programmes require the patient/client to be actively involved in measures to improve their present and future levels of wellness while decreasing the risk of disease. Some health promotion and illness prevention programs are operated by health care agencies. Others are independently operated. Whichever, the point to be made is that health promotion and illness prevention activities are important to both the consumer and the health care provider (Berman *et al., 2016*).

The avian influenza (bird flu) that recently broke out in certain parts of Nigeria presents an excellent picture of the how there could be an interplay of actions among the major actors in the health sector. The avian influenza epidemics, being a deadly disease that can be transmitted to man, arouse the society concern about the disease. Being a communicable disease and one that affect poultry farming, it also arouses the interest of commercial organisations and agriculture. Besides it also has a political element, with potential global repercussions. The jobs and livelihood of some farmers and those within the food industry particularly the fast food centers are at stake. There is of course, the possibility of widespread trans-species infection. We can then appreciate the concerted efforts of the individuals, the organisation, the environment, the society, and the government (political). One cannot but therefore agreed with Kelly et al. (1993) that health cannot be effectively be promoted unless the organisational, social, individual, and environmental aspects are combined in an integrated approach.

3.3 Health Promotion Goals

Delaune & Ladner (2011) submitted the following as health promotion goals:

- Respect and support clients right to make decisions.
- Identify and use clients' strengths and assets.
- Empower clients to promote own health or healing.

Levels of Preventive Care

The three levels of prevention are:

- **Primary Prevention** – This is true prevention; it precedes disease or dysfunction and is applied to patients/clients that are considered physically and emotionally healthy (Berman *et al., 2016*). The goal is to decrease person's vulnerability to disease. It includes such activities as health education, immunisation/vaccination, personal and environmental hygiene, good nutrition, good housing/avoidance of overcrowding, quarantine of suspects, and chemoprophylaxis.

- **Secondary Prevention** – Focuses on individuals who are experiencing health problems or illness or who are at risk of developing complications or worsening conditions. Activities are directed at diagnosis and prompt treatment, thereby reducing the severity and enabling the patient/client to return to normal health at the earliest possible time (Edelman & Mandle, 1990; Cox, 1995). Secondary prevention includes screening techniques and treatment of early stages of disease to limit disability or delay the consequences of advanced disease (Delaune & Ladner, 2011; Berman *et al., 2016*).

- **Tertiary Prevention** – Instituted when a defect or disability is permanent and irreversible. It involves minimising the effect of a disease or disability through such activities as rehabilitative nursing care for clients with permanent defect like blindness, to avert further disability or reduced function. The focus is to help

clients reach and maintain their optimum level of functioning (Delaune & Ladner, 2011; Berman *et al., 2016*).

3.4 Behaviours that Promote Health (Healthy Habits)

Have you heard such phrase like habit is stronger than information? When we say something has become habitual, we mean it has become one's second nature; a regular way of behaving; a reflex action or instinctive response to a stimulus. Good health habits help to prevent disorder and/or enhance total wellness. On the contrary poor health habits will almost always adversely affect health status and individual's capability and efficiency. What then can we consider as healthy habits? The answer to this is obvious as practicing healthy habits cut across practically all aspects of our life viz:

Exercise: It's important for everyone to exercise, and we should all find the preventive maintenance fitness programme best suited for us. There is no alternative, nor substitute that increases the potential for a happier, healthier and improved quality of life. "If exercise could be packed into a pill, it would be the single most widely prescribed, and beneficial medicine in the nation," says Robert N. Butler, MD, director of the National Institute on Aging (DiMartino, 1999). Exercise is necessary to maintain muscle tone, to stimulate circulation and respiration, and to help control body weight. All people need some sort of exercise daily. A person's age, occupation and general condition help to determine the appropriate amount and kind of exercise (Rosdahl & Kowalski, 2012). A moderate amount of daily exercise is better than occasional sports of strenuous activity. A study conducted by the Journal of Medical Association (JAMA, 277(16), April 23-30, 1997) included 11,470 women to determine the numerous benefits that ensues when a sedentary level is increased to merely a normal level – daily routine movement. The study revealed that the life preserving aspect of this minor change is huge" (DiMartino, 1999).

Nutrition and Diet: A First Cousin to Exercise. One without the other is like eating fries without catsup – it just doesn't work as well. A regular exercise regime means eating a balanced menu of foods, watching fat intake and supplementing the diet with nutrients and vitamins. However, when people exercise regularly, their diet must compensate for the extra calories burned. Although, individuals' nutritional needs vary, according

to body build, age and activity, everybody needs certain nutrients to keep the body functioning and in good repair Eating regular and balanced diet and maintaining one's weight within the normal range are factors that contribute to wellness. Intake of salt, sugar, fat and red meat should be limited while liberal intakes of fruits, vegetables, and grains should be encouraged. Avoid alcohol consumption.

Elimination: The integumentary, respiratory, urinary and digestive systems are the organs primarily concerned with elimination of wastes from the body. Moderate intake of fibres in form of roughages (fruits and vegetables) supplies the bulk that stimulates proper adequate elimination of solids as faecal matter. Water intakes do assist the kidney in getting rid of liquid wastes. Avoidance of cigarette smoking and polluted air helps in preserving your lungs and your cardiovascular system (Rosdahl & Kowalski, 2012).

Sleep and Rest: Rest is soothing to the body. Most people need 7 – 8 hours' sleep per night. Sometimes after a day's work, rest is needed rather than sleep. Try lying relaxed and letting your thought drift. Some people find that meditation or 'emptying the mind of all thoughts' is restful (Rosdahl & Kowalski, 2012).

Personal Hygiene: Maintenance of personal hygiene is necessary for comfort, safety and well-being. Activities of personal hygiene are basic to normal functioning. Hygiene refers to practices that promote health through personally cleanliness and it is fostered through activities like bathing, tooth brushing, cleaning and maintaining fingernails and toenails, and shampooing and grooming hair. Such activities help to protect the body from infections, make a good impression on others, and help to promote a positive self-image. For instance, regular bathing or cleansing removes perspiration oil, and pathogens from the skin. It also increases circulation and helps maintain muscle tone. Besides, bathing is refreshing; it can help wake one up in the morning and to induce sleep at night. Many a people shed their worries along with the day's accumulation of dirt by taking baths or showers. Grooming is equally important to one's well-being. Nails should be trimmed to comfortable length. Bitten nails are unsightly and may lead to infection. Shoes should be well fitted and comfortable. Clothes should be clean, well-fitting and comfortable too. They should be appropriate for the type of activity being performed. Dental care is also essential. Teeth to be

brushed regularly and regular dental check-up encouraged. Fluorination of water to lessen tooth decay and consumption of food rich in calcium, phosphorus, vitamins A, C, and D for healthy and normal teeth formation and growth is expedient. The cutting down on consumption of sugary foods that is often overlooked is vital to the prevention of dental caries. While the eating of soft food is good, continuous eating of such foods affects the gums and teeth because chewing itself is needed to maintain the tone and holding power of the gums and the strength of the teeth. Eye care is another important aspect of personal care that must not be neglected in order to achieve full health. To this end, eyes examination should be done at least once a year.

Posture and Body Mechanics: Posture is the position of your body, the way its part line up when you stand, sit, move or lie while body mechanics is the term that refers to the use of the body as a tool. The way you stand, sit, or move affects your efficiency and the impression you create. Good posture improves your health saves your energy and prevents unnecessary muscle strains and back disorder (Rosdahl & Kowalski, 2012).

Safer Sex: The late twentieth century recorded an astronomical increase in the emergence and spread of deadly infectious diseases emanating primarily from unhealthy sexual practices. This informs the gospel of safer sex and the doctrine of ABC in the prevention of AIDS (Acquired Immune Deficiency Syndrome) and other sexually transmitted diseases. Safer sex involves carefully choosing one's sexual partner, mutual fidelity, and the use of condom where in doubt.

Healthy Environment: As earlier stated, man and his environment are constantly interacting. The environment influences man and man influences his environment at all times i.e. the relationship is never static but always changing. Interestingly, health and the quality of life are greatly affected by this interaction. It is sufficing to say "it is difficult to have optimum health if the environment is not safe."

Note: As beginning health care providers, nursing students are encouraged to develop their own health-promoting behavior to be better role models for clients.

3.5 Nurses' Role in Health Promotion, Health Protection, and Disease Prevention

It is an open truth that investment in the health sector is rapidly becoming an amalgam of public and private partnerships. While it is becoming increasingly glaring that the responsibility for health promotion does not lie with health sector alone, Berman *et al., 2016*argued that nurses nonetheless have an unequal contribution to make to alliances created in the pursuit of health. Speaking in the same vein, Delaune & Ladner (2011) asserted that nurses play a key role in promoting health and wellness. Therefore, there is no doubt about the nurses' role in health promotion and disease prevention however the challenge before us as nurses is to find ways to motivate clients and families to develop health-promoting behaviours. This is against the background that health promotion is not simply something that is done to the client or patient, as in changing a dressing, but something that pervades the entire nursing care ranging from needs assessment, planning health gain to evaluating interventions and strategies for effectiveness and efficiency (Berman *et al., 2016*).

Delaune & Ladner (2011) identified health education/health counselling and motivation as two key components of health promotion strategies employed by nurses. Watkinson (2002) citing the English National Board's Higher Award (ENB, 1991) document observed the health promotion stands out as the 6th key characteristic of that document. Inherent in the said document (highlighted below), are salient features considered as essential to the performance of health promotion activities by nurses.

- Promote understanding of health promotion, preventative care, health education and healthy living.
- Understand and apply the principles and practice of health promotion in the work setting and create, maintain and take responsibility for a healthy work environment.
- Facilitate responsibility and choice among clients for healthy living, and their ability to determine their own lifestyles.

- Develop and implement strategies for health care based on understanding of the impact of health trends on resources.

SELF ASSESSMENT EXERCISE Describe the Nurses' Role in Health Promotion, Health Protection, and Disease Prevention

4.0 CONCLUSION

The issue of health promotion is an all-encompassing one. This unit has demonstrated on one hand the limitations of modern medicine and health care systems in single handedly improving the health status of the population. On the other hand, it emphasised the role of nurses as a key strategy for improving health through a holistic approach consisting of not only a medical dimension but also psychological, social and economic dimensions.

5.0 SUMMARY

The Ottawa charter, an important milestone in Health Promotion practice worldwide, defines Health Promotion as the process of enabling people to increase control over, and to improve, their health. You have noted that to reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realise aspirations, to satisfy needs, and to change or cope with the environment. Therefore, health status of individuals in any community depends to a large extent on their level of awareness of factors that enhance and/or militate against their health. However, good health habits help to prevent disorder and/or enhance total wellness. On the contrary poor health habits will almost always adversely affect health status and individual's capability and efficiency. As such nurses play a key role in helping clients to adopt healthy lifestyles and use approaches such as role modeling and formal teaching to motivate client change.

6.0 TUTOR-MARKED ASSIGNMENT

As a nurse in a remote village, you observed that majority of the pregnant women becomes anemic during pregnancy with frequent incidence of malaria in pregnancy, and besides, over 90% are already genitally mutilated. You initially focus on diet and reduction in malaria attack. How would you begin to design the program? What resources do you need?

cl

7.0 REFERENCES/FURTHER READING

- Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.
- Bhuyan, K. K. (2004). Health Promotion through Self-Care and Community Participation: Elements of a Proposed Programme in the Developing Countries. BMC Public Health. 4: 11.

- Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences
- Delaune, S. C. & Ladner, P.K. (Eds). (2011). The Individual, Health and Holism. *Fundamentals of Nursing, Standards and Practice.* Albany: Delmar Publishers.

- DiMartino, C. (1999). Healthy Living: A Combination of Diet, Nutrition, and Exercise. *In Motion,* 9(6).

- Potter, P. A., Perry, A. G. E., Hall, A. E., & Stockert, P. A. (2009). *Fundamentals of nursing*. Elsevier mosby.

- Rosdahl, C. B. & Kowalski M.T. (2012). *Textbook of Basic Nursing*. 10th Philadelphia: J.B. Lippincott Company

World Health Organisation (1986). Geneva: Ottawa Charter for Health Promotion.

World Health Organisation (2016). Health Promotion.

MODULE 4 FUNDAMENTALS OF NURSING

UNIT 1: VITAL SIGNS I

CONTENTS

1.0 INTRODUCTION

Health assessment is vital to monitoring the progress made by clients/patients as well as establishing whether identified needs have been met. Although health assessment is such a broad area encompassing observation, physical examination and interviewing/History taking and requiring the use of all senses, the measurement of vital signs appears to be a regular and essential feature. Hence this unit is dedicated to discussing vital signs with a view to enhancing nurses' technical skills in the art of assessing vital signs as well as deepening their theoretical/knowledge base. This to our mind, will not only help nurses to measure the vital signs correctly but will go a long way at assisting

them to understand and interpret the values, communicate findings appropriately and begin interventions as needed. The traditional **vital signs** are body temperature, pulse, respirations, and blood pressure. Many agencies such as the Veterans Administration, American Pain Society, and The Joint Commission have designated pain as a fifth vital sign, to be assessed at the same time as each of the other four. The first two units of this module will be centred on the four traditional vital signs

2.0 OBJECTIVES

At the end of this unit, you will be able to:

i. identify the measurements that comprise the vital signs
ii. identify when to assess vital signs
iii. define body temperature
iv. describe the thermoregulatory mechanisms
v. identify the variations in normal body temperature that occur from infancy to old age
vi. discuss factors affecting body temperature
vii. describe how to measure body temperature using various routes stating the advantages and disadvantages associated with each route.

3.0 MAIN CONTENT

3.1 What are Vital Signs?

Donovan, *et al* (1968) gave this over-simplified illustration that beautifully captures what vital signs are. In their words 'The healthy person engaging in his daily activities is relatively unconscious of much chemical process going on at all times in his body. A never-ending production of energy in the form of heat is taking place. The fuel we supply to our body as food is continuously being burned away when it meets the oxygen in the air we breathe. This process is called *oxidation*. When conversion of food to energy is occurring normally, our heart is pumping a steady average amount of blood; our lungs are taking in a regulated, steady flow of air; and the heat of our body is constant at an average temperature. These functions are all related and in delicate balance. When this balance is disturbed by such things as heavy exercise,

the rate of heat production, blood flow, and breathing will vary from normal. This variations in temperature, pulse, respiration, and blood pressure (otherwise referred to as vital signs) give nurses and doctors their most important clues to the state of the body's functioning.' Vital signs or cardinal signs as they are sometimes called could therefore be defined as signs reflecting the body's physiological state, which are governed by body's vital organs (brain, heart, lungs) and necessary for sustaining life. Consequently, Temperature, Pulse, Respiration, and Blood pressure are referred to as vital signs because they are indicators of vital functions of the body that are necessary to sustain life.

3.2 Times to Assess Vital Signs

- On admission to a healthcare agency to obtain baseline data.
- When the patient's/client's general physical condition changes (as with loss of consciousness or increased intensity of pain)
- Before and after surgery or an invasive diagnostic procedure.
- Before and/or after administration of certain medication that affect the cardiovascular, respiratory, and temperature control function.
- Before and after nursing interventions influencing a vital sign (such as when a patient/client previously on bed rest ambulates or when a patient requires tracheal suctioning)
- When the patient reports non-specific symptoms of physical

distress (such as feeling 'funny' or 'different') (Berman *et al.*, 2016)

3.3 Body Temperature

The term temperature is defined as the state of heat or coldness within a substance, which can be measured against a standard scale (^{0}C or ^{0}F) i.e. the degree of hotness or coldness of an object measured against a standard scale. Man and other mammals unlike fishes, reptiles, and other poikilothermic animals are homoeothermic, that is warm blooded and maintain their body temperature independently of the environment. Our body continually produces heat as a by-product of metabolism. This heat is transported by blood round the body. Heat is however also continually lost from the body. In essence, body temperature as indicated on a clinical thermometer, is the balance between the heat produced and the heat lost from the body measured in heat units called degree i.e. the measure of heat inside the body.

Basically, there are two kinds of body temperature viz: **Core temperature** and **Surface temperature**. The core temperature is the temperature of the deep tissues of the body such as abdominal cavity, and pelvic region. It remains relatively constant. The surface temperature is the temperature of the skin, the subcutaneous tissue, and fat. It by contrast, rises and falls in response to the environment. The normal core body temperature is a range of temperatures fluctuating between 36.1 and 37.2^0C (Berman, *et.al*., 2016). The big question however is – how is the core temperature kept within this relatively narrow range? This forms the focus of the subsequent paragraphs.

Thermoregulation

Thermoregulation is the body's physiological function of heat regulation to maintain a relatively constant internal body temperature. This is achieved by a complex interplay of physical and chemical/hormonal mechanism and sympathetic stimulation that is coordinated by the heat regulating center in the brain called the hypothalamus. The hypothalamus controls the body temperature in the same way that a thermostat works in the home. The hypothalamus does this through its anterior and posterior part. The anterior hypothalamus is concerned with heat dissipation while the posterior hypothalamus controls heat conservation.

The hypothalamus senses minor changes in body temperature. When the body temperature deviates from the set point, the temperature center of the hypothalamus (hypothalamic integrator located in the preoptic area of the hypothalamus) either activates heat loss (cooling) or heat production to ensure that the core temperature remains within the safe physiological range (Berman *et al., 2016*).

Heat Production

Heat is produced in the body through the chemical oxidation of food substances (metabolism of food substances) that results in the release of energy, and this is a continuous process. The body converts energy supplied by metabolised nutrients to energy forms that can be used directly by the body. One form of this energy is thermal energy. Really, energy is measured in terms of heat. A kilocalorie is an energy value (heat measure) of a given food; 1 kilocalorie equals 1000 calories (the amount

of heat required to raise temperature of 1 kilogram of water by 1^0 C. This type of heat liberation is usually expressed as the metabolic rate and measured as basal metabolic rate or BMR (the rate of energy use in the body needed to maintain essential activities). It should be mentioned that heat production increases when a person is active and most heat production comes from the deep tissue organs (brain, liver, and heart) and the skeletal muscles (Berman *et al., 2016*).

Heat production in the body is however increased by epinephrine, nor epinephrine, thyroxine and triiodothyronine. These hormones increase the rate of cellular metabolism in many body tissues. Epinephrine and nor epinephrine apart from its vasoconstrictive effect, directly affect liver and muscle cells, thereby increasing cellular metabolism. Vasoconstriction in human's internal organs produces heat and blood flow from the internal organs carries heat to the body surface. The thyroid hormones thyroxine and triiodothyronine increase basal metabolism by breaking down glucose and fat. This effect is called chemical thermogenesis (Berman *et al., 2016*).

Muscular activity also produces heat from breakdown of carbohydrates and fats and through shivering. The skin is well supplied with heat and cold receptors but because cold receptors are more plentiful, the skin functions primarily to detect cold surface temperature. When the skin becomes chilled, its sensors send information to the hypothalamus, which initiates shivering (involuntary skeletal muscles contractions in response to cold) and vasoconstriction. This leads to increased muscular tone, which enhances further metabolism. Physical exercise often found comforting in cold weather also increases heat production by increasing muscle tone and stimulating metabolism. In a nutshell, when the body suffers a significant heat loss the hypothalamus transmits impulses to stimulate heat production through vasoconstriction (narrowing of blood vessels), muscle shivering, piloerection (hair standing on end) and inhibiting sweating. However, apart from these major means of heat production, the body also gains heat from its environment, but this is negligible and of less significance to the heat produced in the muscles (Berman *et al., 2016*).

Heat Loss

When the body heat rises, nerves in the hypothalamus (the sensors) become heated and impulses/signals are then sent out to decrease heat production and increase heat loss. This it does by triggering perspiration (diaphoresis) from millions of sweat glands that lie deep below the dermal layer of the skin, vasodilation (the widening of blood vessels), and inhibition of heat production. The body cools itself. Heat is dissipated from the body primarily through physical processes. As much as 95% is lost through radiation, convention, and evaporation of water from the lungs and skin. Most of the remaining amount is lost through urination and defecation and in raising the temperature of inhaled air to body temperature. A negligible amount is lost through conduction except when the body is in contact with cold surfaces for prolonged period of time.

Heat Loss Mechanisms

The various physical processes through which heat is lost from the body are:

Radiation: is the transfer of heat from the surface of one object to the surface of another without contact between the two objects, mostly in the form of infrared rays . Heat radiates from the skin to cooler nearby objects and radiates to the skin from warmer objects. The amount of heat lost by radiation from the skin varies with the degree of dilation of surface blood vessels when the body is overheated, and with the extent of vasoconstriction when the body is chilled. Radiant heat loss can be enhanced by removing clothing or by wearing light clothing meaning that heat loss through radiation can be curtailed by covering the body with cloth especially dark, closely woven clothes. Another thing that affects heat loss through radiation is positioning; a man in erect position with arm and legs extended radiates more heat than one in dorsal position (Berman *et al., 2016*).

Conduction: This is the transfer of heat from one object to another object of lower temperature that is in contact with it. Notice that conductive transfer cannot take place without contact between the molecules of both objects. The amount of heat transferred depends on the temperature difference and the amount and duration of the contact (Berman *et al., 2016*). As earlier stated, conduction accounts for minimal heat loss from

the body except, when a body is immersed in cold water. Interestingly, water conducts heat more efficiently than air. Therefore water used for bathing the patient should be above body temperature to prevent conductive heat loss. However, if the patient's temperature is abnormally high, the nurse can lower it by tepid sponging thereby taking advantage of conductive heat loss (Webster, 1995).

Convention: Convention is the dispersion of heat by air currents. The body usually has a small amount of warm air adjacent to it. This warm air rises and is replaced by cooler air, and so people always lose a small amount of heat through convention but can be artificially enhanced through the use of fan to promote heat loss from febrile patient. It is important to note that the speed of movement of air surrounding the skin increases, the convention of heat loss from the skin increases (Brooker & Waugh 2013).

Evaporation: This simply means the vaporisation of fluid i.e. changing from liquid state to gaseous state. The physicist makes us to understand that heat energy is needed to effect this change. Mountcastle (1980) reported that for each gram of water that evaporates from the body surface, approximately 0.6kilocalorie of heat is lost. In view of the continuous evaporation of water from the respiratory tract, the skin and the mucosa of the oral cavity tagged insensible water loss, there is also accompanying insensible heat loss which medical experts claim to accounts for about 10% of basal heat loss.

