

**COURSE
GUIDE**

**NSC 501
ADVANCED PUBLIC-COMMUNITY HEALTH NURSING I**

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INTRODUCTION

NSC501 is a three (3) credit unit course. It is a 500 level core course available for Bachelor of Nursing Science (B.NSc) students. The goal is to assist the subgroups of individual, family and community in attaining their highest level of holistic health care.

COURSE AIM

The course broad objective is to build in your ability to understand and apply the principles, concepts and process of community health nursing in providing care to subgroups in the community. You are assisted to have in-dept understanding and skill to implement program of care of subgroups in the community in areas of health promotion and diseases prevention.

COURSE OBJECTIVES

The main objective of Public-Community Health Nursing I is to help you provide optimum care to:

- (1) Couple in need of Family planning
- (2) Neonates
- (3) Infants
- (4) Toddlers
- (5) Pre-school
- (6) School age
- (7) Adolescents
- (8) Adulthood
- (9) Elderly
- (10) Vulnerable groups

The course consists of four module and 10 units plus a course guide which tells you briefly what the course is about, what course materials you will use and how you can go through these materials with maximum benefit. In addition, the course Guide gives you guidance in respect to your Tutor- marked Assignments (TMA) which will be made available to you at the appropriate time. It is for your best interest to attend the facilitation sessions which will be online.

In order to achieve the broad objectives, each unit has specific objectives which are usually stated at the beginning of the unit. You are expected to read these unit objectives before your study of the unit and as you progress in your study of the unit you are also advised to check these objectives. At the completion of each unit you review those objectives for self-assessment. At the end of this course, you are

expected to meet the comprehensive objectives as stated below. On successful completion of the course you should be able to:

- Discuss the physiological functions of female internal reproductive organ.
- Describe the male reproductive organs and their functions
- Outline the importance of family planning
- State different types of planning methods
- Discuss the mode of action of the method
- Discuss the roles of public-community health nurses in family planning implementation
- Describe physiological status of neonate
- Advise on care of neonate
- Describe the growth and development of neonate
- Discuss the growth and development of infants
- State the health promotion programs for infants
- Describe common health problems of infants
- Describe the special characteristics of toddlers
- Outline health promotion programs for toddlers
- Discuss Piaget's theory of Cognitive Development
- Describe the grow and development of a pre-school child.
- Discuss the Psychological development of a school age.
- Outline types of play.
- Discuss the mental and psychological development of school child.
- Discuss health promotion programs for school children
- Describe physiological status of adolescent
- Describe the growth and development of adolescent
- Explain the growth and development of adolescent
- List the common health problems of various stages of development
- Outline advise on their problem prevention to adolescents

WORKING THROUGH THE COURSE

To complete the course, you are expected to study through the units, the recommended textbooks and other relevant materials. Each unit has a model questions which you are required to answer

COURSE MATERIAL

The following are the components of this course:

- The Course Guide
- Study Units
- Textbooks

TUTOR-MARKED ASSIGNMENTS (TMAS)

There will be 30 objective question from all the units of the course materials. The questions will be divided into three tutor marked assignments that will be uploaded to the NOUN website for you to download and answer and the upload. It is computer marked. The value is 30% of the total mark.

FINAL EXAMINATION AND GRADING

The final examination for course NSC501 will be pen-on-paper and has a value of 70% of the total course grade. The examination Pass