Behavioral Control of Body Temperature

In addition to heat production and heat loss mechanisms described above, the body has potent mechanism for temperature control known as the behavioral control. This encompasses voluntary acts that people take to maintain comfortable temperatures in response to body signaling conditions of either being overheated or too cold (DeLaune, & Ladner, 2011). They include such measures as changing environment, adding more clothing or changing from light to thick clothing, raising the temperature settings on heating thermostats, putting on air conditioner, turning on fans, taking a cold shower, to mention a few.

3.4 Factors Influencing Body Temperature

Temperature monitoring, no doubt stands out as one of the commonest function of the nurse and in view of the importance temperature variation in health assessment, it has become expedient for nurses to become aware of factors that influence body temperature. Among these factors are:

Age – At birth, the newborn leaves a warm, relatively constant environment and enters one in which temperature fluctuates widely. Temperature control mechanisms are not fully developed; thus, an infant's temperature may change drastically with changes in the environment. Therefore, the newborn must be protected from temperature extremes and clothing must be adequate. Temperature regulation continues to be labile until children reach puberty. Many older people, particularly those over 75 years, are at risk of hypothermia (temperature below 36^0C for a variety of reasons, such as inadequate diet, loss of subcutaneous fat, lack of activity, and reduced thermoregulatory efficiency (Brooker & Waugh 2013).).

Exercise – Muscular activity requires an increased blood supply and an increase in carbohydrate and fat breakdown for more energy. This increased metabolism causes increase in heat production and consequently the body temperature. As such hard work or strenuous exercise can increase body temperature to as high as 38.3 **–** 40^0C (101°F to 104°F) measured rectally (Brooker & Waugh 2013; Berman *et al., 2016*)

(

Circadian Rhythms (Diurnal Variations) – Body temperature normally changes throughout the day, varying as much as 1.0^0C (1.8°F) between the early morning and the late afternoon. The point of highest body temperature is usually reached between 1600 and 1800 hours (4:00 pm and 6:00 pm), and the lowest point is reached during sleep between 0400 and 0600 hours (4:00 am and 6:00 am) (Figure 29–3 •). Older adults' temperatures may vary less than those of younger persons due to the changes in autonomic functioning common in aging (Marigold, Arias, Vassallo, Allen, & Kwan, 2011).

Hormone Level – Women usually experience greater temperature fluctuations than men. This has been attributed to greater hormonal fluctuations women experiences. For instance, during menstrual cycle,

progesterone levels rise and fall cyclically. Before start of menstrual cycle, progesterone levels are low, and the body temperature falls a few tenths of a degree below the baseline. This lower temperature persists until ovulation. During ovulation, greater amounts of enter the circulatory system and raise the body temperature to previous baseline levels or higher. Body temperature fluctuations also occur in menopausal women due to instability of the vasomotor controls for vasodilation and vasoconstriction. In fact, one the cardinal symptoms of the post-menopausal syndrome are the experience of periods of intense heat and sweating lasting from 30 seconds to 5 minutes. The amount of thyroxine, triiodothyronine, epinephrine/adrenaline, and norepinephrine/noradrenaline circulating in the body also affect heat production and basal metabolic rate
(Brooker & Waugh 2013; Berman *et al., 2016*)

Stress – Physical and emotional stress increase body temperature through hormonal and neural stimulation which sets into motion chains of physiological reactions. These physiological changes like the release of adrenaline with associated increase in heart rate causes increased metabolism, which in turn increases heat production. Nurses may therefore anticipate that individuals who are anxious about entering the hospital or undergoing a surgical procedure could register a higher than normal temperature
(Berman *et al., 2016*)

Environment – Extremes in environmental temperatures 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 by convention, conduction, or radiation, the temperature will be elevated. Similarly, if the client has been outside in extremely cold weather without suitable clothing, the body temperature may be low
(Berman *et al., 2016*)

3.5 Alterations in Body Temperature

Altered body temperature occurs when the body temperature rises above the upper normal limit or fall below the lower normal limit (subnormal or lowered body temperature). An extremely high or extremely low temperature can be very fatal. Survival is rare if the core temperature is above 42.2^0C or below 34^0C (DeLaune &

Ladner 2011).**PYREXIA**

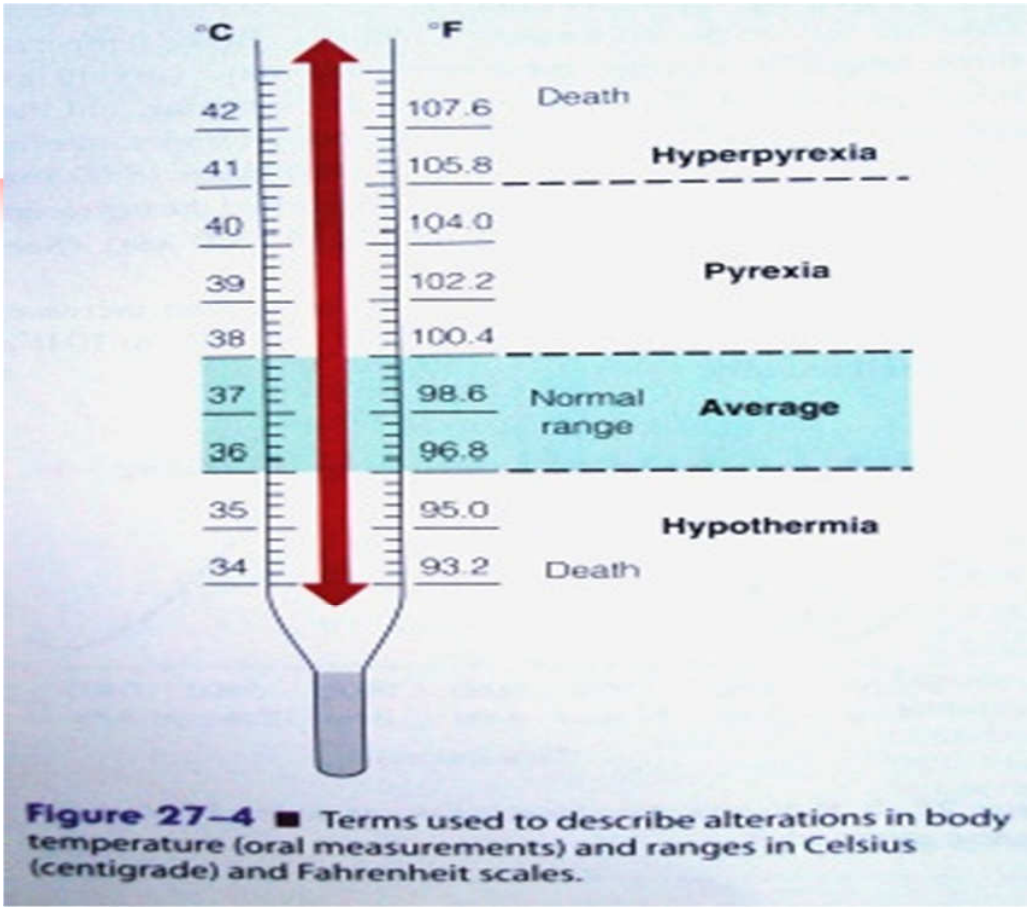


Figure 27–4 ■ Terms used to describe alterations in body temperature (oral measurements) and ranges in Celsius (centigrade) and Fahrenheit scales.

Source: Berman *et al., 2016*

A body temperature above the usual range is called **pyrexia**, **hyperthermia**, or (in lay terms) **fever**. A very high fever, such as 41°C (105.8°F), is called **hyperpyrexia**. The client who has a fever is referred to as **febrile**; the one who does not is **afebrile**. Four common types of fevers are intermittent, remittent, relapsing, and constant. During an **intermittent fever**, the body temperature alternates at regular intervals between periods of fever and periods of normal or subnormal temperatures. An example is with the disease malaria.

During a **remittent fever**, such as with a cold or influenza, a wide range of temperature fluctuations (more than 2°C [3.6°F]) occurs over a 24-hour period, all of which are above normal. 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**. Bacterial blood infections often cause fever spikes. In some conditions, an elevated temperature is not a true fever. Two examples are heat exhaustion and heat stroke. **Heat exhaustion** is a result of excessive heat and dehydration. Signs of heat exhaustion include paleness, dizziness, nausea, vomiting, fainting, and a moderately increased temperature (38.3°C to 38.9°C [101°F to 102°F]).
Persons experiencing heat stroke generally have been exercising in hot weather, have warm, flushed skin, and often do not sweat. They usually have a temperature of 41.1°C (106°F) or higher, and may be delirious, unconscious, or having seizures. The clinical signs of fever vary with the onset, course, and abatement stages of the fever (see Clinical Manifestations). 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, the rate of heat loss is increased, resulting in a fall in temperature toward the set-point level. Conversely, when the core temperature falls, the rate of heat production is increased, resulting in a rise in temperature toward the set point. In a fever, however, the set point of the hypothalamic thermostat changes suddenly from the normal level to a higher than normal value (e.g., 39.5°C [103.1°F]) 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 usual heat production responses that cause elevation of the body temperature occur: chills, feeling of coldness, cold skin due to vasoconstriction, and shivering. This is referred to as the chill phase. When the core temperature reaches the new set point, the person feels neither cold nor hot and no longer experiences chills (the plateau phase). Depending on the degree of temperature elevation, other signs may occur during the course of the fever. Very high temperatures, such as 41°C to 42°C (106°F to 108°F), damage the parenchyma of 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, and the usual heat loss responses that cause a reduction of the body temperature occur: excessive sweating and hot, flushed skin due to sudden vasodilation. This is referred to as the flush phase. Nursing interventions for a client who has a fever are designed to support the body's normal physiological processes, provide comfort, and prevent complications. During the course of a fever, the nurse needs to monitor the client's vital signs closely.
Nursing interventions during the chill phase are designed to help the client decrease heat loss. At this time, the body's physiological processes are attempting to raise the core temperature to the new set-point temperature. During the flush or crisis phase, the body processes are attempting to lower the core temperature to the reduced or normal set-point temperature. At this time, the nurse takes measures to increase heat loss and decrease heat production.

CLINICAL MANIFESTATIONS
Fever
ONSET (COLD OR CHILL PHASE)
• Increased heart rate
• Increased respiratory rate and depth
• Shivering
• Pallid, cold skin
• Complaints of feeling cold
• Cyanotic nail beds
• "Gooseflesh" appearance of the skin
• Cessation of sweating

COURSE (PLATEAU PHASE)
• Absence of chills
• Skin that feels warm
• Photosensitivity
• Glassy-eyed appearance
• Increased pulse and respiratory rates
• Increased thirst
• Mild to severe dehydration
• Drowsiness, restlessness, delirium, or convulsions
• Herpetic lesions of the mouth
• Loss of appetite (if the fever is prolonged)
• Malaise, weakness, and aching muscles
DEFERVESCENCE (FEVER ABATEMENT/FLUSH PHASE)
• Skin that appears flushed and feels warm
• Sweating

• Decreased shivering
• Possible dehydration

Nursing Interventions for Clients with Fever

• Monitor vital signs.
• Assess skin color and temperature.
• Monitor white blood cell count, hematocrit value, and other pertinent laboratory reports for indications of infection or dehydration.
• Remove excess blankets when the client feels warm, but provide extra warmth when the client feels chilled.
• Provide adequate nutrition and fluids (e.g., 2,500–3,000 mL/day) to meet the increased metabolic demands and prevent dehydration.
• Measure intake and output.
• Reduce physical activity to limit heat production, especially during the flush stage.
• Administer antipyretics (drugs that reduce the level of fever) as ordered.
• Provide oral hygiene to keep the mucous membranes moist.
• Provide a tepid sponge bath to increase heat loss through conduction.
• Provide dry clothing and bed linens

HYPOTHERMIA

Hypothermia is a core body temperature below the lower limit of normal. The three physiological mechanisms of hypothermia are (a) excessive heat loss, (b) inadequate heat production to counteract heat loss, and (c) impaired hypothalamic thermoregulation. The clinical signs of hypothermia are listed in the Clinical Manifestations box. Hypothermia may be induced or accidental. Induced hypothermia is the deliberate lowering of the body temperature to decrease the need for oxygen by the body tissues such as during certain surgeries. Accidental hypothermia can occur as a result of (a) exposure to a cold environment, (b) immersion in cold water, and (c) lack of adequate clothing, shelter, or heat. In older adults, the problem can be compounded by a decreased metabolic rate and the use of sedative medications. If skin and underlying tissues are damaged by freezing cold, this results in frostbite. Frostbite most commonly occurs in hands, feet, nose, and ears. Managing hypothermia involves removing the client from the cold and rewarming the client's body. For the client with mild hypothermia, the body is rewarmed by applying blankets, for the client with severe hypothermia, a hyperthermia blanket (an electronically controlled blanket that provides a specified temperature)

is applied, and warm intravenous fluids are given. Wet clothing, which increases heat loss because of the high conductivity of water, should be replaced with dry clothing.

CLINICAL MANIFESTATIONS OF HYPOTHERMIA

- Decreased body temperature, pulse, and respirations
- Severe shivering (initially)
- Feelings of cold and chills
- Pale, cool, waxy skin
- Frostbite (discolored, blistered nose, fingers, toes)
- Hypotension
- Decreased urinary output
- Lack of muscle coordination
- Disorientation
- Drowsiness progressing to coma

Nursing Interventions for Clients with Hypothermia

- Provide a warm environment.
- Provide dry clothing.
- Apply warm blankets.
- Keep limbs close to body.
- Cover the client's scalp with a cap or turban.
- Supply warm oral or intravenous fluids.
- Apply warming pads

3.5 Assessing Body Temperature

Sites for Assessment of body Temperature

The four most common sites are oral, rectal, Axillary, and the tympanic membrane. Each has its own merit and demerits, which are summarised in Table 5

Table 5 Advantages and Disadvantages of Sites Used for Body Temperature Measurement

Site	Advantages/Merits	Disadvantages/Demerits/Flaws

Oral	Accessible and convenient	Mercury-in-glass thermometers can break if bitten; therefore, they are contraindicated for children under 6years and clients who are confused or who have convulsive disorders or patients who breathe only with mouth open. Inaccurate if client has just ingested hot or cold food or fluid or smoked. Could injure the mouth following oral surgery.
Rectal	reliable measurement	Inconvenient and more unpleasant for clients; difficult for client who cannot turn to the side. Should not be used in patients who have a rectal disorder like tumor or severe hemorrhoids. Could injure the rectum following rectal surgery. Placement of the thermometer at different sites within the rectum yields different temperatures, yet placement at the same site each time is difficult. A rectal glass thermometer does respond to changes in arterial temperatures as quickly as an oral thermometer, a fact that may be potentially dangerous for febrile clients because misleading information may be acquired. Presence of stool may interfere with thermometer placement. If the stool is soft, the thermometer may be embedded in stool rather than against the wall of the rectum. If the stool is impacted, the depth of the thermometer insertion may be insufficient. In newborns and infants, insertion of the rectal thermometer has resulted in ulceration and rectal perforations.

		Many agencies advise against using rectal thermometers
		on neonates.
Axillary	Safest and non-invasive	The thermometer may need to be left in place a long time to obtain an accurate measurement.
Tympanic Membrane	Readily accessible; reflects the core temperature. Very fast.	Can be uncomfortable and involves risk of injuring the membrane if the probe is inserted too far. Repeated measurement may vary. Right and left measurements can differ. Presence of cerumen can affect the reading.

Temporal artery	Safe and noninvasive; very fast	Requires electronic equipment that may be expensive or unavailable. Variation in technique needed if the client has perspiration on the forehead.

Guidelines for Taking body Temperature Preparation

Traditionally, body temperatures were measured using mercury-inglass thermometers. Such thermometers, however, can be hazardous due to exposure to mercury, which is toxic to humans, and broken glass should the thermometer crack or break. In 1998, the U.S. Environmental Protection Agency and the American Hospital Association agreed to the goal of eliminating mercury from health care environments. Hospitals no longer use mercury-in-glass thermometers, and several cities have banned the sale and manufacture of them. However, the nurse may still encounter this type of thermometer, especially in the home. In some cases, plastics have replaced glass and safer chemicals (e.g., gallium) have replaced mercury in modern versions of the thermometer

Patient: Explain procedure to gain consent and co-operation. Assess patient regarding site suitable for temperature recording (see Points for Practice (PPP) overleaf). Patient should not have had a hot drink, smoked a cigarette or exercised within the previous ten minutes.

- ***Equipment/Environment:*** Clinical mercury thermometer; Disposable cover for the thermometer or alcohol swab for cleaning it; & Observation chart.
- ***Nurse****:* Hands must be clean.

Procedure

Use of Mercury Thermometer

1. Collect the thermometer – Each patient may have an individual thermometer kept at the bedside or there may be several for general use kept centrally.
2. Inspect the thermometer to ensure that it is clean and reading below 35^0C. Shake down the mercury if necessary (see PPP).
3. If appropriate, apply the disposable cover according to the manufacturer's instructions and remove the backing paper.

Oral

4. Ask the patient to open his/her mouth and gently insert the thermometer under their tongue next to the frenulum. This is adjacent to the sublingual artery, so the temperature will be close to core temperature.
5. Ask the patient to close their lips, but not their teeth, around the thermometer to prevent cool air circulating in the mouth.
6. Leave in position for 2-3 minutes (see PPP).
7. Remove the thermometer taking care to touch only the part that has not been in contact with the patient's mouth. If applicable, remove the disposable cover according to the manufacturer's instructions and dispose of appropriately
8. Holding the thermometer horizontally at eye level, note the level of the mercury.

Axilla

9. Do not use a disposable cover as this is not necessary and interferes with skin contact.
10. Ask/assist the patient to expose his/her axilla, for an accurate recording, the axilla must be dry.
11. Insert the thermometer into the axilla and ask/assist the patient to keep their arm close against the chest wall to ensure good contact with the skin.
12. Leave in position for five minutes.
13. Holding the thermometer horizontally at eye level, note the level of the mercury

Points for Practice

The rectal site is no longer recommended unless an electronic probe is being used. Shake down the thermometer by holding firmly in your dominant hand. Stand back from any furniture (e.g. bed table) to avoid striking with the thermometer. With a flicking action, shake the thermometer until the mercury is down below 350C. This may take several shakes to achieve. Unlike a room thermometer the mercury in the thermometer does not go down as the temperature falls (i.e. when in storage) as there is a kink in the column, which confers on it a self-registering property. The thermometer must remain in the mouth for at

least two minutes to obtain an accurate recording, but should not be left for longer than three minutes as this is uncomfortable for the patient. Electronic oral and tympanic thermometer and disposable thermometer are increasingly being used.

Post-Procedure

Patient: Ensure patient comfort. Answer any questions regarding the recording.

Equipment/Environment*:* Shake down the mercury. If a disposable cover has been used no cleaning is necessary, if no cover has been used, the thermometer should be cleaned with an alcohol swab and stored dry according to local policy.
Nurse*:* Chart temperature recording. Report any abnormality.

Use of Electronic Thermometers
Electronic thermometers can provide a reading in only 2 to 60 seconds, depending on the model. The equipment consists of an electronic base, a probe, and a probe cover, which is usually disposable. Two special types of oral thermometers are basal and hypothermia. A basal thermometer is calibrated with 0.1°F intervals and is for fertility purposes, indicating the temperature rise that is associated with ovulation. Hypothermia thermometers have a greater low range than everyday thermometers, usually measuring temperatures from 27.2°C to 42.2°C (81°F to 108°F).
Infrared thermometers sense body heat in the form of infrared energy given off by a heat source, which, in the ear canal, is primarily the tympanic membrane. The infrared thermometer makes no contact with the tympanic membrane.
Temporal artery thermometers determine temperature using a scanning infrared thermometer that compares the arterial temperature in the temporal artery of the forehead to the temperature in the room and calculates the heat balance to approximate the core temperature of the blood in the pulmonary artery. The probe is placed in the middle of the forehead and then drawn laterally to the hairline. If the client has perspiration on the forehead, the probe is also touched behind the earlobe so the thermometer can compensate for evaporative cooling
Oral

Electronic oral thermometers are increasingly being used in hospitals. They are efficient and easy to use, with an audible signal indicating when the maximum temperature has been reached. The probe, covered by a disposable plastic cover, is placed under the tongue in the same way as a mercury thermometer. Each cover is for use by one patient only and is usually kept clean and dry on the patient locker between use. It is discarded when the patient is discharged from the ward.

Tympanic

Some electronic thermometers are designed to measure the temperature by inserting probe into the outer ear, adjacent to (but not touching) the tympanic membrane. Again, a special cover is used for each patient to prevent cross-infection. An infrared light detects heat radiated from the tympanic membrane and provides a digital reading. This provides a more accurate measure of body core temperature as it is close to the carotid artery. The patient may need more explanation than usual because although most people will have had their temperature recorded at some point, they may be surprised to find you approaching their ear.

Conversion of Temperature Scales (Centigrade & Fahrenheit)

Depending on your country of practice you will be expected to be familiar with either of these measuring scales. However, since nursing is an international occupation, it is better to be conversant with the use of both scales. You can easily convert centigrade to Fahrenheit by multiplying the centigrade temperature by the fraction $^{9}/_{5}$ and adding 32. But to convert Fahrenheit to centigrade, first subtract 32 from the Fahrenheit temperature, and then multiply by $^{5}/_{9}$.

SELF-ASSESSMENT EXERCISE

List out the factors that can influence body temperature.

4.0 CONCLUSION

The importance of vital signs in health monitoring and evaluation of client's health status cannot be over-emphasised. Knowledge of factors affecting heat production and heat loss helps the nurse to implement appropriate interventions when the client has an altered body temperature.

5.0 SUMMARY

Vital signs are signs reflecting the body's physiological status. They comprise temperature, pulse respiration, and blood pressure. Baseline values establish the norm and variation from normal may indicate possible problems with client's health status. Human beings maintain a relatively constant temperature independent of their environment. This the body achieve through thermoregulation. The four sites commonly used for assessing body temperature are oral, rectal, axillary, and tympanic membrane, each with its advantages and disadvantages. The nurse selects the most appropriate site according to the client's age and condition. Factors affecting body temperature include age, sex, diurnal variation, exercise, hormones, stress and environmental temperatures. Apart from these normal deviations in health, altered temperature (fever or hypothermia) may develop and it is the nurses' responsibility to institute appropriate therapy.

ANSWER TO SELF-ASSESSMENT EXERCISE

Age, Environment, Stress, Hormonal level and Exercise.

6.0 TUTOR-MARKED ASSIGNMENT

Explain the thermoregulatory mechanism and discuss the various factors influencing body temperature.

Sade, a 6-year old girl was brought to your hospital following an episode of high fever. Discuss your management of Sade during the pyrexic phase.

7.0 REFERENCES/FURTHER READING

Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson

Brooker, C., & Waugh, A. (2013). *Foundations of Nursing Practice E-Book: Fundamentals of Holistic Care*. Elsevier Health Sciences

DeLaune, S. C., & Ladner, P. K. (2011). *Fundamentals of nursing: Standards and practice*. Cengage learning.

Guyton, A. C. (2021). *Textbook of Medical Physiology* (14th ed.). Philadelphia: WB Saunders.

Potter, P. A. and Perry, A.G. (2009). Fundamental of Nursing: Concepts, Progress, and Practice (7th ed). St Louis: C.V Mosby.
Rosdahl, C. B. & Kowalski M.T. (2012). *Textbook of Basic Nursing*. 10th Philadelphia: J.B. Lippincott Company

UNIT 2 VITAL SIGNS II

CONTENTS

1.0 INTRODUCTION

This unit examines the other components that make up the vital signs, which are respiration, pulse and blood pressure.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

i. describe the physiological mechanisms governing pulse,
ii. respiration, and blood pressure
iii. identify normal ranges for each vital sign
iv. identify the variations in pulse, respirations, and blood pressure that occur in a normal healthy state from infancy to old age
v. select appropriate equipment needed for measuring each vital sign
vi. identify the different sites for assessing pulse and list the characteristics that should be included when assessing pulses
vii. explain how to measure the apical pulse and the apical-radial pulse
viii. describe the mechanics of breathing/the mechanism that controls respiration and demonstrate the ability to count the respiration of a patient accurately
ix. discuss characteristics that should be included in a respiratory assessment
x. explain how to measure a blood pressure and differentiate between systolic and diastolic pressure.

3.0 MAIN CONTENT

3.1 Respiration

Human survival depends on the ability of oxygen (O_2) to reach body cells and carbon dioxide (CO_2) to be removed from the cell. The body performs this heroic function via respiration. Respiration is generally defined as the act of breathing. This involves two distinctly different processes: **external respiration**, which is the exchange of, gases between an organism and its environment i.e. the process by which the lungs bring O_2 into the body and remove CO_2 wastes, and **internal respiration or tissue respiration,** which is the interchange of these same gases between the circulating blood and the cells of the body tissue. Unlike external respiration that is restricted to the alveoli of the lungs and pulmonary blood, internal respiration takes place throughout the body.

External respiration is made up of **inspiration** – the intake of air into the lungs and **expiration** – the breathing out or the movement of gases from the lungs to the atmosphere. The term **ventilation** is also used to describe this movement of air in and out of the lungs. Ventilation can be hyper or hypo. **Hyperventilation** refers to very deep, rapid respirations while **hypoventilation** refers to very shallow respirations. The rate, depth, and

rhythm of ventilatory movements indicate the quality and efficiency of the respiratory process. The nurse can directly assess only the process of external respiration, specifically by assessing ventilation.

3.2 Mechanics and Regulation of Breathing

Regulation of Breathing

Breathing is generally a passive process. It is carried out automatically and effortlessly; you breathe without thinking about it. Though can be controlled momentarily, such willful control are usually too transient and automatic control soon takes over. This automatic control is governed/regulated by (i) respiratory centers in the medulla oblongata and the pons of the brain, and (ii) chemoreceptors located centrally in the medulla and peripherally in the carotid and aortic bodies. These centers are sensitive to amount of CO_2, pH, and low level of O_2 (Hypoxia). Consequently, they respond to changes in the concentrations of O_2, CO_2, and H^+ in the arterial blood. An elevation in the CO_2 pressure of arterial blood causes the respiratory center to increase the rate and depth of breathing. This increased ventilatory effort removes excess PCO_2 during exhalation. Similarly, if the arterial O_2 levels fall, the chemoreceptors signal the respiratory center to increase the rate and depth of ventilation.

According to Webster (1995) rising PCO_2 levels naturally stimulate the initiation of inspiration but falling PCO_2 levels have a limited impact on the control of ventilation. He noted that in patients with chronic lung disease such as bronchitis and emphysema, the hypoxic drive to increase ventilation can become very important stressing that these people may have chronic hypercarbia (a chronic excess of CO_2 in arterial blood), which can suppress the normal stimulus for ventilation. A low level of arterial O_2 then becomes the primary stimulus to breathing in such patients.

Mechanics of Breathing

Normal breathing is accomplished by: (a) the downward and upward movement of the diaphragm to lengthen or shorten the chest cavity, and (b) the elevation and depression of the ribs to increase and decrease the anteroposterior diameter of the chest cavity. During inhalation, the diaphragm contracts (flattens), the ribs move upward and outward, thus

enlarging the thorax and permitting the lungs to expand. This allows the inflowing of air into the lungs. In expiration or exhalation, the diaphragm relaxes, the ribs move downward and inward, decreasing the size of the thorax as the lungs are compressed, thus facilitating the movement of air out of the lungs.

3.3 Altered Breathing Patterns and Sounds

For a good appreciation of what altered breathing patterns and sounds are, there is a need for learners to be conversant with what is considered as normal respiration in terms of rate, rhythm, depth and sounds. Hence this section examines alterations in respiration against the background of what is considered normal respiration.

(A) Normal Respiration

Normal respiration is quiet, rhythmical (regular), comfortable, being neither too deep nor too shallow and of rate considered normal for that age. Let us quickly look at what deviation from normal can occur across these characteristics.

Respiratory Rate – Respiratory rate is usually described in breathes per minute. It is the number of ventilations that take place in 1 minute. Breathing that is normal in rate and depth is called eupnoea**.** Respiratory rate has however been observed to vary considerably in healthy people. The rate varies with age, tending to drop as a person grows older. It is usually slightly rapid in women than in men. Nonetheless, some normal ranges have been established. These normal ranges are captured in the table below (Table 7 – 1).

Table 7 – 1 Variation in Normal Respiratory Rate by Age

Age	Average Range
Newborns	30 – 40
Early Childhood	25 – 30
Late Childhood	20 – 25
Teens	18 – 22
Adults	16 – 20

Aged	16 – 18

Source: Adapted from Usman, et. al. 2000. Ross and Wilson Foundations of Nursing and First Aid (6th ed.). and Kozier, et. al. 2000. Assessing Health. In Fundamental of Nursing: Concepts Process and Practice.

Factors Influencing Respiratory Rate

Besides age and sex, several other factors affect the rate and character of respiration. They include:

- **Exercise** – Exercises increases metabolism and increased metabolism requires increase consumption of oxygen hence the increase in respiratory rate and depth to meet the body's greater oxygen needs.
- **Body Position** – Straight, erect posture promotes full chest expansion. Stooped or slumped position impairs respiratory movement.
- **Emotion** – Fear, excitement, and anger all increase the rate of respiration as a result of sympathetic stimulation.
- **Stress** – Gets the body ready for 'fight or flight' with accompanying increase in respiration.
- **Disease** – Certain diseases increase the rate of respiration (e.g. pneumonia, heart disease) while others decrease it.
- **Certain Drugs** – Some drugs such as caffeine stimulate respiration. Others such as narcotic analgesic and sedatives depress the respiratory center with associated slowing down of respiratory rate.
- **Acute Pain –** Pain increases rate and depth as a result of sympathetic stimulation.
- **Fever –** Increases metabolic rate and consequently increases respiratory rate.
- **Cold** – Decreased temperature results in decrease respiration.
- **Increased Altitude –** The higher the altitude the lower the oxygen concentration. In a bid to make up for reduced oxygen concentration at high altitude the body therefore increases the rate of breathing.
- **Smoking –** Long-term smoking changes the lungs airways, resulting in an increased rate. **(**Berman et al. 2014)

Respiratory Depth

The depth of respiration is assessed by observing the degree of movement in the chest wall. Ventilatory movements are objectively described as *shallow, normal,* or *deep.* During a normal, relaxed breath, a person inhales approximately 500ml of air. This volume is called *tidal volume.* Deep respirations are those in which a large volume of air is inhaled and exhaled, following a full expansion of the lungs with full exhalation. Shallow respirations involve the exchange of small volume of air and often the minimal use of lung tissue.

The capacity of the lungs to take in air depends on gender and age. Lung capacity is determined by taking as deep a breath as possible and then blowing it entirely into a *spirometer,* a device that measures air volume. The amount of air exhaled after a minimal full inspiration is the *lung's vital* capacity and is about 4800ml 0f air. Men tend to have a larger vital capacity than women of the same age. Infants and young children have smaller vital capacities than adolescents and adults. With advancing age, the lung loses its elasticity, and the capacity for forcible exhalation declines (Potter & Perry 2009).

Body position also affects the amount of air that can be inhaled. Kozier, et. al. submitted that people in supine position experiences two physiological processes that suppress respiration: an increase in the volume of blood inside the thoracic cavity and compression of the chest. Consequently, clients lying on their back have poorer lung aeration, which predisposes them to stasis of fluids and subsequent infection. Certain drugs such as barbiturates that depresses the respiratory center also affect the respiratory depth by depressing both respiratory rate and depth.

Respiratory Rhythm

This refers to the regularity of ventilation. Normal breathing is evenly space i.e. regular and uninterrupted. Hence respiratory rhythm is described as regular or irregular. Generally, infants' respiratory rhythms are usually less regular than those of the adults.

Respiratory Quality/Character

This refers to those aspects of breathing that are different from normal. Depending on the level of oxygenation, respiratory alterations may bluish discoloration of the skin (*cyanosis*) and altered level of consciousness. Whereas normal breathing does not require any noticeable effort, some clients only breath with decided effort referred to as *labored breathing.* As breathing becomes labored, a person uses accessory muscles in the chest and neck to breath. The sound of breathing is also significant. Normal breathing is silent but when breathing becomes noisy, it is an indication of some respiratory disorder.

This will be discussed in fuller detail in the next section.

(B) Abnormal Pattern/Dysfunctional Respiration

Rate:

- *Tachypnea* – Persistent rapid respiration marked by quick shallow breaths (greater than 20 breaths per minute).
- *Bradypnea* – Abnormally slow breathing; less than 10 breaths per minute.
- *Apnea* – Cessation of breathing, which may be for a few seconds or prolonged.

Volume:

- *Hyperventilation* – An increase in the amount of air in the lungs characterised by prolonged and deep breaths; may be associated with anxiety.
- *Hypoventilation* – A reduction in the amount of air in the lungs, characterised by shallow respirations **Rhythm:**

- *Cheyne-Strokes* – Cyclic breathing pattern characterised by rhythmic waxing and waning of respirations, from very deep to very shallow breathing and temporary apnea. The respiration becomes deeper and deeper until they reach a climax, after which they decline until there is complete cessation of breathing for a few seconds and then the cycle is repeated. Often associated with cardiac failure, increased intracranial pressure, and drug overdose.

- *Biot's* – Cyclic breathing pattern characterised by shallow breathing alternating with periods of apnea. Seen in neurologic problems (meningitis, encephalitis), head trauma brain abscess, heat stroke.

Ease or Effort:

- *Dyspnea* – This is the term used for describing difficult or labored breathing. The difficulty may be transient and may or may not be accompanied by pain. Dyspneic patients usually appear anxious and worried. The nostrils flare (widen) as the patient struggles to fill the lungs with air. Associated with some lung and heart diseases.
- *Orthopnea* – When difficulty becomes so marked that the patient can breath only when in an upright position, it is called Orthopnea. It is associated with advanced heart disease. In many cases, it is helpful to pull a bed table up to the patient, cover it with pillow, and allow the patient to lean forward.

Breath Sounds:

- **Stridor –** A shrill, harsh sound heard during inspiration with laryngeal obstruction.
- **Stertor –** Loud snoring or sonorous respiration, usually due to partial obstruction of the upper airway.
- **Wheeze –** Continuous, high-pitched musical squeak or whistling sound occurring on expiration and sometimes on inspiration when air moves through a narrowed or partially obstructed airway as in asthma.
- **Whoop** – This long-drawn-out noisy inspiration occurring after a paroxysm of coughing in whooping cough.
- **Grunting** – Grunting at the end of respiration is sometimes noticed in pneumonia.
- **Sighing** – Sighing or air hunger, is characterised by slow inspiration and rapid expiration. This occurs in shock following hemorrhage.
- **Bubbling** – Gurgling sounds called bronchi are heard as air passes through moist secretions in the respiratory tract.

Chest Movements

- **Intercostal Retraction –** Indrawing between the ribs.
- **Substernal Retraction –** Indrawing beneath the breast bone.

- **Suprasternal Retraction –** Indrawing above the clavicles.

Flail Chest – The ballooning out of chest wall through injured rib spaces; results in paradoxical breathing, during which the chest wall balloons on expiration but is depressed or sucked inward on inspiration. (Potter & Perry 2009; Berman et al., 2014).

-

3.4 Assessing Respiration

Respirations are the easiest of vital signs to assess but are often the most haphazardly done. Resting respirations should be assessed when the patient/client is at rest.

Equipment: – Watch with second hand or indicator.

Table 7 – 2 Procedure for Assessing Respiration

Suggested Action	Rationale
Assessment Determine when and how frequently to monitor the patient's respiratory rate..	Demonstrate accountability for making timely and appropriate assessments
Review the data collected in previously recorded assessments of the respiratory rate and other vital signs.	Aids in identifying trends and analyzing significant patterns.
Read the patient's history for any reference to respiratory, cardiac, or neurologic disorders.	Demonstrate an understanding of factors that may affect the respiratory rate.
Review the list of prescribed drugs for any that may have respiratory or neurologic effects.	Helps in analyzing the results assessments findings.
Planning	

Arrange the plan for care so as to count the patient's respiratory rate as close to scheduled routine as possible.	Ensures consistency and accuracy.
Make sure a watch with a second hand is available.	Ensures accurate counting.
Plan to assess the patient's respiratory rate after a 5-minute period of inactivity.	Reflects the characteristics of respirations at rest rather than under the influence of activity
Implementation Introduce self to patient if this has not been done during earlier contact.	Demonstrates responsibility and accountability.
Explain the procedure to the patient.	Reduces apprehension and enhances cooperation.
Raise the height of bed.	Reduces Musculoskeletal strain.
Wash your hands	Reduces spread of microorganisms.
Help patient to a sitting or lying position.	Facilitates the ability to observe breathing.
Note the position of the second hand on the wrist watch.	Identifies the point at which assessment begins
Choose a time when the patient is unaware of being watched; it may be helpful to count the respiratory rate while appearing to count the pulse.	Prevents conscious control of breathing during the assessment.
Observe the rise and fall of the patient's chest for a full minute, if breathing is unusual. If breathing appears noiseless and effortless, count the ventilations for a fraction of a	Determines the respiratory rate per minute.

minute and then multiply to calculate the rate.	
Restore the patient to therapeutic position or one that provides comfort, and lower the height of bed.	Demonstrates responsibility for patient care, safety and comfort.
Document respiratory rate, depth, rhythm And character on the appropriate records and allows for future comparison.	Ensures accurate documentation.
Verbally report rapid or slow respiratory rates or any other unusual breathing Care.	Alerts others to monitor the patient closely and make changes in the plan characteristics.

Evaluation Focus

Note the respiratory rate in relation to the baseline data or normal range for age, relationship to other vital signs, respiratory depth, rhythm and character.

Source: Berman, et al., (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice*.

3.5 Heamodynamic Regulation

The normal physiological function of the cells requires continuous blood flow and appropriate volume and distribution of blood to cells that need nutrients. This is accomplished through the heart's contraction and ejection of blood into the aorta and distensibility of the arterial system. The combination of the arterial distensibility and resistance reduces the pressure pulsations, allowing continuous blood flow to the tissues. The dynamics of distensibility and resistance maintain a constant blood flow; otherwise, blood would flow to the tissues only during systole with an absence of blood flow during diastole.

The circulatory system consists of the **heart** (the pump), the network of **blood vessels** (arteries, arteriole, capillaries, venules and veins), and the

blood that bring oxygen and nutrients to body cells and carries away waste products. The heart is a four-chambered muscular organ (two upper chambers called atria and two lower chambers called ventricles). When the right and left atrium contract blood is forced into the two lower chambers, the right and left ventricle. As wave of contraction continues, blood, which has filled each ventricle, is forced out into the two main arteries – the aorta, which supplies the body; and the pulmonary artery, which supplies blood to the lungs (**systole**). At the onset of systole the increase in ventricular pressure causes the mitral and tricuspid valves to close. The closing of these valves produces the first heart sound (S_1). Ventricular pressure continues to increase until it exceeds the pressure in the pulmonary artery and the aorta, causing the aortic and pulmonic valves to open and allowing the ventricles to eject blood into these arteries. Ventricular emptying and relaxation cause a decrease in the ventricular pressure and closure of the aortic and pulmonic valves (**diastole)**. Closure of these valves produces the second heart sound (S_2). During diastole the pressure in the ventricles becomes lower than that in the atria, causing the mitral and tricuspid valves to open. This together with atria contraction allows the blood to flow into the ventricles. Ventricular filling causes an increase in pressure that closes the mitral and tricuspid valves (the beginning of systole) and starts another cardiac cycle (DeLaune & Ladner 2011).

The amount of blood pumped out into circulation at each systole is known as the **stroke volume**. As the blood enters the artery, the artery expands. The rhythmic expansion and contraction (recoil) of the elastic arteries during each cardiac cycle creates a pressure wave (a pulse) that is transmitted through the arterial tree with each heartbeat. This wave of distension and recoil of the arterial wall can be felt particularly where a peripheral artery runs over a bone.

When adult is resting, the heart pumps about 5 litres of blood each minute. This volume is called **cardiac output** (CO), which can be expressed mathematically as follows:

CO = Stroke Volume x Heart Rate.

A person's heart rate varies throughout the day. Nevertheless, the heart functions to maintain a relatively constant circulatory blood flow (Webster, 1995). This it does through the action of the cardiac center

located in the medulla of the brainstem. Upon receipt of sensory impulses from sensory receptors, the cardiac center either speed up or slow down the heart rate through sympathetic and parasympathetic innervation. There are however some factors that causes normal variation in heart/pulse rate in health. These include:

• **Age –** As the age increases, the pulse rate decreases. See Table 7 – 3 for specific variation in pulse rate from birth to old age.

Table 7 – 3 Normal Age Related Variations in Pulse

Age	Normal Range	Average Rate/Minute
Newborn	80 – 180	130
1 – 3yrs	80 – 140	120
6 – 8 yrs	75 – 120	100
Teen years	50 – 90	70
Adult	60 – 100	80
Older Adult	60 – 70	65

Source: Adapted from Berman, et. al. 2014. Assessing Health. In Fundamental of Nursing: Concepts Process and Practice; DeLaune & Ladner 2011.*Fundamentals of Nursing, Standards and Practice.*

- **Sex –** After puberty, the average female have a slightly higher pulse rate than male.
- **Exercise –** Pulse rate normally increases with activities.
- **Posture/Position –** When a person assumes a sitting position, blood supply usually pools in dependent vessels of the venous system. Pooling results in transient decrease in the venous blood return to the heart and a subsequent reduction in blood pressure and an increase in heart rate.
- **Stress –** In response to stress, sympathetic nervous stimulation increases the overall activity of the heart. Stress increases the rate as well as the force of the heartbeat. Fear and anxiety as well as the perception of pain also stimulate the sympathetic system.

- **Medications –** Some medications decrease the pulse rate while others increase it. For instance, digitalis preparations (e.g. digoxin) decrease the pulse rate while epinephrine increases it.
- **Hemorrhage –** Loss of significant amount of blood from the cardiovascular system results in an increase in pulse as the body strives frantically to compensate for the loss.
- **Fever –** The peripheral vasodilation that occurs concomitantly with elevated body temperature and increased metabolism associated with fever results in an increase in pulse rate.

3.6 Assessing Pulse

In assessing pulse, the nurse is not just interested in the rate but the rhythm, volume and tension as well. The rate talks about how many counts per minute. The rhythm addresses the issue of regularity of the pulse i.e. the interval between successive pulse while the volume refers to the strength or amplitude of force exerted by the ejected blood against the arterial wall with each contraction (It should require moderate pressure to obliterate the vessel). The tension relates to state of the vessel wall when being felt or palpated – the vessel should feel pliant and soft under the nurse's finger; it should not be hard and tortuous.

How to take the Patient's Pulse

There are nine sites where pulse is commonly taken:

- **Radial –** At the wrist, just above the base of the thumb (posteroinferior), where the radial artery run along the radial bone. Readily accessible
- **Temporal –** Just in front of the ear, where the temporal artery passes over the temporal bone of the head. Used when radial pulse is not accessible.
- **Carotid –** On the side of the neck where carotid artery runs between the trachea and sternocleidomastoid muscle. Used for infants and in cases of cardiac arrest.
- **Apical –** Apex beat can be heard by placing the stethoscope over the 5^{th} intercostal space in the mid clavicular line on the left side of the chest in non-cardiac patients. Routinely used for infants and children up to 3 years of age. Also used to clarify discrepancies with radial pulse.

- **Brachial –** locatable at the inner aspect of the biceps muscle of the arm or medially in the antecubital space (elbow crease). Employed in blood pressure measurement. Also used during cardiac arrest for infants.
- **Femoral –** In the groin where femoral artery passes alongside with the inguinal ligament. Used for infants and children. Used to determine circulation to the leg as well.
- **Popliteal –** Where the Popliteal artery passes behind knee. Difficult to find but accessible when the patient flexes his knee slightly. Used to determine circulation to the lower leg.
- **Posterior Tibial –** On the medial surface of the ankle where the posterior tibial artery passes behind the medial malleolus. Used to determine circulation to the foot.
- **Pedal –** Where the dorsalis pedis artery passes over the bone of the foot. Can be palpated by feeling the dorsum (upper surface) of the foot on an imaginary line drawn from the midline of the ankle to the space between the big and second toes. Used to determine circulation to the foot.

Assessing the Radial Pulse

Equipment – Watch with a second hand or indicator.

Intervention

- **Prepare the client –** Inform the client and explain the procedure to him. Select the pulse point and assist the client to comfortable and relaxed position. For clients in supine/dorsal position, the arm can rest alongside the body with palm facing downward or over the abdomen except where contraindicated. For clients who can sit, the forearm can rest across the thigh, with the palm facing downward or inward. With infants, have the parent close by. Having the parent close or holding the child may decrease anxiety and yield more accurate results.

- **Palpate and count pulse –** Place the first two or three fingers lightly and squarely over the medial aspect of the wrist just above the base of the thumb. Using a thumb is contraindicated because thumb has a pulse that the nurse could mistake for client's pulse. Feel the pulsation but before counting the pulse, note the rhythm, volume, and the state of the vessel wall. If the pulse is regular, count for 30seconds and multiply by 2. If it is irregular, count for a full minute. Count for a full minute also

when taking a client's pulse for the first time or obtaining baseline data. An irregular rhythm requires a full minute's count for a correct assessment and indicate need to take apical pulse.

- **Document and report pertinent assessment –** Record the pulse rate, rhythm and volume on the appropriate records. Report to the nurse in charge abnormal variations in pulse (Usman, et. al. 2000; Kozier, et. al. 2000).

Abnormal Variations in Pulse

The pulse may vary in one or more of its characteristics.

Rate: An abnormally elevated pulse/heart rate above 100 beats per minute in adults is referred to as **Tachycardia.** This is found in certain heart conditions and in some anaemias. Tachycardia may be continuous or paroxysmal. **Bradycardia** on the other hand is a pulse/heart rate that is less than 60 beats per minute in adults. Could occur in cases of head injury.

Rhythm: Arrthythmia is the name given to irregularities in heart rhythm. A pulse is described as **irregular** when the interval between successive beat is uneven. **Intermittent** pulse means that a pulsation is being missed and it may occur at regular or irregular intervals. **Extra systoles** are actually extra beats produced by an excessively irritable cardiac muscle with resultant irregularity.

3.7 Blood Pressure and its Determinants

Blood pressure (Bp) is the force exerted by the blood against the walls of the vessels that carry it measured by an instrument called sphygmomanometer. In other words Bp is a product of cardiac output and total peripheral resistance (TPR).

Bp = CO x TPR

As earlier stated, the CO is the quantity of blood being pumped out of the heart per minute while TPR represents the total force exerted by the heart and the walls of the vessels against the blood.

Bp is highest during ventricular contraction. This is **systolic pressure**, that is, the pressure of the height of the blood wave. The pressure diminishes as the heart relaxes and is lowest when the heart is relaxed before it begins to contract again; this is **diastolic pressure** that is the pressure when the ventricles are at rest. Bp is measured in millimeters of mercury (mmHg) and recorded as fraction, the systolic pressure written over the diastolic pressure. Diastolic pressure then, is the lower pressure, present at all times within the arteries. The difference between the two readings is called **pulse pressure**.

Bp can either be high or low. The World Health Organisation has considered a range of 90/60 – 140/95mmHg as normal. Therefore, when there is a persistent rise in Bp above what is considered as average for an age and sex, a condition known as **Hypertension** is said to have developed. On the other hand, when the Bp falls extremely below normal range for an age, e.g. a systolic reading consistently between 85 and 110mmHg in an adult, **hypotension** is said to have set in.

Determinants of Blood Pressure

Arterial Bp is the result of several factors. These include:

- **The Pumping Action of the Heart** – When the pumping action of the heart is strong, the volume of blood pumped into circulation tends to increase with corresponding increase in Bp and vice versa.

- **Peripheral Vascular Resistance –** The higher the peripheral resistance (TPR), the higher the Bp. Some of the factors create TPR are the size of the blood lumen, the compliance of the arteries and the viscosity of the blood. The smaller the lumen of a vessel, the greater the resistance. Normally, the arteries are in a state of partial constriction, increased vasoconstriction therefore raises the Bp. The degree of distensibility (compliance) of the arterial wall, which is a factor of the elasticity of the arterial wall is yet another factor in TPR.

- **Blood Volume –** The smaller the blood volume, the lower the Bp and the greater the blood volume the higher the Bp.

- **Blood Viscosity –** In viscous (thick) fluid, there is a great deal of friction among the molecules as they slide by each other. This explains

why the Bp is higher when the blood is highly viscous as it's usually the case when the hematocrit is more than 60 – 65%.

Mechanism involved in Blood Pressure Regulation

- **Sympathetic Stimulation/Cardiac Accelerator (Adrenalin) –** Increases peripheral resistance and heart rate and consequently increases the Bp.

- **Parasympathetic (Vagal) Stimulation –** Cardiac inhibitor; reduces Bp.
- **Baroreceptor Mechanism –** The baroreceptor are nerve receptors in the wall of most great vessels like the aorta and the carotids that are sensitive to changes in Bp. When the arterial pressure becomes great, these baroreceptors are stimulated excessively, and impulses are transmitted to the medulla of the brain. Here the impulses inhibit the vasomotor center, which in turn decreases the number of impulses transmitted through the sympathetic nervous system to the heart and blood vessels. Lack of these impulses causes diminished pumping activity of the heart and an increased ease of blood flow through the peripheral vessels both of which lowers the arterial pressure back to normal. Conversely, a fall in arterial pressure relaxes the stretch receptors, allowing the vasomotor center to become more active than usual with resultant rise in Bp.

- **Renin-Angiotensin Phenomenon** - Narrowing of the lumen of an artery as a result of arteriosclerosis or renal artery stenosis results in a decrease in the volume of blood to the kidney. The kidney by virtue of its receptors that are very sensitive to changes in blood volume secretes a substance called rennin. Renin while circulating in the blood acts on a protein component (angiotensinogen) and convert it to angiotensin. Angiotensin causes constriction of blood vessels and also stimulates the release of aldosterone from the adrenal gland. Aldosterone causes salt and water retention. The net result is a rise in Bp.

Factors Influencing Blood Pressure: The various factors influencing Bp are outlined as follows:

- **Age –** Bp increases with age. In old age, as part of the degenerative process, the arterial wall becomes more rigid and less yielding to pressure

and no longer retract as flexibly to decreased pressure, hence the high Bp associated with this group.

- **Exercise –** This increases cardiac output with consequent increase in Bp.
- **Stress –** The stimulation of the sympathetic nervous system as observable in stress causes increased the cardiac output with increased vasoconstriction. The aftermath is increased Blood pressure. Pain however can decrease Blood pressure greatly and cause shock by inhibiting the vasomotor center and producing vasodilation.
- **Race** – The Negroid race tend to have higher Bp than the Caucasians.
- **Obesity** – Bp is generally higher in obese people than in individuals with normal weight (due to possible arteriosclerosis).
- **Sex** – After puberty, females usually have lower Bp than males of the same age probably due to hormonal variation.
- **Medications** – Some medication increases the Bp while many others decrease it. To this end the nurse needs to be conversant with the actions and side effects of drugs and consider their possible impact on the health status of their client.
- **Disease Process** – Many conditions that affect cardiac output, blood volume, the arterial network and renal system exact a direct effect on Bp.
- **Diurnal Variations** – Bp is usually lowest early in the morning, when the metabolic rate is lowest, then rises throughout the day and peaks in the late afternoon or early evening. (Kozier, et. al. 2000).

3.8 Assessing Blood Pressure

Since blood pressure can vary considerably, it is expedient for the nurse to know a specific clients baseline Bp.

Preparation

- ***Patient:*** The patient should be resting in a bed, couch or chair, in a quiet location. The patient should not have had a meal/alcohol or caffeine or have smoked or exercised in the previous 30 minutes.
- ***Equipment/Environment:*** Sphygmomanometer with appropriate size cuff (see Points for Practice), Stethoscope, Alcohol impregnated swabs, Observation chart

- ***Nurse***: The hands should be clean. No special preparation is necessary unless required by the patient's condition.

Procedure

1. Assess the patient's knowledge of the procedure and explain as necessary
2. Ensure the patient is resting in a comfortable position. If a comparison between lying and standing blood pressure is required, the lying recording should be done first.
3. When applying the cuff, no clothing should be underneath it if clothing constricts the arm remove the arm from the sleeve (see PPP)
4. Apply the cuff so that the center of the bladder is over the brachial artery 2 - 3cm above the antecubital fossa. This is easier to do if the cuff tubing is disconnected from the sphygmomanometer.
5. The arm should be positioned so that the cuff is level with the ear and may be more comfortable resting on a pillow
6. The sphygmomanometer should be placed on a firm surface, facing you, with the center of the mercury column at eye level. Connect the cuff tubing to the sphygmomanometer.
7. Locate the radial pulse. Squeeze the bulb slowly to inflate the cuff while still feeling the pulse. Observe the mercury column and note the level when the pulse can no longer be felt. Unscrew the valve and quickly release the pressure in the cuff.
8. If using a communal stethoscope clean the earpieces with an alcohol-impregnated swab. Curving the ends of the stethoscope slightly forward, place the earpieces in your ears. Check that the tubes are not twisted
9. Check that the stethoscope is turned to the diaphragm side by tapping it with your finger.
10. Palpate the brachial artery, which is located on the medial aspects of antecubital fossa.
11. Place the diaphragm of the stethoscope over the artery, and hold it in place with your thumb while using your fingers to support the patient's elbow.
12. Position yourself so that the column of mercury in the sphygmomanometer is clearly visible.
13. Ensure that the valve on the bulb is closed firmly but not too tightly, so that it can be loosened with one hand. Inflate the cuff to 20 -

30 mmHg above the level noted in step 7 Open the valve to allow the column of mercury to drop slowly (2mm per second).

14. While observing the level of mercury as it fails, listen for korotkoff (thudding) sounds: Sudden appearance of a sharp click sound which increases in intensity and duration until it reaches a peak, then suddenly becomes muffled and less intense after a further fall of about 5mmHg. The systolic pressure is the level where this is first heard; the diastolic pressure is the level where the sounds disappear.

15. Once the sounds have disappeared, open the valve fully, to completely deflate the cuff, and remove it from the patient's arm

Points for Practice

The sphygmomanometer may be mercury or an aneroid type. These are used in exactly the same way, however, unlike the mercury column, which must be placed in an upright position for accurate recording, the dial on an aneroid sphygmomanometer may be positioned anywhere. The bladder of the cuff must cover at least three quarters of the circumference of the upper arm. If the patient is receiving intravenous therapy, avoid using the arm that has the intravenous cannula or infusion in progress. If the patient is unable to lift his/her arm, tuck the patient's hand under your arm to support the arm while you position the cuff. If recording lying and standing blood pressure, do not remove the cuff between recordings, keep it in the same position. The doctor may have requested that the patient stands for at least five minutes before the standing blood pressure is recorded. Be aware that the patient may feel dizzy on getting out of bed (postural hypotension). Electronic blood pressure recording machines are now often used. The cuff should be positioned in the same way as described in step 4 but no stethoscope is required because the machine provides a digital display of the systolic and diastolic pressures.

SELF-ASSESSMENT EXERCISE

List the factors that could influence respiratory rate.

4.0 CONCLUSION

The assessment of physiological functioning provides specific data regarding the client's current condition. It also provides a basis for evaluating response to nursing interventions. However, most accurate values could only be obtained when the client is at rest, the environment controlled for comfort, and the nurses well-armed with knowledge and skills for assessing vital signs.

5.0 SUMMARY

The assessment of the other components of vital signs (i.e. respiration, pulse and blood pressure) is as crucial as that of temperature and various sites and methods can be used to obtain them. Respirations are normally quiet, effortless, and automatic and when assessing respiration care must be taken to ascertain the respiratory rate, depth, rhythm, and sound. The normal physiological function of the cells requires continuous blood flow and appropriate volume and distribution of blood to cells that need nutrients. The pulse rate, rhythm, and volume, in addition to blood pressure are good indicators of the functionality of this system. Although the radial pulse is the site commonly used, eight other sites may be used in certain situations. Blood pressure which is a product of cardiac output, peripheral resistance, blood volume and blood viscosity can be measured by auscultation using a sphygmomanometer and a stethoscope. And like temperature, several factors cause changes in one or more of these vital signs. These include: age, sex, exercise, anxiety and stress, metabolism, diurnal variation, hormones, medication, pain and alteration in physiological functions.

ANSWER TO SELF-ASSESSMENT EXERCISE

1. Exercises, Body position, Emotion, Stress, Diseases, Certain drugs, and acute pain.

6.0 TUTOR-MARKED ASSIGNMENT

1. A 65-year-old known hypertensive patient was brought into your clinic with complaint of slurred speech and labored breathing.
2. You have been assigned to check the vital signs. How will you take his pulse and his blood pressure? What things should you pay particular attention to while assessing the pulse? Differentiate between normal and abnormal breathing patterns stating their implications.

7.0 REFERENCES/FURTHER READING

Berman, A., Snyder, S. J., Kozier, B., Erb, G. L., Levett-Jones, T., Dwyer, T., Hales, M., Harvey, N., Moxham, L., & Park, T. (2014). *Kozier & Erb's fundamentals of Nursing Australian edition* (Vol. 3). Pearson Higher Education AU

DeLaune, S. C., & Ladner, P. K. (2011). *Fundamentals of nursing: Standards and practice*. Cengage learning.

Guyton, A. C. (2021). *Textbook of Medical Physiology* (14th ed.). Philadelphia: WB Saunders.

- Rosdahl, C. B. & Kowalski M.T. (2012). *Textbook of Basic Nursing*. 10th Philadelphia: J.B. Lippincott Company

Potter, P. A. and Perry, A.G. (2009). *Fundamental of Nursing: Concepts, Progress, and Practice* (7th ed). St Louis: C.V Mosby.

UNIT 3: HISTORY TAKING AND PHYSICAL EXAMINATION

CONTENTS

1.0 INTRODUCTION

Assessing health status is a major component of nursing care. Smith (1982) remarked that if good nursing care entails meeting the needs of the clients, then these needs must first be identified. As such, the skill of observation becomes an invaluable asset. Assessment technique is therefore a skill that nurses must develop right from the very beginning

of their training. Speaking in the same vein, (Glynn & William 2017)submitted that one statement that gets near to the truth is that diagnosis should precede treatment whenever possible. They observed that are two steps critical to making a diagnosis: the first is observation by history taking, physical examination, and ancillary investigations; and the second – interpretation of information obtained in terms of a disorder of function and structure, then in terms of pathology. These two steps put together form part of the assessment phase of the Nursing process, which incidentally has become the decision-making tool in Nursing practice.

However, as beginners, will be limiting ourselves to the first step, knowing fully well that a thorough understanding of it is vital to elucidating our client's problem(s) without which the resolution of such problem(s) will be elusive. Therefore, this unit focuses on the purpose, components, and techniques related to the health history and physical examination.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

i. explain the purpose, components, and techniques related to the health history and physical examination
ii. differentiate between health history and nursing history
iii. identify information to collect from nursing history before an examination
iv. describe the appropriate use and techniques of inspection, palpation percussion, and auscultation
v. identify some of the equipment needed to perform a physical examination
vi. conduct physical assessments correctly in the right sequence and in an organised fashion.

3.0 MAIN CONTENT

3.1 Types of Assessment

Generally speaking, three types of assessment are employed in evaluating the health status of patients/clients. They are: **Comprehensive Assessment, Focused Assessment,** and **Ongoing Assessment.** However, it is health care setting and needs of the patient that literally dictates what type of assessment that is needed.

Comprehensive Assessment – As the name suggest, this is a comprehensive assessment that is usually collected upon admission to a health care agency. It includes a complete health history to determine the current needs of the client. This database provides a baseline against which changes in the client health status can be measured and should include assessment of physical and psychosocial aspects of client's health, the client's perception of health, the presence of health risk factors and the client's coping patterns
(DeLaune & Ladner, 2011). While it is true that comprehensive assessment is the most desirable in the initial assessment of client's health needs, time constraint or special circumstances may indicate the need for the abbreviated data collection, the focused assessment.

Focused Assessment – As insinuate in the preceding paragraph, this assessment is limited in scope (in comparison with comprehensive assessment) in order to focus on a particular need or health care problem or potential health care risks. It is often used in health care agencies in which short stays are anticipated (e.g. Emergency departments), in specialty areas such as labor and delivery, and in mental health settings or for the purposes of screening for specific problems or risk factors as obtainable in well child clinic (DeLaune & Ladner, 2011).

Ongoing Assessment – An ongoing assessment is a continuous systematic assessment and reassessment or evaluation of a client's health status with revision of care plan. This type of assessment allows the nurse to broaden the database or to confirm the validity of the data obtained during the initial assessment and to measure the effectiveness of nursing interventions.

3.2 Indications for Health Assessment

The purposes of health assessment include to:

- Collect data about the client through observation, interview and physical examination.
- Assess the patient's current physical condition.
- Establish a database for future comparisons.
- Continuously update database.
- Detect early signs of developing health problems
- Evaluate responses to medical and nursing interventions.

- Make clinical judgments about a client's changing health status and management.

3.3 Data Collection

This is the process of gathering information about a client's health status. It must be both systematic and continuous to prevent omission of significant data and reflect a client's changing health status. A **database** (baseline data) is all information about a client; it includes the nursing health history, physical assessment, the physician's history and physical examination, results of laboratory and diagnostic tests, and materials contributed by other health personnel (Berman *et al., 2016*).

Types of Data

There are basically two types of data**: objective data** and **subjective data**. **Objective data** also referred to as **signs** or **overt data** are factual measurable and observable information about the patient and his overall state of health i.e., they can be seen, heard, felt, or smelled, and they can be obtained by observation or physical examination. Example includes vital signs; height; weight; urine colour, volume and odour; skin rashes e. t. c. **Subjective Data** sometimes called **symptoms** or **covert data** are data client's point of view that cannot be empirically validated. Encompasses patient's opinion or feelings, client's sensation, values, beliefs, and perception of personal health status and life situation. For instance, only the patient can tell you that he/she is afraid or has pain or experiencing itching.

Methods of Data Collection

The basic methods employed in data collection or data gathering are:

- Observation
- Interview, and
- Physical Examination.

3.1.1 Observation

The term observation is defined as a systematic and exhaustive search for any significant physical deviation from the normal. Observation has two aspects: (a) noticing the stimuli and (b) selecting, organising, and

interpreting the data including distinguishing stimuli in a meaningful manner. Observation as an assessment technique involve the use of all the five senses:

Visual Observation: Sight provides an abundance of visual clues about general appearances, mannerisms, facial expressions, mode of dress, family – friend's interaction, to mention but a few.

Tactile Observation: Touching or palpating any part of the patient can provide information such as hotness/coldness of the body, swelling, edema, muscle strength, etc.

Auditory Observation: The sense of hearing. Quite a lot of information can be gathered through mere listening to the patient or using specialised equipment like the stethoscope to listen to breath sounds, bowel sounds, and heart sounds.

Olfactory or Gustatory Observation: The sense of smell identifies odors that can be specific to a patient's condition or state of health. This include body and breath odour which might indicate Gamalin poisoning, alcohol intoxification, poor hygiene, diabetic ketoacidosis, etc.

3.4 Interviewing/History Taking

This is a planned communication or a conversation with a purpose, for example, to get or give information, identify problems of mutual concern, evaluate change, teach, provide support, or provide counseling or therapy (Berman *et al., 2016*). During assessment, the purpose of interview is to gather information about client's health history. The goal of history taking is to get from the client an accurate account of his complaint and see this against the background of his life as a whole. How well this is achieved is a factor of the nurse's knowledge and skill at eliciting information from the client using appropriate techniques of communication and observation of nonverbal cues. Effective communication is therefore a key factor in the interview process(Lewis., 2016.

There are two approaches to interviewing: directive and nondirective. The **directive interview** is highly structured and elicits specific information. The nurse establishes the purpose of the interview and

controls the interview, at least at the outset, by asking closed-ended questions that call for specific data. During the **nondirective interview,** or rapport-building interview, the nurse allows the client to control the purpose, the subject matter, and pacing. The nurse encourages communication by asking open-ended questions and providing empathetic responses (Berman *et al., 2016*).

Guidelines for an Effective Interview/History Taking

Be prepared – The interview is more productive if the nurse has an opportunity to prepare for the interaction. Such preparation includes the review of client's clinical record, conversation with other health care personnel, and literatures about client's health problem (DeLaune & Ladner, 2011; , Berman *et al., 2016*). This will focus the interview and prevent tiring the client, and save your time.

- **Appropriate Timing –** Schedule interviews with client at a time when the client is physically comfortable and free of pain, and when interruptions by friends, family, and other health professionals are minimal.
- **Create a Pleasant Interviewing Atmosphere –** A quiet, well-lighted, well-ventilated and relaxed setting, relatively devoid of noise and interruptions enhances communication. A relaxed atmosphere eases the patient's anxiety, promotes comfort, and conveys your willingness to listen. Ensure privacy, as some clients will not share personal information if they suspect others can overhear. In all instances, the client should be made to feel comfortable and unhurried.
- **Establish a Good Rapport –** Greet the client by name if possible; sit and chat with the client before the interview. Be sure to explain the purpose of the interview and show concern for the patient's story.
- **Set the Tone and be Focused –** Encourage the client to talk about his chief complaint. This helps you to focus on his most troublesome symptoms. Keep the interview informal while still being professional. Speak clearly and simply, avoiding medical jargons and be sure patient understands you.
- **Choose your Words Carefully –** Ask open-ended questions to encourage the client to provide complete and pertinent information.
- **Take Notes –** Avoid documenting everything during the interview but make sure you jot down important information such as date, times.

3.5 Health History and Nursing History

The primary focus of the data collection interview is the health history and Nursing history. A **health history** is designed to collect data to be used primarily by the physician to diagnose a health problem and it usually collected by the medical team. Often the admitting nurse also collects this same information during the admission interview. However, there is a growing disapproval of the nurse repeating this process, as credibility is lost when the nurse repeats virtually all the questions that others have already asked. A **nursing history** on the other hand has a different focus – the client's response to the health problems, which assist the nurse more accurately in identifying nursing diagnoses (Lewis., 2016) . While the health history concentrates on symptoms and progression of disease, the nursing history focuses on client's functional patterns, responses to changes in health status and alterations in lifestyle.

Health History – The components of a health history include:

- **Demographic Information –** encompasses demographic variables such as name, date, age, sex, etc.
- **Chief/Presenting Complaint –** try to define what has motivated the client to seek health care and its duration.
- **History of Present Illness (HPI) –** HPI provides detailed data about the chief complaint or reason for entering the health care system.
- **Past Health History –** provides information about the client's prior state of health. Includes questions about childhood and adult illnesses, immunisations, injuries, hospitalisations, surgeries, therapeutic regimens, allergies, travels, habits, and use of supportive devices.
- **Family Health History (FHH) –** FHH notes illnesses that have environmental, genetic, or familial tendency or that are communicable. A genetic chart or family tree of three generations can be developed to illustrate the family health history.
- **Social and Occupational History –** Enquire about what may be grouped as the client's physical and emotional environment, his surroundings both at home and work, his habits and his own mental attitude to life and to his work.
- **Review of Systems –** This is the final portion of health history. It is systematic collection of specific information about the client's past and present health status related to common problems of body systems. (Glynn & William 2017; Lewis., 2016.)).

It is important to mention here as Glynn & William, (2017) noted, that in taking history, it neither possible nor desirable to tie a patient down to a particular sequence. The client must be allowed to tell his own story. Besides, a good clinician begins the examination of a patient as the latter walks into the room – his appearance, the way he walks, the way he answers questions and so on – and only finishes taking the history when the consultation is over. Occasionally a vital piece of information may come out just when the patient is leaving. Glynn & William (2017),) remarked that while the list of headings is formidable, it does take some experience to know in a given case which part of the history is particularly worth pursuing. And following the health history, a **general survey** statement is made, which is a statement of the provider's impression of a client, including behavioral observations.

Nursing History – Numerous nursing history/database formats are available in literatures (Carpenito, 1989; Christensen & Kenney, 1990; (Lewis., 2016.)). The format in use in most clinical setting is the **11 functional patterns** credited to Majory Gordon. This format (presented below) allows systematic data gathering and facilitates making inferences (nursing diagnosis).

Health-Perception-Health-Management Pattern – Focuses on client's perceived level of health and well-being and on personal practices for maintaining health. It also embraces preventive screening activities such as breast and testicular examination; hypertension and cardiac risk factor screening etc.

Nutritional-Metabolic Pattern – Assesses food and fluid intake, food References/Further Reading and taboos, cultural factors relating to food and nutrition, etc. Also explores difficulties if any with ingestion, digestion, absorption, transport and metabolism of nutrients.

Elimination Pattern – Assesses bowel and bladder functions such as frequency, amount, relationship of output to intake, and any discomfort or difficulty associated with each function.

Activity-Exercise Pattern – Explores the client's activities of daily living including client's usual pattern of exercise, leisure and recreation.

Sleep-Rest Pattern – This inquiries about the client's pattern of sleep, rest and relaxation in a 24hour period, noting any deviation from client's premorbid rest and sleep pattern.

Cognitive-Perceptual Pattern – Assessment of this pattern involves a description of all the senses (vision, hearing, taste, touch, smell and pain) and the cognitive functions (such as communication, memory, and decision making).

Self-Perception-Self-Concept Pattern – This pattern explores the client's self-concept, which is critical to determining the way the client interacts with others. Attitudes about self, perception of personal abilities and body image, and general sense of worth are also addressed under this pattern.

Role-Relationship Pattern – Describes the client's role and relationships including major responsibilities of the individual. It examines person's self-evaluation of the performance of expected behaviors related to these roles.

Sexuality-Reproductive Pattern – This pattern describes satisfaction or dissatisfaction with personal sexuality and describes the reproductive pattern.

Coping-Stress Tolerance Pattern – This pattern explores the client's general coping pattern and the effectiveness of the coping mechanisms. It encompasses analyzing the specific stressors or problems that confront the client, the client's perception of the stressor and the person's response to the stressor.

Value-Belief Pattern – Describes the values, goals, and beliefs (including spiritual) that guide health related choices (Lewis., 2016)

3.6 Physical Examination

Physical examination or physical assessment is a systematic examination of the body structures. There are basically four techniques of conducting a physical examination and the examination may be done using the

cephalocaudal (head – to – toe) approach or the body systems approach. The four techniques are:

- **Inspection**: - Inspection is the most frequently used assessment techniques. It involves deliberate, purposeful and systematic observation to identify deviation from normal.
- **Percussion**: - The assessment techniques least used by nurses. It requires considerable skills. Percussion involves striking or tapping a particular part of the body to produce vibratory sounds. The quality of sound aids in determining the location, size and density of underlying structures. If the sound is different from that which is normally expected, it suggests that there may be some pathologic changes in the area being examined.

Types of percussion: There are three types of percussion viz: **Indirect, Direct, and Blunt percussion**.

Indirect Percussion: The most commonly used. Produces clear, crisp sounds when performed correctly. To perform indirect percussion, use the middle finger of your non-dominant hand as the pleximeter by placing it firmly on the part that is to be percussed. The back of its middle phalanx is then struck with the top of the middle finger of the dominant hand (the plexor). The stroke should be delivered from the wrist and finger joints, not from the elbow, and the percussing finger (the plexor) should be held perpendicular to the pleximeter. Tap lightly and quickly, removing the plexor as soon as you have delivered each blow.

Direct Percussion: In direct percussion, the nurse strikes the area to be percussed directly with the pads of two or three or four fingers or with the pad of the middle finger. This method helps in assessing an adult sinus for tenderness.

Blunt Percussion: This is done by striking the ulnar surface of your fist against the body surface. Alternatively, both arms may be used with the palm of one hand placed over the areas to be percussed and then striking it's back with the fist of the other hand. Both techniques aim at eliciting tenderness (not to create a sound) over such organs as the kidneys, gallbladder, or liver (another blunt percussion method used in the neurologic exam involves tapping a rubber – tipped reflex hammer against a tendon to create a reflexive muscle contraction).

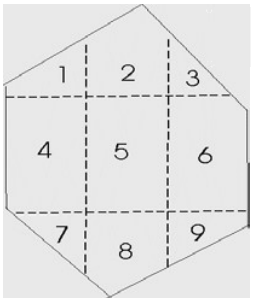
• **Palpation**: This is an assessment technique that uses sense of feeling and pressure to assess structure size, placement, texture, temperature, distension, mobility, pulsation and tenderness. There are two types of palpation:

Light Palpation: Involves the use of pads of fingertips, the dorsum (back) of the hand or the palm. Used because their concentration of nerve endings makes them highly sensitive to tactile discrimination. In light palpation, the body surface is indented gently using the slightest touch possible; too much pressure blunts your sensitivity. The nurse extends the dominant hand's fingers parallel to the skin surface and presses gently while moving the hand in a circle.

Deep Palpation: Deep palpation is done with two hands (bimanually) or with one hand. In deep palpation, the hand is held flat and relaxed and molded to the body surface as in light palpation. The best movement is gentle but with firm pressure with the finger held almost straight but slightly flexed at the metacarpophalangeal joints. Indent the skin or tissue about $1\text{-}1^{1/2}$ inches (2.5 - 4cm). Place your other hand on top of the palpating hand to control and guide your movements. This approach (bimanual palpation) is usually employed while palpating for deep, underlying, hard – to – palpate organs (such as the kidney, liver or spleen) or to fix or stabilise an organ (such as the uterus) while palpating with the other hand. To perform a variation of deep palpation that allows pinpointing an inflamed area, press firmly with one hand, and then lift your hand away quickly. If the patient complains of increased pains as you released the pressure, you have identified **rebound tenderness**. Other variations of deep palpation are: **Light Ballottement** usually performed by applying light rapid pressure from quadrant to quadrant of the patient's abdomen. Hands are kept on the skin surface to detect tissue rebound. **Deep Ballottement** on the other hand, is performed by applying abrupt, deep pressure and releasing it while maintaining contact.

NOTE: Palpation forms the most important of abdominal examinations. Tell the patient to relax as best as he can, to breathe quietly and that you will be as gentle as possible. Enquire for the site of any pain and come to this region last. It is helpful to have a logical sequence to follow and if this is done as a matter of routine, then no important point will be omitted. Presented below are the different regions of the abdomen and the different incision line employed in abdominal surgeries.

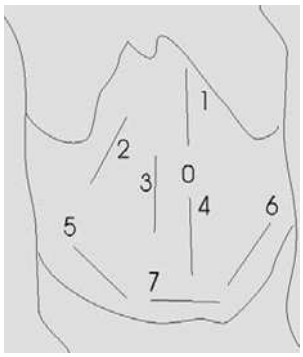
Fig 7 – 1 Regions of the Abdomen



1. Right hypochondrion
2. Epigastruium
3. Left hypochondrion
4. Right lumbar
5. Umbilical
6. Left lumbar
7. Right Iliac
8. Hypogastrum or suprapubic
9. Left Iliac

Source: Adapted from Glynn & William, 2017). Hutchison's ClinicalMethods. An Integrated Approach to Clinical Practice (24th ed)

Fig 7 – 2 Some Commonly Employed Abdominal Incisions



1. Upper midline
2. Right sub costal (Kocher's)
3. Right paramedian
4. Lower midline
5. Gridiron (appendectomy)
6. Left
7. Suprapubic (pfannenstiel)

Source: Adapted Glynn & William (2017). *Hutchison's Clinical Methods. An Integrated Approach to Clinical Practice* (24th ed.)..

• **Auscultation**: Auscultation is an assessment technique that involves listening to sounds created in body organs to detect variations from normal. Some sounds can be heard with unassisted ear, but most sounds are heard through a stethoscope. You must first become familiar with normal sounds before you
can be able to pick abnormal sounds. The heart, lungs and abdomen are the structures that are most often assessed by this technique. To auscultate effectively therefore requires good hearing acuity, a good stethoscope and knowledge of how to use the stethoscope correctly.

Assessing High-Pitched Sounds – Example of high-pitched sounds are 1st and 2nd heart sounds (S_1 & S_2) and breath sound. This is done with the use of the diaphragm of the stethoscope. Ensure that the diaphragm entire surface is closely / firmly applied to the patient's skin.

Assessing Low-Pitched Sounds – The heart murmurs, 3rd and 4th heart sounds (S_3 and S_4) are all low-pitched sounds. To pick such sounds lightly place the bell of the stethoscope on the appropriate areas. Do not exert pressure. If you do, the patient's chest will act as diaphragm and you will miss low-pitched sounds.

Like all the other assessment techniques, it requires conscious effort and regular practice to become proficient in its use.

SELF-ASSESSMENT EXERCISE

1. List the indications for patient's assessment.
2. What is the use of the four (4) special senses in observation/physical examination?

4.0 CONCLUSION

In spite of proliferation of ancillary aids, history taking and physical examination remain essential skills for nurses. The unit though might not have included the interpretation of findings; it has presented a

comprehensive package on assessment techniques, especially as relating to knowledge that are vital to skill acquisition.

5.0 SUMMARY

Health assessment is a vital part of nursing care and it is conducted in a systematic manner through history taking and physical examination. Effective nursing history requires good communication and interpersonal skills while skills in inspection, palpation, percussion, and auscultation are needed for complete physical examination. Furthermore, knowledge of the normal structure and function of body parts and systems is an essential perquisite to conducting physical assessment.

ANSWER TO SELF-ASSESSMENT EXERCISE

i. For evaluating the patient's current physical condition.
ii. For detecting early signs of developing health problems.
iii. To establish a data base for future comparisons.
iv. To evaluate responses to medical and nursing interventions.

ANSWER TO SELF-ASSESSMENT EXERCISE

Eye (Sight) for visual clues e.g. patient's appearance, mannerisms, mode of dressing.
Touch (Tactile) for palpating any part of the patient to provide information such as coldness, swelling etc.
Auditory (Ear) - use of hearing aids to collect information (stethoscope).

Olfactory (Nose) an offensive smell when perceived around a patient can be suggestive of an underlying problem.

6.0 TUTOR-MARKED ASSIGNMENT

You are asked to make an initial assessment on a woman entering the nursing home. Describe the methods/techniques you will use in making the assessment and identify types of data you will collect.

7.0 REFERENCES/FURTHER READING

Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.

DeLaune, S. C., & Ladner, P. K. (2011). *Fundamentals of nursing: Standards and practice*. Cengage learning.

Lewis S.L (2016). *Medical Surgical Nursing; Assessment and Management of Clinical Problems.* (10th ed.). Mosby

.

Potter, P. A. and Perry, A.G. (2009). *Fundamental of Nursing: Concepts, Progress, and Practice* (7th ed). St Louis: C.V Mosby.

- Rosdahl, C. B. & Kowalski M.T. (2012). *Textbook of Basic Nursing*. 10th Philadelphia: J.B. Lippincott Company

Glynn M. & William MD (2017). *Hutchison's Clinical Methods. An Integrated Approach to Clinical Practice* (24th ed.). Elsevier.

Trueman M.S (2014). Case Studies in Nursing Fundamentals. F.A. Davis Company. Philadelphia

UNIT 4 DIAGNOSTIC MEASURES IN PATIENTS CARE

CONTENTS

1.0 INTRODUCTION

A mastery of assessment technique no doubt will go a long way in assisting a clinician in elucidating clients' problems. However, experience has shown that occasionally the findings generated from physical assessment no matter how comprehensive may be insufficient for making a definite diagnosis. This is not surprising as many diseases present with similar clinical features; hence without the benefit of hindsight it may be difficult if not impossible to make an accurate diagnosis. Diagnostic investigations provide this benefit of hindsight. Diagnostic investigations could therefore be likened to the third leg to making an appropriate diagnosis. Consequently, it is expedient for nurses to become conversant with simple diagnostic techniques that are

employed in the management of clients/patient's conditions. Unlike the preceding unit, students are provided information on how these investigations are carried out and possible interpretation of results.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

i. describe common invasive and noninvasive diagnostic procedures
ii. explain to patient what is involved to allay anxieties
iii. discuss the relevant client teaching guidelines for care of client before, during and after diagnostic testing
iv. identify specific physical preparations (such as bowel preparation, fluid deprivation, etc.) needed for certain diagnostic procedures
v. describe accurately sample collection techniques and means of ensuring delivery to right places
vi. determine what routine observations are required to spot dangers associated with certain investigations that carry risks (e.g. renal biopsy) and be equipped with what measure to take to avert such risks.

3.0 MAIN CONTENT

3.1 Preparing a Client for Diagnostic Investigations

The nurse plays a key role in scheduling and preparing the client for diagnostic investigations. When tests are not scheduled correctly, the clients are not only inconvenienced, but also deprived of timely interventions, thus further subjecting the client to untold hardship and further risk. The institution is also at risk of losing money (Delaune & Ladner, 2011).

General Nursing Responsibilities

- Explain to clients why the test needs to be performed, what is involved, an estimation of how long the test will take, outcome and adverse effects of the test, and assess effectiveness of teaching. An investigation that involves the cooperation of patients requires the nurse to give definite

instructions to clients on what they are expected to do. This helps to allay clients' anxiety, enhances their cooperation, encourages relaxation of muscles to facilitate instrumentation, promotes reliability of test and efficient utilisation of time, and above all, increases cost effectiveness.

- Ensure proper identification of clients. This promotes client's safety.
- Review client's medical record for allergies and previous adverse reactions to nip in the bud any anaphylactic reaction and its associated complications. Notify another physician accordingly.
- Assess the presence, location, and characteristics of physical and communicative limitations or preexisting conditions.
- Assess vital signs of clients scheduled for invasive investigations to establish baseline data. Establish intravenous access if necessary, for procedure.
- Adequate physical preparation such as bowel preparation, fluid deprivation, etc. Clarify with practitioner if regularly scheduled medications are to be administered. The nil per oral (NPO) status is determined by the type of investigation. Monitor level of hydration and weakness for clients who are NPO, especially geriatric and pediatric population. Administer cathartics or laxatives as denoted by the test's protocol.
- Evaluates client's knowledge of what to expect, client's anxiety and client's level of safety and comfort.

3.2 Common Laboratory Tests

Common laboratory studies are usually simple measurements to determine how much or how many **analytes,** (a substance dissolved in a solution, also called a solute) are present in a specimen. Laboratory tests are ordered by the practitioners to:

- Detect and qualify the risk of future disease
- Establish and exclude diagnoses
- Assess the severity of the disease process and determine the prognosis
- Guide the selection of interventions
- Monitor the progress of the disorder
- Monitor the effectiveness of the treatment

The laboratory results are interpreted and compared to the clinical observations.

Hematocrit

Hematocrit measures the percentage of packed red blood cells (RBC) in a whole blood sample. The hematocrit value depends mainly on the number of RBC but is also influenced by the size of the average RBC. Therefore, conditions that result in elevated concentrations of blood glucose and sodium (which cause swelling of RBC) may produce elevated hematocrit.

Procedure-Related Nursing Care: Explain the purpose to the patient and tell him it requires a blood sample drawn from his finger. Then perform a fingerstick on an adult, using a heparinised capillary tube with red band on the anticoagulant end. Fill the capillary tube from the redbanded end to about two-thirds' capacity, and seal this end with clay.

Interpretation of Result: Hematocrit values vary with age and sex, the type of sample, and the laboratory performing the test. Reference values range from 40% – 54% for men and from 37% – 47% for women. High hematocrit suggests polycythermia or hemoconcentration caused by blood loss; low hematocrit may indicate anemia or hemodilution.

Red Blood Cell Count or Erythrocyte Count

This is part of full blood count. This test determines the number of RBCs in a cubic millimeter (microliter) of whole blood. Can be used to calculate two RBC indices, mean corpuscular volume and mean corpuscular hemoglobin. These, in turn, reveal RBC size and hemoglobin concentration and weight.

Procedure-Related Nursing Care: Explain the purpose of the test to the patient and tell him you will need a blood sample. Then draw a venous blood sample, using a 7ml lavender-top tube. Fill the collection tube completely, and invert it gently several times to mix the sample and the anticoagulant. Handle the sample gently to prevent hemolysis.

Interpretation of Result: RBC values vary with age and sex, the type of sample, and altitude. In men, normal RBC counts range from 4.5 – 6.2 million/mm^3 (4.5 – 6.2 x 10^{12}/L) of venous blood; in women, from 4.2 – 5.4 million/mm^3 (4.2 – 5.4 x 10^{12}/L) of venous blood. People living at high altitude usually have higher values. An elevated RBC may indicate primary or secondary polycythemia or dehydration. A depressed count may signify anemia, fluid overload, or recent hemorrhage.

White Blood Cell (WBC) Count

Like the RBC Count, this is also part of full blood count. WBC count reports the number of WBC found in a cubic millimeter (microliter) of whole blood. On any given day, the WBC count can vary by as much as 2,000. Such variations may result from strenuous exercise, stress, or digestion. The WBC count can rise and fall significantly in certain diseases, but the count is diagnostically useful only when interpreted in the light of WBC differential and patient's current clinical status. It is particularly useful for determining the presence of infection and for monitoring patient's response to chemotherapy.

Procedure-Related Nursing Care: Explain the purpose of the test to the patient. Tell him to avoid strenuous exercise for 24 hours before the test. If he is receiving treatment for an infection, advise him that this test may be repeated to monitor his progress. Perform venipuncture, collecting the sample in a 7ml lavender top tube. Handle the sample gently to prevent hemolysis. After the procedure tell the patient he may resume normal activities.

Interpretation of Result: The WBC normally ranges from 4,00 – 10,9000/mm^3. An elevated WBC count (leukocytosis) usually signifies infection. A high count may also be secondary to leukemia or tissue necrosis emanating from burns, myocardial infarction or gangrene. On the other hand, a low count (leukopenia) indicates bone marrow depression which may be secondary to viral infections or toxic reactions following ingestion of mercury or other heavy metals. It could also be complication of treatment with antineoplastics, or exposure to benzene or arsenicals. Leukopenia also characteristically accompanies influenza, typhoid fever, measles, infectious hepatitis, mononucleosis, and rubella.

Creatinine Clearance

This test determines how efficiently the kidneys clear creatinine from the blood. The clearance rate is expressed in terms of the value of blood (in milliliters) that the kidneys can clear of creatinine in 1 minute. The test requires a blood sample and a timed urine specimen. Creatinine, the chief metabolite of creatinine, is produced and excreted in constant amounts that are proportional to total muscle mass. Normal physical activities,

diet, and urine volume have little effect on this production, although strenuous exercise and a high-protein diet can affect it.

Purpose

- To assess renal function (primarily glomerular filtration)
- To monitor the progression of renal insufficiency.

Procedure-Related Nursing Care: Explain the purpose of the test to the patient. Tell him that you will need a timed urine specimen and at least one blood sample. Describe the urine collection procedure. Also inform client on need to avoid eating an excessive amount of meat before the procedure and to avoid strenuous exercise during the urine collection period. Collect a timed urine specimen for a 2, 6, 12, or 24-hour period. Perform a veinpunctcre, and collect the blood sample in the appropriate specimen bottle. Collect the urine specimen in a bottle containing a preservative to prevent creatinine degeneration. Refrigerate it or keep it on ice during the collection period. At the end of the period send the specimen to the laboratory. Then inform patient he may resume normal diet and activities.

Interpretation of Result: For men at age 20, the creatinine clearance rate should be 90ml/minute/1.73m square of body surface. For women at age 20, the creatinine clearance rate should be 84ml/minute/1.73m square of body surface. The clearance rate declines by 6ml/minute for each decade of life. A low creatinine clearance rate may result from reduced renal blood flow (from shock or renal artery obstruction), acute tubular necrosis, acute or chronic glomerulonephritis, advanced bilateral renal lesions (as occur in polycystic kidney disease, renal tuberculosis, or cancer), or nephrosclerosis, congestive heart failure and severe dehydration may also cause the creatinine clearance rate to drop. ** An elevated creatinine clearance rate usually has little diagnostic significance.

Erythrocyte Sedimentation Rate

A sensitive but nonspecific test, the erythrocyte sedimentation rate (ESR) measures the time needed for erythrocytes (red blood cells) in a whole blood sample to settle to the bottom of a vertical tube. It commonly provides the earliest indication of disease when other chemical or

physical signs are still normal. The rate typically rises significantly in widespread inflammatory disorders caused by infection or autoimmune mechanisms. Localised inflammation and cancer may prolong the ESR elevation.

Purpose

- To aid in diagnosing occult disease such as tuberculosis and connective tissue disease
- To monitor inflammatory and malignant disease.

Procedure-Related Nursing Care: Explain the purpose of the test to the patient, and inform him on the need for his blood sample. Then perform a venipuncture, collecting sample in appropriate bottle. Examine the sample for clots and clumps; then send it to the laboratory immediately.

Interpretation of Result: The ESR normally ranges from 0 to 20mm/hour; it increases with age. The ESR rises in most aneamias, pregnancy, acute or chronic inflammation, tuberculosis, paraproteinemias (especially multiple myeloma and waldenstrom's macroglobulinemia), rheumatoid arthritis, and some type of cancer. Polycythemia, sickle cell anemia, hyperviscosity, and low plasma protein levels tends to depress the ESR.

Glucose, Fasting Plasma

Also known as the fasting sugar test, the fasting plasma glucose tests measures the patient's plasma glucose level after an 8 to 12 hours fast. When a patient fasts, his plasma glucose level decreases stimulating the release of the hormone glucagon. This hormone raises plasma glucose level by accerelating glycogenolysis, stimulating gluconeogenesis, and inhibiting glycogen synthesis. Normally the secretion of insulin stops the rise in glucose level. In patients with diabetes however, the absence or deficiency of insulin allows glucose level to remain persistently elevated.

Purpose

- To screen for diabetes mellitus and other glucose metabolism disorders.

- To monitor drug or dietary therapy in patients with diabetes mellitus.
- To help determine the insulin requirements of patients who have uncontrolled diabetes mellitus and those who require parental or enteral nutritional support.
- To help evaluate patients with known or suspected hypoglycemia

Procedure-Related Nursing Care: Explain the purpose of the test to the patient. Tell him that it requires a blood sample and that he must fast (taking only water) for 8 to 12 hours before the test. If the patient is known to have diabetes, you should draw his blood before insulin or an oral antidiabetic drug. Tell him to watch for symptoms of hypoglycemia, such as weakness, restlessness, nervousness, hunger and sweating. Stress that he could report such symptoms immediately. Prepare the laboratory slip for the blood sample, noting the time of the patient' last pretest meal and pretest medication. Also record the time the sample was collected. Perform a venipunctcre collecting the sample in appropriate sample bottle. If the sample cannot be sent to the laboratory immediately, refrigerate it and transport it as soon as possible. Give the patient a balanced meal or a snack after the procedure. Assure him that he can now take medications withheld before the procedure.

SELF-ASSESSMENT EXERCISE

List out the purpose of glucose fasting plasma.

Interpretation of Result: The normal range for fasting plasma glucose level varies according to the length of the fast. Generally, after an 8 to 12 hours fast, normal values are between 70 and 115mg/dl. Fasting plasma glucose levels greater than 115mg/dl but less than 140mg/dl may suggest impaired glucose tolerance. A 2-hour glucose tolerance test that yields a plasma glucose level between 140 and 200mg/dl, and an intervening oral glucose test that yield a plasma glucose level greater than or equal to 200mg/dl confirms the diagnosis. Levels greater than or equal to 140mg/dl (obtained on two or more occasions) may indicate diabetes mellitus if other causes of patient's hyperglycemia have been ruled out. Such a patient will also have a random plasma glucose level greater than or equal to 200mg/dl along with the classic signs and symptoms of diabetes mellitus, such as polydipsia, polyuria, ketonuria, polyphagia and

rapid weight loss. Elevated levels can also result from pancreatitis, hyperthyroidism, adenoma and pheochromocytoma.
Hyperglycemia can also stem from chronic hepatic disease, brain trauma, chronic

3.3 Lumbar Puncture (Cerebrospinal Fluid Analysis)

The cerebrospinal fluid (CSF), a clear substance circulating in the subarachnoid space, has several vital functions. It protects the brain and spinal cord from injury and transports products of neurosecretion, cellular biosynthesis, and cellular metabolism through the central nervous system (CNS). Most commonly, a doctor obtains three CSF samples by lumbar puncture between the third and fourth lumbar vertebrae. If a patient has an infection at this site, lumbar puncture is contraindicated, and the doctor may instead perform a cisternal puncture. If a patient has increased intracranial pressure, the doctor must remove the CSF with extreme caution because the removal of fluid causes a rapid reduction in pressure which could trigger brain stem herniation. The doctor may instead perform a ventricular puncture on this patient. CSF samples may also be obtained during other neurologic tests – myelography or pneumoencephalography for instance.

Purpose

- To measure CSF pressure and to detect possible obstruction of CSF circulation.
- To aid in diagnosing viral or bacterial meningitis, and subarachnoid or intracranial hemorrhage, tumors, and abscesses.
- To aid in diagnosing neurosyphilis and chronic CNS infections.

Procedure-Related Nursing Care

Before the Procedure: Explain the purpose of the test to the patient and describe the procedure. Make sure the patient has signed a consent form. Tell him to remain still and breathe normally during the procedure because movement and hyperventilation can alter pressure readings and cause injury. Following these instructions will also reduce his risk of developing a headache – the most common adverse effect of a lumbar puncture. Just before the procedure, obtain a lumbar puncture tray. Place the labeled tubes at the bedside, making sure the labels are numbered

sequentially, and include the patients name, the date, and his room number as well as any laboratory instructions.

***During the Procedure*:** If you're assisting with the procedure, position the patient as directed – usually, on his side at the edge of the bed with his knees drawn up as far as possible (lateral decubitus position). This position allows full flexion of the spine and easy access to the lumbar subarachnoid space. Place a small pillow under the patient's head and bend his head forward so that his chin touches his chest. Help him maintain this position during the procedure. Stand in front of him, and place one hand around his neck and the other around his knees. If the doctor wants the patient in sitting position, have him sit on the edge of the bed and lower his chest and head toward his knees. Help the patient maintain this position throughout the procedure. Monitor the patient for signs of adverse reactions, such as elevated pulse rate, pallor, or clammy skin. Make sure the samples are placed in the appropriately labeled tubes. Record the time of collection on the test request form; then send the form and the labeled samples to the laboratory immediately.

***After the Procedure*:** After a lumbar puncture, the patient usually lies flat for 8 hours. Some doctors, however allow a 30-degree elevation of the head of the bed. Encourage the patient to drink plenty of fluids and remind him that raising his head may cause a headache. If he develops a headache administer an analgesic as ordered. Check the puncture site for redness, swelling, drainage, CSF leakage and hematoma every hour for the first 4 hours, then every 4 hours for the next 20 hours. Monitor the patient level of consciousness, pupillary reaction, and vital signs. Also observe him for signs and symptoms of complications of the lumbar puncture such as meningitis, cerebellar tonsillar herniation, and medullary compression.

Interpretation of Result: Normal CSF pressure ranges from 50 – 180 mm H_2O. The CSF should appear clear and colorless. Normal protein content ranges between 15 and 45 mg/dl; normal gamma globulin level, between 3% and 12% of total protein. Glucose levels range between 45 and 85 mg/dl, which is two–thirds of the blood glucose level. CSF should contain 0 – 5 white blood cells per microliter and no red blood cells All serologic tests should be nonreactive. The chloride level should be 118 to 130 Eq/liter and the Gram-stain should reveal no organism. CSF abnormal results are summarised below:

Element	**Abnormal Result**	**Possible Causes**
CSF Pressure	- Increase	- Increased Intracranial Pressure
	- Decrease	- Spinal subarachinoid obstruction above puncture site.
Appearance	- Cloudy	- Infection
	- Xanthochromic	- Elevated protein level or RBC breakdown.
	- Bloody	- Subarachinoid, intracerebral, or intraventricular haemorrhage; spinal cord obstruction; traumatic puncture
	- Brown	- Meningeal melanoma
	- Orange	- Systemic carotenemia
Protein	- Marked increase	- Tumor, trauma, haemorrhage, Diabetes mellitus, polyneuritis, blood in CSF.
	- Marked decrease	- Rapid CSF production
Gamma globulin	- Increase	- Demyelinating disease (such as Multiple sclerosis), neurosyphilis, Guillain-Barre' syndrome
Glucose	- Increase	- Systemic hyperglycemia
	-Decrease	- Systemic hypoglycemia, bacterial or fungal infection, meningitis, mumps,

		postsubarachinoid hemorrhage.
Cell count	- Increase in WBC count	- Meningitis, acute infection, onset of chronic illness, tumor, abscess infarction, demyelinating disease
	-RBC present	- Hemorrhage or traumatic puncture

Source: Cynthia, Breuninger, Ginnona,, & Mintzer, 1994. *Nurse's Pocket Companion*

3.4 Sputum Studies

Purpose – Examination of sputum to identify the pathogenic organism and the presence of malignant cells.

Nursing Responsibilities – (a) Obtain a morning specimen. (b) Instruct the patient to clear nose and throat, rinse mouth, and take a few deep breaths; then have him/her cough up specimen from lung and tracheobronchial tree. (c) Send specimen to the laboratory immediately, or refrigerate to prevent overgrowth of organism. (d) Obtain specimen for culture before initiating anti-invectives.

3.5 Urinalysis

Simple urinalysis is usually performed at the side wards. Investigations involving blood, microscopy, culture and sensitivity however need a laboratory environment for meaningful result. Hence urinalysis can be classified as both laboratory and side ward investigation.

Purpose – To detect blood, casts, and other abnormalities of urine; renal or urinary tract disease; & metabolic or systemic disease.

Description – Obtain a urine specimen of at least 10 ml. A fresh morning specimen is usually preferred. Observe the urine for colour, clarity, volume (quantity), PH, specific gravity, deposits odour (Physical Examination).

Quick Dipstick Tests

The older chemical tests for urine have largely been replaced by simple dipsticks where the presence of glucose, blood, or protein can be readily detected. They are accurate and sensitive. Examples include:

(i) **Litmus paper** for PH (Acid urine turns blue litmus paper to red while alkaline urine turns red litmus paper to blue.
(ii) **Clinistix strip** for sugar.
(iii) **Albustix strip** for protein.
(iv) **Multistix strip** for a wide range of substances
(v) **Ketostix** for acetone/ketone bodies
(vi) **Haemastix.**

Procedure:

- Completely immerse all reagent areas of the strip in fresh, wellmixed, uncentrifuged urine and remove immediately.
- Tap edge of strip against the side of urine container to remove excess urine. Hold strip in a horizontal position to prevent possible soiling of hands with urine or mixing chemical from adjacent reagent areas, making sure that the test areas face upwards.
- Compare test areas closely with corresponding colour charts on the bottle label at the times specified. Hold strip close to colour blocks and watch carefully.

Test for Sugar Cold Test

Clinictest Reagent Tablet – This is a quantitative test for sugar.

Equipment – Clinictest tablet, test tube, and dropper.

Procedure: (a) Place 5 drops of urine into a test tube with the aid of the special dropper provided. Rinse the dropper and add 10 drops pf water to the urine. Drop in one clinictest tablet. Effervescence will occur. Watch the test carefully until effervescence stops and for 15secs longer. Then shake the tube gently and compare the colour with the colour range on the chart scale.

Hot Test (i) Benedict's Qualitative Test

Equipment: Bursen burner, test tube, benedict solution.

Procedure: Drop 5ml of Benedict's reagent into a test tube and add 8 – 10 drops of urine. Boil this mixture vigorously for 2 minutes. If sugar is present, green, yellow, or brick-red coloration will occur. The changes from green to back-red indicates out of sugar

(ii) Fehling Test

Equipment: Bursen burner, test tube, fehling solution A & B.

Procedure: To equal quality of fehling solution A & B, add 8 – 10 drops of urine and boil for 2 – 3 minutes. Any colour change from blue to brick-red is indicative of presence of sugar.

Test for Protein Cold Test (i) Salicylsulphonic Acid Test

Equipment: salicylsulphonic acid, test tube.

Procedure: Add 5 drops of 25% salicylsulphonic acid to about 5ml of urine in a test tube. Shake the tube and look for cloudiness in the urine. The appearance of opacity indicates the presence of protein and the degree of cloudiness gives some idea of the relative protein concentration.

(ii) Esbach Quantitative Test

Equipment: Esbach Urinometer, Esbach's reagent.

Procedure: Esbach Urinometer is used for this test. All urine passed by the subject over a period, say 6 hours, is collected in a chem. Stoppered bottle and mixed. Measure its specific gravity. If this exceeds 1.010, dilute a portion with an equal volume of water. If the urine is alkaline, acidify it with a few drops of 10% acetic acid. Add urine to an Esbach tube to the level marked U. Add Esbach's reagent up to the level marked R. Cork the tube and invert it gently several times to mix the contents. Stand the tube upright and leave it in a constant temperature for 24 hours. Then read the level of the precipitate of protein on the tube's scale, with

the eye on a level with the top of the sediment. This gives the protein concentrate of the urine in parts per 1000 (g/l).

Boiling Test Heat plus Acetic Acid

Equipment: Bursen burner, test tube, dropper, acetic acid.

Procedure: Check that urine is mildly acidic. If it is not, add 10% acetic acid solution until it is. Failure to check initial PH and adjust if necessary, can invalidate this test. If urine is cloudy, filter some for this procedure. Fill a boiling tube about three-quarter (¾) full with urine and heat the top inch of the liquid gently over a bursen flame, turning the tube while heating to prevent it from cracking. Let it boil for a few moments. Compare the top boiled part of the urine with the lower part to see if any cloudiness has appeared. If cloudy, add a drop of acetic acid. If cloudiness or flocculation disappears, it has been due to the presence of phosphate and is of no significance. But if it remains or persists, it indicates the presence of albumin.

Test for Acetone or Ketone Bodies (i) Acetest Reagent Tablets

Equipment: Acetest tablets (Acetest tablets contain sodium intropusside, glycine and buffers), Clean white paper.

Procedure: Place an Acetest tablets on clean, dry, white paper. Put 1 drop of urine on the tablet, leave for 30 seconds, and then compare any colour change with the colour chart. A positive result varies from lavender to deep purple, and may be recorded as a trace to strongly positive.

(ii) Rothera's Test

Equipment: Ammonium sulphate, freshly prepared 2% sodium nitroprusside, strong ammonia solution.

Procedure: Saturate a portion of urine with ammonium sulphate by shaking about 5ml of urine in a test tube with about the same volume of crystals of this salt. Add 10 drops of freshly prepared 2% solution of

sodium nitroprusside. Add 10 drops of strong ammonia solution. Allow to stand for 15 minutes. The development of a purple colour indicates Ketone. This test is considered to be too sensitive, as it often gives a positive result on a well subject who has not eaten for several hours

Test for Blood

Occultest – This is a test that determines the presence of blood but not necessarily the amount of blood present.

Equipment: Occultest tablet, filter paper, water.

Procedure: Place 1 drop of urine on a filter paper square and put one occultest tablet in the center of the moist area. Add 2 drops of water to the tablet and allow it to stand for 2 minutes. If after 2 minutes a diffuse blue colour appears on the filter paper around the tablet, blood is present. The amount of blood is proportional to the intensity of the colour and the speed with which it develops. If no blue colour appears, the test is negative.

Test for Bile Pigments

(i) Ictotest – A special test mat is required. 5 drops of urine are placed on this special mat and one Ictotest reagent tablet is put in the center of the moistened area. Flow 2 drops of water over the tablet. If bilirubin is present, a bluish-purple colour appears around the tablet in about 30 seconds. The amount of bilirubin present is determined by the speed of intensity of the reaction. If there is no colour change or only a pinkish colour, then there is no bilirubin.

(ii) Iodine test – About an inch of urine is poured into each of the two test tubes. Several drops of tincture of iodine are added drop by drop to one of them. Shake the test tube with the iodine and urine, and compare it with the control test tube. If a green colour develops, it is positive for bile pigments.

Fractional Urine

Purpose: To determine site and degree of bleeding after prostate surgery.

Description: Patient voids into one urine container and then without stopping the stream, continues to void into another container. The amount of blood in each container gives an indication of the degree and site of bleeding.

Nursing Responsibility: Provide 2 or 3 urine containers and instruct patient to switch containers midway through the voiding without stopping the stream.

Urine Culture and Sensitivity

Purpose: For diagnosis of urinary tract infection (UTI) and identification of causative agent or organism.

Description: A midstream clean catch or sterile catheterized specimen is obtained, and the urine is placed in a culture medium for growth of bacterial colonies. After incubation, the colonies are counted. If more than 100,000 organisms per milliliter are counted, there is a UTI. The organisms are then identified as to type and a sensitivity test is run on it. Sensitivity tests involve exposing the bacteria to various anti-infectives to see which most effectively kills the organism.

Nursing Responsibilities: Instruct the patient in method for collection of a 'clean catch' specimen. Instructions come with the specimen container. Allow time for questions after patient is familiar with directives. Send specimen to laboratory immediately to prevent chance in PH which can affect bacterial growth.

Urine Osmolality

Purpose: To determine urine concentrating ability of the kidney.

Description: The patient is either placed on fluid restrictions or given a specific amount of fluid to drink before the test.

Nursing Responsibilities: Give high protein diet for 3 days prior to the urine collection. Restrict fluids for 8 – 12 hours before obtaining specimen. Collect a random urine specimen preferably in the morning, label it (including the time), and send to laboratory.

24 Hours Urine Collection

Purpose: To determine how well kidneys can excrete creatinine (creatinine clearance) i.e. glomerular filtration rate (GRF).

Description: A 24 hours urine specimen is obtained and a blood specimen is also taken. Elevated serum creatinine with increased urine creatinine indicates decreased kidney function.

Nursing Responsibilities: Place a sign on patient's door and over the toilet stating 24 hours urine collection in progress, so that everyone can save the urine properly. Decide in conjunction with the laboratory technologist on a suitable time. Have patient void and discard the urine. Note the time and put successive voiding into the collection container. At the time the test is to end, ask the patient to void and add this to the collection bottle. Label the specimen adequately and send to the laboratory with the accompanying blood specimen/sample (5ml).

3.6 Radiologic Studies

Radiography (the study of x-rays or gamma ray exposed film through the action of ionizing radiation) is used by practitioner to study internal organ structure.
Chest X-Ray

The most common radiologic study is the noninvasive, noncontrasted chest x-ray. The best results are obtained when the films are taken in the radiology department; however a portable chest x-ray can be performed at the bedside. Radiologic projections of chest x-ray films are taken from various views. Multiple views of the chest are necessary for the practitioner to assess the entire lung field.

Indications: Chest films can indicate the following alterations and diseases:

- Lesions (tumors, cysts, masses) in the lung tissue, chest wall or bony thorax or heart.
- Inflammation of lung tissue (pneumonia, atelectasis, abscesses, tuberculosis); pleura (pleuritis); and pericardium (pericarditis).
- Fluid accumulation in the lung tissue (pulmonary edema,

hemothorax); pleura (pleural effusion)

- Bone deformities and fractures of the rib and sternum.
- Air accumulation in the lungs (chronic obstructive pulmonary disease, emphysema); and pleura (pneumothorax).
- Diaphragmatic hernia.

Nurses Responsibilities: To prepare a client for a chest x-ray, remove metal objects (jewelry) and all clothing from waist up and replace with a gown. Metal will appear on the x-ray film thereby obscuring visualisation of parts of the chest. Pregnant women are draped with a metal apron to protect the fetus.

Ultrasound

This is a non-invasive radiological investigation that employs high frequency sound waves and oscilloscope screen to visualise deep body structures. This study should be scheduled before any studies using a contrast medium or air to ensure accuracy.

Purpose: To evaluate size, shape, and location of internal some structures/organs such as: the brain, vascular structure, spleen, liver, gallbladder, pancreas, uterus, and etc. It is also done during pregnancy to determine the gestational age, the expected day of delivery, the sex, the lie, the position and the size of the fetus including the location of the placenta.

Description: A coupling agent (lubricant) is placed on the surface of the body to be studied to increase the contact between the skin and the transducer (instrument that converts electrical energy to sound waves). The transducer emits waves that travel through the body tissue and are reflected back to the transducer and recorded. The varying density of body tissues deflects the waves into differentiated pattern on an oscilloscope. Photographs can be taken of the sound wave pattern on the oscilloscope.

SELF-ASSESSMENT EXERCISE

Mention at least five (5) abnormalities which chest examination can reveal.

Nursing Responsibilities: Explain the purpose and procedure to the patient. The client is instructed to lie still during the procedure. Instruct patients to drink 6 – 8 glasses of fluid and avoid urination prior to sonogram.

4.0 CONCLUSION

As obvious from this unit there are so many diagnostic investigations for elucidating patients' problems exist in clinical practice. The list is inexhaustible. Howbeit, thorough history taking and comprehensive physical assessment helps in knowing which will be most helpful to diagnosing the patient's condition.

5.0 SUMMARY

The unit has taken an incisive look at some of the common diagnostic tests employed in clinical practice. It specifically discusses the purpose, description with particular emphasis on nurses' responsibilities before, during and after the performance of such investigation, and interpretation of results that could be obtained from the conduction of each investigation
.

ANSWER TO SELF ASSESSMENT EXERCISE

- To screen for diabetes mellitus and other glucose metabolism disorders.
- To monitor drug or dietary therapy in patients with diabetes mellitus.
- To help determine the insulin requirements of patients who have uncontrolled diabetes mellitus and those who require parental or enteral nutritional support.
- To help evaluate patients with known or suspected hypoglycemia.

ANSWER TO SELF-ASSESSMENT EXERCISE

- Lesions (tumors, cysts, masses) in the lung tissue, chest wall or bony thorax or heart.
- Inflammation of lung tissue (pneumonia, atelectasis, abscesses, tuberculosis); pleura (pleuritis); and pericardium (pericarditis).
- Fluid accumulation in the lung tissue (pulmonary edema, hemothorax); pleura (pleural effusion)

- Bone deformities and fractures of the rib and sternum.
- Air accumulation in the lungs (chronic obstructive pulmonary disease, emphysema); and pleura (pneumothorax).
- Diaphragmatic hernia

6.0 TUTOR-MARKED ASSIGNMENT

Discuss you're the nursing roles before, during and after the following diagnostic investigations: (a) Lumber puncture (b) Fasting blood sugar, and (c) Sputum studies.

7.0 REFERENCES/FURTHER READING

Berman, A., Snyder, S., & Frandsen, G. (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice, [by] Berman, Snyder*. Pearson.

Cynthia, C.; Breuninger, T. A.; Ginnona, J. G. & Mintzer, D. W. (1994). *Nurse's Pocket Companion*. Pennsylvania: Springhouse Corporation.

DeLaune, S. C., & Ladner, P. K. (2011). *Fundamentals of nursing: Standards and practice*. Cengage learning.

Trueman M.S (2014). Case Studies in Nursing Fundamentals. F.A. Davis Company. Philadelphia

UNIT 4 PROVIDING SAFETY AND COMFORT I

CONTENT

1.0 INTRODUCTION

Safety, prevention of accidents and promotion of comfort are vital to survival, and these needs continue throughout life. When a client/patient enters the health care facility, an unwritten contract is established between the client/patient and health care personnel. Inherent in this contract is fact that the health personnel owe the patient a duty of service. As part of the package of that duty of care is the obligation to safeguard the patient from harm/danger as well as to ensure that the patient is made comfortable throughout his/her period of hospitalisation.

In view of their infirmities, hospital patients are more susceptible to accidents than any other group of people. As such the management of all hospitals must be safety conscious. Even though it may be argued that safety in the health care setting is everybody's responsibility, the nurse is usually at a vantage point to detect any unsafe condition that could precipitate injury to patients and visitors in health setting and promptly institute corrective measures. Hence, the nurse should be well informed and be acquainted with safety practices in the ward setting and measures that promote patients' comfort.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

i. outline the general safety rules and practices in the health care setting

ii. describe the role of the nurse in moving and handling patients including principles underlying moving and lifting of patients
iii. give examples of risks in a health care setting and suggest preventive measures
iv. describe the role of the nurse in infection control
v. describe the different comfort measures employed in patient's care in the hospital and explain their underlying principles.

3.0 MAIN CONTENT

General Safety Rules and Practices

First, it is important for you to believe that most accidents are preventable. Secondly, most accidents in the hospital result from carelessness or an error in judgment (Donahue, 2011). Here however are some of the safety regulations and practices in the health care setting:

- Walk rather than run – especially on stairs and along corridors.
- Open doors slowly. Do not open a door by pushing on the glass part.
- Walk on right in halls – especially when pushing a wheelchair or stretcher. Installing corridor mirrors which enable those wheeling a stretcher or other patient vehicles to see around blind corners.
- Installing safety devices, wherever practicable including cautious use of bedside rails.
- Ensure adequate lighting by illuminating areas in which people move and work.
- Ensure good housekeeping and avoid wet patches on the floor. Using non-slip floor coatings. Placing rubber mats on inclines and in the bathtub before a patient uses the tub.
- Do not engage in horseplay or practical jokes.
- Observe principles of good body mechanics. Follow correct lifting procedures when lifting a heavy object or lifting a patient. Possibly introducing safety classes which teach correct lifting procedures and other safety principles.
- Remember the elderly and the very young are more accident prone than the adult. Protect them as much as possible.
- Endeavor to properly label all materials including medicaments and water taps in bathrooms. Discard all unlabeled containers and bottles.

Never use the content of an unlabeled container. Analyze causes of medication errors and instituting changes.

- Provision for refuse collection and proper waste disposal to maintain hygienic condition.
- Ensure proper bed spacing is maintained.
- Maintaining aseptic technique for all invasive procedures.
- Appropriate institution of isolation techniques and barrier nursing in infectious cases.
- Periodic fumigation of hospital ward and surgical theatres.
- Never overload an electric socket and avoid using defective electric equipment.
- All electrical appliances left on should be switched off and deplugged at the close of the day. Employ measures which minimise the accumulation of static electricity.
- Obey all NO SMOKING signs. Never smoke or permit anyone to smoke in the vicinity of oxygen equipment that is in use.
- When smoking in designated areas, see that cigarettes are completely extinguished in receptacles provided.
- Report any injury to self or to others immediately and secure first aid.
- Be safety-conscious at all times. If you notice a safety hazard, report it at once to the right person. Provide educational programs for employee which emphasise that accidents are preventable.
- When in doubt about how to handle or do something the safe way, ask someone with more experience and training than you for help or advice.
- Instituting incident reporting system and appointing members to a safety committee who are saddled with the responsibility of reviewing safety practices, analyzing potential safety hazards, and recommending constructive procedures to prevent accidents.

(Donahue, 2011)

Activity 1

Quickly recap some of the safety rules and practices in the hospital.

3.2 The Role of the Nurse in Moving and Handling Patients

In professional nursing practice there will always be the need to move patients or heavy equipment from one point to the other and this exposes

the nurse to additional risks. Parboteeah (2002) quoting the *Disabled Living Foundation* (1994) indicated that one in four nurses has taken time off with back injury sustained at work, this for some meaning the end of their nursing career.

The back is like a mast or a pillar that makes functional and productive movement possible. Geographically it is an entity comprising the vertebral column with its articular and periarticular structure and the musculature extending from the occiput to the sacrum. The back functions as a structure as well as a mechanism. As a structure, the back can withstand a comprehensive force 10 times the weight it normally supports. As a mechanism, with little effort the back can bent forward, backwards, sideways and even twisted. However, as strong as back is and as vital as it is, it is not immune to injury especially those arising from poor lifting techniques.

While it is beyond the scope of this unit to go into the pathogenesis of back pain, there may be no better period than now to examine what constitute correct lifting technique. Nurse should also know how to set the back muscles (i.e. keep their back muscles partially tensed to absorb any imminent shock) particularly when lifting, or bending forward to pick or give out something. In lifting:

- Keep as close as possible and safe to the object to be lifted.
- Maintain a good base of support.
- Keep the back as vertical as possible.
- Remember not to carry alone object than 70% of your body weight.

These four principles must always be borne in mind when lifting or transferring patients.

Here are additional safety tips or precautions that must be observed in the health care setting:

- Always make sure the brake is on when transferring patients to wheelchairs or stretchers or when the patient is left momentarily in a wheelchair or stretcher. Instruct the patient not to step on the footrest in getting into and out of the wheelchair.

- When transporting a patient on a stretcher, stand at his head and move slowly. Be alert for moving persons or conveyances coming from any possible direction.
- When going down an incline, guide the stretcher from the foot and proceed slowly.
- Check restraining straps for proper fastening.
- Never lift a patient who is too heavy without assistance.
- Never leave a paralyzed patient alone in the bathroom or in bed with the side rails down.
- Never leave a paralyzed or helpless patient sitting in a chair without a protective restraint around the waist.
- Never allow a patient who is in an oxygen tent to have any electric appliances inside the tent. This includes the electric call bell (Donahue, 2011).

3.3 Control of Infection

Microorganisms exist everywhere in the environment: in water, soil, and on body surfaces such as the skin, gastrointestinal tract, vaginal, etc. (Berman *et al., 2016)*
. Some are harmless; some are beneficial while others otherwise referred to as pathogens are harmful to the body that is, capable of producing infection. The term **infection** is used to describe the invasion and development or multiplication of pathogens in the body of man or animal. Infection could be apparent/manifest, or inapparent/symptomatic/subclinical infection. It could be **autoinfection** (self-infection), or **cross infection** (contracted from other sources such as other individuals harboring or suffering from the same infection or associated with the delivery of health care services in health care setting, usually referred to as **Nosocomial** or hospital acquired infection including **Iatrogenic infection** i.e. those are due to any aspect of therapy). It is therefore the nurses' responsibility to provide biologically safe environment and reduce the spread of infection within the health care setting.

Below are some of the measures employed by nurses to achieve this lofty objective:

- **Hand Hygiene** – Many infections are spread by contact, the hands being a major vehicle in the transmission of infection (RCN, 1992). In Parboteeah (2002) words 'normal skin has a resident population of

microorganisms; other transient organisms being picked up and shed during contact in the delivery of nursing care'. Parboteeah stated further that the goal of handwashing is to remove these transient organisms or reduce their number below that of infective dose before that are transmitted to a patient. Handwashing therefore is the most important method of preventing spread by contact. According to Parboteeah (2002) indications for handwashing include: Before and after aseptic techniques or invasive procedures; Before contact with susceptible patient; After handling body fluids; After handling contaminated items; Prior to the administration of drugs; Before serving meals; After removing aprons and gloves; At the beginning and end of duty; and If in any doubt. It is equally important that patients' hands are kept clean.

- **The Use of Face Mask** – Masks are worn to reduce the transmission of organisms by the droplet contact, airborne routes, and splatters of body substances. The CDC recommends that masks be worn under the following conditions: (1) Only by those close to the client if the infection is transmitted by large-particle aerosols (droplets) like measles, mumps and other acute respiratory tract infections; (2) By all persons entering the room if the infection is transmitted by small-particle aerosols (droplet nuclei) e.g. Tuberculosis; (3) During certain techniques requiring surgical asepsis to prevent droplet contact transmission of exhaled microorganisms to the sterile field or to a client's open wound (Kozier, et al., 2000).

- **Sterilisation** – The process of destroying all microorganisms and their pathogenic agents e.g. spores. Often employed in the preparation of dressing materials, equipment and other materials needed for surgeries and all invasive procedures. Detailed discussion of sterilisation techniques will be considered in some other units.

- **Disinfection –** This is defined as the killing of infectious agents outside the body by chemical or physical means, directly applied. Could be an on-going process (**Concurrent disinfection**) or **Terminal –** the application of disinfective measures after the patient has been discharged from the hospital or has ceased to be a source of infection.

- **Isolation –** Isolation refers to measures designed to prevent the direct and indirect conveyance of the infectious agent from those infected to susceptible individuals (other clients, visitors and health care

personnel). A variety of isolation techniques are used in the health care setting. This will be expatiated in some other units but it is suffice to state that when patients are isolated because of contagious and infectious diseases, the nurse must be certain that proper technique is carried out in caring for them and must be sure that their visitors also understand and carry out necessary precautions.

- **Others are:** ***Adequate Bed-Spacing; Proper Waste Disposal; Health Education*** *etc.*

3.4 Commonly employed Comfort Measures in the Hospital

(a) Bedmaking

Hospital patients spend varying degree of time in bed, as such; their comfort is of utmost importance. The need to improve and maintain, for as long as possible, the comfort of these patients therefore forms the primary reason for bed making. A related one is the need to relieve pressure from certain parts of the body and stimulates circulation thereby preventing the development of decubitus ulcer (pressure sore).

A Typical Hospital Bed

A typical hospital bed is higher than the conventional beds at homes. This is to reduce undue physical strain to the nurses' back while attending to the patient. The **bedstead** is usually 6ft 6 inches long, 3ft wide and 26inches high. The **framework** is steel or iron; the **castors** are well made and move easily without jarring the bed. In some cases, the height may be adjustable, and the head or foot of the bedstead may be raised or lowered by levers. A movable back is supplied with most beds. This can be brought forward to act as a **backrest**, or removed completely for any treatment when necessary. A **mattress** is placed on the bedstead. Hair, interior spring, rubber foam, plastic foam, sorbo rubber are the types commonly used in hospital wards. The mattress is usually covered with a polythene sheet or protective waterproof material.

The number of **pillows** used will depend on the need of the patient. Pillows are usually stuffed with foams/hairs with a protective cover under the pillowcase. **Blankets** – Turkish toweling, cellular cotton, synthetic

material or wool blankets may be used to keep the patient warm without being unnecessarily heavy or causing discomfort to the patient. Terry blankets and cellular cotton blankets are most commonly used nowadays. **Bed sheets** must be long and wide enough for the type of bed used. Sheets are often made of cotton, polyester/cotton mixture or linen. **Counterpanes** or bedspread are usually light in colour and weight. **Draw sheets** are usually placed over a polythene protector (mackintosh) across the bed under the patient's buttocks. They are often placed in such a way that they could be drawn at frequent intervals to give the patient a clean, cool, fresh piece of sheet to lie on. The standard size of drawn sheet is 2 yards wide and $1^{1/2}$ yards long. **Long waterproof sheets** – these are used routinely to cover the entire mattress in some hospitals while in others they are only used for selected patients.

Adjuncts to Hospital Bed/Special Appliances used in Bedmaking

Bed tables - Preferably of adjustable height. Meant for eating or leaning arms on when sitting upright or when in respiratory embarrassment.

Bed cradles - Made of metal. Used for keeping the weight of bedclothes off the patient's legs or body, especially in weak or debilitated patients. Particularly useful after Plaster of Paris (POP) has been applied to fractured leg.

Bed rest – Usually attached to but may be separate from the bed. More often than not metal but occasionally could be made of wood especially the separate type. Most commonly used in putting the patient in sitting up position with pillows placed between it and the patient.

Bed elevators & bed blocks – A number of beds have elevators built into them so that the head or foot of the bed may be raised as required. In some cases, the elevators, which are usually metal, have several rungs at varying heights on which the bar of the bed may be supported at desired height. Sometimes a portable wooden bed blocks may be used for the same purpose. Such blocks usually have a depression at their tops into which the castors of the bed can fit. They also vary in height.

Bed – strippers – These are stands placed at the foot of the bed over which bedclothes are draped during bedmaking. Sometimes, two chairs placed back to back can be improvised for this.

Air rings/Air cushions/Foam rubber rings – These may be placed under the patient's buttocks to relieve pressure.

Fracture boards – Wooden. May be placed under the mattress to provide a firmer based on which to lie. In other words, they prevent the mattress from sagging. Patients with spinal conditions, back injuries and some fractures find this most helpful.

Sand bags – These are made of impermeable materials, which are filled with sand. They are used for immobilisation of limb(s) in the treatment of special conditions e.g. amputation to control phantom movement/pain. They must always be covered with cotton.

Hot water bottles – These are made of rubber or aluminum. They are used to give added warmth to patient.

Others are Drip stand, Bed stirrup etc.

Principles Governing Bedmaking

Bed making is essentially two-man procedure. Some of the principles guiding this procedure are outlined below:

1. Principle of Organisation – Bedclothes and other materials needed must be arranged in order of priority. The two nurses must work from top to bottom of the bed. They must equally work in unison/harmony i.e. there must be synchronicity of action.

2. Principle of Body Mechanics – There must be economy of movement.

3. Principle of Comfort and Safety – The two nurses must maintain a near erect position and avoid straining or overstretching their back to prevent injury. The bed should be crump and wrinkle free. Always lift the patient off the bed or roll from side to side in case of occupied bed. On no account should the patient be dragged on bed.

4. Principle of Asepsis – Fans must be put off. There should be no jarring or flying of bed sheets in the air to prevent cross infection. Uniforms are prevented from touching bedclothes and hands are washed before and after the procedure.

5. Time Management – The two nurses must work with speed and accuracy. There must be economy of movement.

Bedmaking: Definition and Types

The process of applying or changing linens is what is referred to as bed making. Types are:

The Unoccupied Bed: There are two types of unoccupied bed viz – The *Closed Bed* and the *Open Bed***.** A closed bed is the bed making process that is performed following the discharge or transfer of a patient when no new patient is expected. An Open Bed on the other hand is the bed making process that is carried out when the occupant is able to be up while the bed is being made i.e. the type that is made for an ambulant or out-of-bed patient

The Occupied Bed: Bed making process in which the bed is made while the patient is in it. There are different typologies – *Fractured Bed* (Characterised by a firm lying surface it offers the patient. Often employed in the care of patient with back pain and those with fractures); *Divided Bed* (So named by the fashion in which it is made. Used mostly in the care of amputees. Also employed in the drying of Plaster of Paris). *Post-Operative Bed/Operation Bed* – This is the bed that is prepared to receive a post-surgical patient with minimal disturbance.

Making the Unoccupied Bed Points to Keep in Mind

Whether or not making empty beds for new patients is one of your responsibilities, bed making is a frequent procedure for any staff member giving nursing care.

Many patients are required by doctor's orders to sit up in a chair, even for a short time. So, most patients' beds are unoccupied at one time or another during the morning and can be made when the patient is out of it.
In any case, it is important to remember that soon a patient will be occupying the bed. If the bottom sheet is anchored properly, it will not loosen and bunch in wrinkles under the patient's back. The top covers will be high enough to cover the shoulders, yet loose enough so that the patient's feet will not be restrained and pulled forward in an abnormal position.

In the procedure described here, there is no linen on the bed to start with; it is made with clean linen throughout. However, if the bed is unoccupied only because the patient is out of it for a while, then there will be linens on the bed. Thus, the list below would be adjusted to those items needed in your situation.

Equipment Needed

1. Cotton quilted mattress pad or mattress cover according to policy.
2. 2 large sheets
3. Rubber or plastic draw sheet, if it is the policy to use one
4. Cotton draw sheet
5. Blanket, if needed
6. Bedspread
7. Pillowcase for each pillow used

	Important Steps	**Reasons for Action**
1.	Wash your hands before selecting linens; then take everything needed next to patient's unit.	Unclean hands may spread disease germs to clean linen, and to patient who is to be to and pillowcase.
2.	Place linen on straight chair near foot of bed. Stack the items in order of use, that is, bedspread and pillowcase on bottom, and so on with the mattress pad on top.	Stacking linens in this manner saves time and effort later on.
3.	See that bed is in high position and is flat and that wheels are locked.	The higher level will cause less strain on back and leg muscles.
4.	Place the folded quilted mattress pad on near side of bed and unfold it without lifting or shaking it out	Lifting and shaking any item of linen may stir up dust and lint which may which may carry and disease-causing organism.
5.	Place folded sheet on near side of bed and unfold it lengthwise in the same manner described above, that is without shaking or flapping	Also lifting and flapping linen at shoulder level to unfold it causes unnecessary strain and fatigue on the back, shoulder, and arm muscles.

	it out.	
	Arrange sheet in this way:	
	With bottom hem even with foot of mattress, depending on length of sheet. Allow 15 to 18 inches at head of bed tuck under mattress. With center of sheet at center of bed, fanfold the far half of sheet beyond the center of bed.	Placing the bottom sheet correctly is the most important step in bedmaking. The Foundation sheet should be secure against anything that might tend to loosen it. For this reason, never skimp on this 15– to–18 inches allowance to tuck under head of mattress. Covering foot of mattress is far less Important. The sheet is doubled back on itself in folds of several inches - like a fan. Placing this foundation sheet straight on the bed is also important. A sheet that is even just a little crooked, on the base, will always have wrinkles.
6.	Lift the head of mattress with one hand and pull sheet under the mattress with the other hand. See that material is smooth after tucking under.	If you face in the direction of your work and move along in this position, you will Avoid twisting groups of muscles, thus reducing strain and fatigue.
7.	Make a mitered corner at head of mattress.	
8.	Continue tucking sheet under side of mattress from head to foot.	Move along with your work, facing side of mattress as you tuck sheet from head to foot of bed. Keep feet slightly separated.

9.	If rubber draw sheet is used, place it about 12 to 15 inches from head of mattress. Tuck smoothly under mattress on near side.	Where plasticized mattresses are used, it is often the policy to omit a waterproof sheet. It is sometimes placed over the mattress and under the quilted mattress pad.
10.	Cover rubber sheet with cotton draw the sheet or a large sheet folded once may	Lying directly on even a small strip of rubber sheet will be uncomfortable and cause skin
	cross-wise. Place this cotton sheet about two or three inches higher than the rubber sheet and see that it is completely covered.	irritation to patient.
11.	Tuck cotton draw sheet smoothly under side of mattresses on near side. Fanfold far side of the sheet at center of bed.	
12.	Go to other side of bed and tuck bottom sheet smoothly under head of mattress. Make a mitered corner.	You may be taught to make on entire side of the bed before going to the other side. If careful attention is given to unnecessary motion and energy there may not be much difference.
13.	Grasping bottom sheet with both hands, tuck under mattress alongside of bed, tightening and smoothing it, as you Move from head to foot of bed.	By keeping your feet slightly separated and your back straight, you will reduce strain.
14.	Pull rubber draw sheet (at center of bed) toward you and smooth it out. Grasp with both hands, holding palms downward on level with mattress; tighten the sheet and tuck under side of mattress.	When holding the sheet with palms downward, the strong muscles of the shoulders and arms are used. Keep one foot in front and rock backward on the other, as you tighten the sheet.

15.	Pull the cotton draw sheet toward you and smooth it in place over the rubber sheet. Grasp it with both hands and tuck under side of mattress in the manner described above.	
Now you are ready to make the top part of the bed:		
16.	Continue on same side of bed. Place the folded top sheet on near side of bed and unfold it in the manner described earlier. Arrange it this way: (a) with upper edge of sheet even with head of mattress.	If wrong side of them is up, when the top edge of the sheet is turned down over the edge of bedspread, the right side of hem will show.

	(b) with center of sheet straight and at the center of bed.	
17.	Tuck sheet (and blanket if used) under foot of mattress and make a corner. Tuck under mattress at corner but DO NOT tuck in along the side of the bed. Allow it to hang free	
18.	Place folded spread on bed and unfold it as described earlier: The upper edge is even with head of mattress. It is centered and hangs evenly, covering the sheet and blanket completely.	

19.	Tuck bedspread under the mattress at foot of bed. Make a corner on near side, but do not tuck the finished corner under mattress.	Allow the top covers to hang free at side of bed.
20.	Go to opposite side of bed and repeat steps to complete making the bed.	
21.	Rest the pillow on foot of bed and draw on pillowcase - in this way: and grasp the inside seam at end of case. (a) Slip your hand inside pillowcase and grasp the inside seam at end of case. (b) Still holding the inside seam, place this same hand over the end of pillow and pull on pillowcase (c) Fit corners of case over corners of pillow.	If pillowcase is considerably wider than the pillow, tuck the excess material into a smooth fold on one side, making the case fit well over the pillow. Keep this tuck in place when placing on bed.
22.	Place the pillow(s) flat on the bed	
23.	If you wish to "open" this bed, here is one of various ways it might be done: With both hands grasp the upper edge of the top covers; carefully bring your arms toward foot of bed, until the upper edge of cuff is at the foot of the bed. With hands still in place, bring the cuff up to the fold halfway	Opening the bed, that is, turning the covers down, makes it look more inviting to the patient sitting for a time in a chair. If your patient has gone to a treatment room or X-ray Department, it will be easier to assist him back in bed.

	up the bed. Straighten and smooth the cuff.	
24.	If you wish a "closed" bed for a patient not yet admitted, the upper edge of bedspread is left even with the head of mattress.	The steps of this procedure lend well to learning good body mechanics. There is a certain rhythm that can be developed which will help you do job in less time and with much less effort. Try it.

Making the Occupied bed Points to Keep in Mind

1. Making the bed with a patient in it is necessary when the patient is too ill or disabled to be out of bed. It is a long procedure and if not accomplished skillfully, can be an extremely exhausting experience for the patient. It is therefore a time when individual adjustments are needed to save time and to lessen the exertion of the patient. And it calls for skills in handling each step smoothly and avoiding irritations, such as bumping and jarring the bed.
2. It is also a time to observe the patient and to give him chance to talk about anything on his mind. This may be done by listening, not talking about your own problems and experiences.
3. If this procedure follows the patient's bath in bed, the first steps as given here will have already been accomplished. For instance, all the top linen would have been removed and the patient covered with a bath blanket. However, to give a complete description here, this procedure starts with all bed linens in place.

Equipments Needed

1. 2 large sheets, or as many as policy calls for
2. Cotton draw sheet; if used, top sheet is now used for draw sheet
3. Bedspread
4. Pillowcase for each pillow
5. Bath blanket.

	Important Steps	**Reasons for Action**
1.	Wash your hands before selecting linens. Take everything needed to patient's unit and stack items on chair in order of use.	If this procedure follows the patient's bath, start with step 5 and loosen all the lower sheets. The reason is that the clean linen will already be stacked on chair at bedside. If top covers are removed and bath blanket is on the patient, move on to step 10.
2.	Provide for privacy by placing screen or pulling curtain.	
3.	Adjust the bed to level position and lock the wheels. Remove all but one pillow from under the patient's head.	
4.	See that laundry bag is in a place Close-by.	
5.	Loosen all bottom sheets all around the bed.	You will be delayed later if sheets are still tucked securely under mattress.
6.	Remove bedspread by grasping it at top edge and folding it to foot of bed. If it is not to be used again, fold and bunch it and drop in laundry hamper.	

7.	Place the folded bath blanket on near side of bed and unfold it over top sheet If patient is not too ill, ask him to hold the top edge of bath blanket.	If patient is not familiar with this step for removing sheet, tell him what you will do, so that he can be sure that he will not be exposed.
8.	Slip hands under side of blanket and grasp upper edge of sheet and pull it from under the blanket to the foot of bed.	
9.	Bring the top and bottom hems together and fold the sheet on lower part of bed without shaking it out.	Shaking and flapping linens (especially used linen) stirs up dust and lint which carry disease causing organisms into the air.
10.	Place folded top sheet on back of chair.	This top sheet will be used again as a bottom sheet or to cover rubber

		draw sheet.
11.	Go to other side of bed and help patient move toward you, then turn him to sidelying position, facing you. Position him in good alignment without pillow, if this is not too uncomfortable for him.	It is much easier to remove sheets and replace them if there are no pillows on the sheets. However, one pillow can be managed, if patient is uncomfortable without it.
12.	Raise the side rail on that side of bed before returning to your original position.	If patient is turned away from you to his side, he may just keep on turning and fall out of bed. There is real danger of this.
13.	Fold the near half of used cotton draw sheet close against the patient's back.	

14.	Fanfold the rubber draw sheet smoothly to the back of patient.	These sheets are folded separately Because each will be removed later (except the rubber draw sheet) one at a time.
15.	Fanfold the entire length of the used bottom sheet to the center of bed and close to the patient's back. Tuck each sheet under the one before.	
16.	Place the folded clean bottom sheet on the near side of bed and unfold it length-wise in this manner: (a) With center fold straight with mattress with it. (b) Allow 15 to 18 inches at head of mattress. (c) With bottom hem even with foot of mattress. (d) Fanfold far half of sheet carefully to patient's back.	Face the direction of your work and move Keep back straight but not rigid; bend at hips. Knees should be slightly flexed and feet apart throughout action. This sheet will be placed under the patient later. Do not wrinkle or pull it out of shape.
17.	Lift corner of mattress with one hand as you tuck sheet under head of mattress with	
	the other hand.	
18.	Make a mitered corner at head of mattress.	
19.	Tuck sheet smoothly under mattress alongside of bed from head to foot.	

20.	Locate the free end of the rubber sheet near patient and pull it toward you, without disturbing the folded bottom Sheet.	
21.	Straighten the rubber sheet in place and tuck it under mattress at side of bed.	Make sure that rubber sheet will never be next to patient's skin, because it will be irritating. Allow the cotton draw sheet to overlap the rubber sheet by two or three inches at upper and lower edges.
22.	Place the used top sheet (folded once crosswise) over the rubber draw sheet and completely cover it. Fold far half of sheet next to patient's back. Tuck hanging part under mattress, and make sure both rubber sheet and draw sheet are smooth.	
23.	Let the patient know that it is time for him to roll back toward you and that he is to roll over the folded sheets which are at the center of the bed.	
24.	First, cradle the patient's feet and lower legs in your arms and move towards you over the "bump" of folded line (Keep edges of the bath blanket folded up on the patient so it will be out of the way of patient's movements and your action).	Try to keep the patient's body in as good ' alignment as possible. It will be much - less strain on him. Also, it will cause you less strain and fatigue, if you keep your back straight your knees slightly flexed. Keep one foot a little in front of the other. This allows you to use the long strong thigh muscles rather than the small muscles of the back.
25.	Next, give patient the assistance he needs to move his hips and shoulders as he rolls toward you to his side.	

26.	Reach over the patient and push folded sheets away from patient's back toward the far side of bed.	If patient has a drainage tube of any kind, see that there is enough slack in tube for turning.
27.	Raise the side guard on your side, then go the other side of bed.	Use these side guards if available because the patient may misjudge the width of bed and move to near edge.
28.	Lower side guard. Starting with soiled bottom sheet, fold and bunch it as you remove it from the bed.	Hold linens away from uniform and drop in laundry hamper.
29.	Remove and discard cotton draw sheet in the same manner.	If patient is becoming uncomfortable Without a pillow, reach for the one you put aside earlier change pillowcase and place under patient's head.
30.	Pull clean bottom sheet in place; tuck under mattress at head of bed; make mitered corner and tuck under mattress alongside of bed.	
31.	Pull both draw sheets toward you and straighten them. Tuck free end of rubber draw sheet under mattress, keeping it smooth and tight.	
32.	Straighten clean cotton draw sheet. Grasping and pulling at this step. it with both hands (palms down), hold it at level with mattress. Pull it tightly, but without lifting it up, and tuck under side of mattress.	There is no reason to overdo the tugging in place over rubber sheet. If you lift the draw sheet up higher than mattress level, you may cause the patient to roll out of bed. The cause and effect of this is something like using crowbar to pry up a heavy object.

33.	Place clean top sheet on near side of bed and unfold it on blanket top of bath blanket	
34.	Have patient hold upper edge of sheet while you fold bath blanket to foot of bed and remove it.	This is done to prevent exposing patient. At the same time, folding the blanket toward the foot of bed under the top sheet does not stir up dust.
35.	Arrange top sheet to extend high enough to cover patient's shoulders; leave excess at foot of bed; see that it hangs evenly on both sides.	
36.	Before tucking sheet (and blanket, if used) under foot of mattress, make a toe pleat to allow room for patient's feet. When blanket is used, make the pleat in sheet and blanket together. The toe pleat may be made in this way.	Tight top covers not only are uncomfortable for patient's feet but may cause a serious condition. If the feet are restrained in a forward position over a period of time, the muscles of the soles of the feet are weakened. Th1s results in a serious deformity called drop foot.

Note: The other types of bed making will be discussed in some other units.

(B) Personal Hygiene Practices

Maintenance of personal hygiene is necessary for comfort, safety and well-being. Hygiene refers to practices that promote health through personally cleanliness and it is fostered through activities like bathing, tooth brushing, cleaning and maintaining fingernails and toenails, and shampooing and grooming hair. Many a people shed their worries along with the day's accumulation of dirt by taking baths or showers. Man considers important to his well-being not only having his skin cleaned but also being well groomed – wearing decent clothes with nails cut and

clean, and feet well shod. When clean and attractively dressed, a person often gains confidence and can face difficulty with equanimity.

Cleanliness and good grooming are even more important in illness than in health. Many a nurse has had experience of seeing a sick and uncomfortable patient drop off into a restful sleep after taking his bath and having his bed changed. Oral care to relieve bitter/distasteful taste and a general dryness of the mouth which is often associated with ill health; and hair care to bring refreshing feeling are all essential adjuncts of care. But when these factors are left unattended, the patient looks and feels more miserable than his state of health warrants.

Healthy individuals are capable of meeting their own hygiene. Sick people are however incapacitated by their ill health and as such require the nurses' assistance to meet all their hygiene needs. The onus therefore lies on the nurses to assess the person's ability to perform self-care, plan necessary intervention to meet any deficit and evaluate the effectiveness of the care.

Hygiene practices and needs may differ according to age, inherited characteristics of the skin and hair, cultural values and of course health problems. Whatever, the point to be made is that, most hygiene practices are based or maintaining or restoring healthy qualities of the integument system.

Care of the Skin

In view of the enormous functions of the skin, it is just rational for the skin to be kept healthy. One of the principal ways to ensure this is by bathing. **Bathing** is the medium and method of cleansing the body. Although its primarily objective is restoring cleanliness, it confers other benefits on the body. Such include:

1. Keeps the body clean of accumulated dirt, perspiration, secretions, microorganism and debris, which can clog the skin pores, and thereby reduce irritation and soreness. Removing these accumulations, which can act as culture media for pathogens also aids in preventing infection and preserving the healthy, unbroken condition of the skin?
2. Provides comfort and relaxation to a tired, restless patient.
3. Stimulates circulation, both systematically and locally.

4. Promotes muscle tone by active and or passive exercise.
5. Enhances elimination of wastes from the skin
6. Reduces, if not totally eliminate unpleasant body odour.
7. Prevents lung congestion by stimulating respiration through change of position
8. Improve the patient's self-esteem (self-image) through improved appearance, which lead to increased interaction with others.

Types

The different kinds of bathing that people undertake can be subsumed into two major groups:

- **Cleansing Bath: -** Tub bath or showers

- Partial bath - Complete bed bath

- **Therapeutic Bath: -** Sitz bath

- Emollient bath or medicated bath

Cleansing Bath: The Objectives of cleansing bath are to:

- promote hygiene and comfort for the patient
- observed the patient's skin condition
- assess the patient's range of motion.
- encourage the patient to be as independent as possible on allowed
- assess the patient's physical and mental status
- establish a communication pattern between patient and nurse that promotes health teaching and expression of patient concerns.

Providing a Tub Bath or shower

Equipments: - Buckets; Sponge/body flannel; Soap in soap dish; Small bowl; Towel; Body lotions; Pyjamas.

Procedure

Actions	**Rationale**
(a) Assessment	
• Check nursing care plan for hygiene directives.	Ensures continuity of care.
• Assess the patient's level of consciousness, orientation, strength, and mobility	Provides data for evaluating the patient's ability to carry out hygiene practices independently.
• Check for gauze dressings, plaster cast, or electrical or battery-operated equipment	Contraindicates taking a tub bath or shower.
• Determine if and when any laboratory or diagnostic procedures are scheduled	Aids time management
• Check the occupancy and cleanliness of the tub or shower	Helps in organising the plan for care.
(b) Planning	
• Clean tub or shower if it appears to need it	Reduces the potential for spreading microorganisms.
• Consult with patient about a convenient time for tending to hygiene needs.	Facilitate cooperation between the patient and nurse.
• Assemble supplies, floor mat, towels, face cloth, soap, clean pyjamas or gowns	Demonstrate organisation and time management.
(c) Implementation	
• Escort the patient to the shower	Show concern for the patient's

or bathroom	safety
• Demonstrate how to operate water faucet and drain	Ensures the patient's safety and comfort.
• If the patient cannot operate the water faucet, fill the tub approximately half full with water between 105^0F-110^0F (4043^0C) or adjust the shower to a similar temperature.	Demonstrate concern for the patient's safety and comfort.

• Place a DO NOT DISTURB or IN USE Sign on the outer door.	Ensures privacy
• Help the patient into the tub if assistance is needed; this may be done by:	Reduces the risk of falling.
placing a chair next to the tub having the patient swing his/her feet over the edge of the tub leaning forward, grabbing a support bar and raising the buttocks and body until they can be lowered within the tub.	
• Have patient sit on a stool or seat within the tub or shower, if the patient will have difficulty existing from the tub or may become weak while bathing.	Ensures safety.
• Show the patient how to summon help.	Promotes safety.
• Stay close at hand.	Ensure proximity in case there is a need to assist the patient.
• Check the patient at frequent intervals by knocking at the door & waiting for a response.	Shows respect for privacy yet concerns for safety.
• Escort the patient back to his/her room on completion of the bath or shower.	Demonstrates concern for safety & welfare.
• Clean the tub or shower with antiseptic/antibacterial agent and dispose off the soiled linen in its designated location.	Reduces the spread of microorganism and demonstrate a conscientious concern for the person who will use the tub shower or.
• Remove the IN-USE sign from the door.	Indicates that the bathing room is unoccupied.
(d) Evaluation	
Patient is clean; Patient remains	
uninjured.	

(e) Document: Sample documentation: Date and time, Tub bath taken independently, signature, title.

Source: Berman, et al., (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice*..

Partial Bath

A daily bath or shower is not always necessary. In fact, the older adults who do not perspire as much as younger adults and who are prone to dry skin, frequent washing with soap may further deplete the oil from their skin. Therefore, there may be certain instances when partial bathing may be appropriate.

A partial bath consists of washing those areas of the body that are subjected to the greatest soiling or source of body odour such as the face, hands, and axillae. Partial bathing may be done at a sink or with a basin at the bedside. There may also be situations in which just the perineum, the areas around the genitals and rectum are bathed. This is often referred to as perineal care.

Perineal Care Indications

- Following a vaginal delivery or gynecologic or rectal surgery, so that the impaired skin is kept as clean as possible.
- Whenever male or female patients have bloody drainage (urine/stool); blood is a good medium for growth and development of microbes, therefore its removal through perineal care reduces risk of infection.

Principles Guiding Perineal Care

1. Prevents direct contact between the nurse and the secretion or excretion that may be present.
2. Cleanse in such a manner as to remove secretions and excretions from less soiled to more soiled areas.

The Sitz Bath

A major component of perineal care is the sitz bath. It is the immersion of buttocks, thighs, and lower trunk in water of a temperature from 110^0 to 115^0F. The sitz bath may be given in a regular bathtub, filled approximately one third full. There are however specially designed sitz tubs that allow the patient to sit comfortably with hips and buttocks immersed in water. A portable sitz basin is also is also available for use in commodes, chairs or even in bed. If nothing else is available, a large basin could be used. It is important to point out here that; local vasodilatation of the lower extremities may draw blood away from the perineal area when the feet and the legs are completely immersed in the water as in a bathtub. Therefore, wherever feasible, the feet and the legs should not be immersed in the water. As such seating a patient in a basin is more desirable than sitting him in a bathtub

SELF-ASSESSMENT EXERCISE

Quickly recap the indications for perineal care.

Indication

- The sitz bath is used to relieve discomfort, congestion, or inflammation in the pelvic and rectal regions.
- Promotes phagocytosis through increased peripheral vasodilation.
- Stimulate formation of new tissue through increased blood supply.
- Promote relaxation of local muscles.
- Provide for cleanliness.

Equipment – Sitz tub or bathtub, Bath thermometer, Water of indicated temperature, Rubber or plastic ring, Bath blankets and towel, Straight chair or bath stool.

Procedure

Suggested Action	**Reason for Action**
(a) Assessment	
• Pull the privacy curtain.	Demonstrate respect for modesty.
• Inspect the genital and rectal areas of the patient.	Provides data for determining if perineal care is necessary.
(b) Planning	
• Explain the procedure to the patient.	Reduce anxiety and promote cooperation
• Wash your hands.	Reduces spread of microorganisms.
• Gather equipment.	Demonstrate organisation and time management.
• Place the patient in dorsal recumbent position and cover	Provides access to the perineum.
with a bath blanket.	
• With gloved hands remove soiled dressings and disposed off properly.	Soiled dressing is contaminated
• Consult the patient's folder for prescribed water temperature.	Engenders accuracy and enhances maximal Benefits from treatment.
(c) Implementation	
• Check the temperature of the water with your bath thermometer as you fill the tub scalding.	Facilitates bath and prevent possible one-third full with warm water.
• Place the bath stool or the straight chair next to the bathtub and cover the seat with one of the bath towels you have obtained.	Ensures safety.
• Assist the patient in removing his bathrobe and have him sit on the bath towel.	Promotes safety.
• Take the bath blanket and drape it around vasoconstriction.	Helps in avoiding chilling which may cause the patient. Pin the end together at the back.

• If indicated, place rubber ring in bathtub.	Sitting the patient on rubber ring will relieve Pressure and discomfort if he has rectal or Perineal sutures or pain.
• Help the patient get into the tub. Take the towel the patient was sitting on and place it under his buttocks.	Reduces the risk of falling and sustaining injury.
• Check the water temperature from time to time and add warm water as required.	Fluctuations in water temperature can cause cardiovascular stress.
• After the prescribed time for treatment has elapsed, usually 20 – 30 minutes, help the patient out of the bath tub.	Maximum benefit is obtained within the first 20 minutes. Prolonging the procedure tires the patient and increases chances of cardio-vascular stress.
• If necessary or requested by the patient, help him to dry himself and put on a clean gown.	Demonstrate concern for welfare.
• Help the patient to return to bed. See that the bed is dry and warm. Arrange the bedding for patient's comfort.	Promotes comfort.
• Return to bathroom.	Wash the tub, disinfect Reduces the spread of microorganism it, if necessary.
• Return to bathroom. Wash the tub, disinfect it, if necessary. Place used towels/washcloths in the hamper. Treat rubber rings as instructed and return it to designated storage.	Reduces the spread of microorganism and demonstrate a conscientious concern for the next person who will use the tub.
(d) Evaluation	
• Note and document the patient's total reaction Helps in monitoring patient's response to treatment, including the colour of skin, therapy. The write-up serves as a vehicle pulse and respiration. In addition, note the communication with other team members. Length of time in bath.	

Source: Donahue, M. P. (2011). *Nursing, the finest art: An illustrated history*

4.0 CONCLUSION

Provision of comfort and safety no doubt stands out as one of the nonnegotiable requirements for successful recuperation and rehabilitation of our clients. To say it is vital to good nursing care is to put it mildly. This explains why the unit has taken time to examine steps that could be taken to reduce threats to patients' life and discussed a few comfort measures commonly employed by nurses. You may ask why few? Well, that is what the scope of this unit can conveniently accommodate. Besides, the issue of comfort and safety is an ongoing thing, so it is going to be a recurring theme throughout the period of your training and beyond.

5.0 SUMMARY

The need for safety and comfort in the health care settings cannot be overemphasised. Hence the unit opens with a discussion on the general safety rules and practices in the health care setting. It particularly examined the role of the nurse clinician in moving and handling patients and the guiding principles thereof. The role of the nurse in infection control was equally examined. Last but not the least, the unit takes a detailed look at a few of the comfort measures currently being employed in our hospitals. However, like we did note, there are one thousand and one thing that could be done to ensure patient comfort and it is a dynamic issue as it differ from patient to patient and changes as the patient's condition changes. So, the list is inexhaustible. The few examples given here definitely would have help us to appreciate how far these seemingly simple measures can go in alleviating the varying degree of discomfort experienced by our clients.

ANSWER TO SELF-ASSESSMENT EXERCISE

Following a vaginal delivery or gynecologic or rectal surgery, so that the impaired skin is kept as clean as possible.

ANSWER TO SELF-ASSESSMENT EXERCISE

Whenever male or female patients have bloody drainage (urine/stool); blood is a good medium for growth and development of microbes, therefore its removal through perineal care reduces risk of infection

6.0 TUTOR-MARKED ASSIGNMENT

Describe the different comfort measures employed in patient's care in the hospital and explain their underlying principles.

7.0 REFERENCES/FURTHER READING

Donahue, M. P. (2011). *Nursing, the finest art: An illustrated history*. Mosby

Fuerst, E.V.; Wolff, L.U. & Weitzel, M. H. (eds.). (1974). Fundamentals of Nursing (5th ed.). Toronto: J. B Lippincott Company.

King, E. M.; Wieck, L. & Dyer, M. (1977). *Illustrated Manual of Nursing Techniques.* Philadelphia: J.B. Lippincott Company.

Kozier, B.; Erb, G.; Berman, A.U. & Burke, K. (eds.). (2000). Health, Wellness and Illness. *Fundamental of Nursing: Concepts Process and Practice* (6th ed.). New Jersey: Prentice Hall, Inc.

Parboteeah, S. (2002). Safety in Practice. In R. Hogston & P. M. Simpson (eds.). *Foundations of Nursing Practice; Making the Difference* (2nd ed.). New York: Palgrave Macmillan.

RCN (Royal College of Nursing) (1992). Safety Representatives Conference Committee. Introduction to Methicillin Resistant Staphylococcus Aureus. RCN, London.

Berman, et al., (2016). *Study Guide for Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice*..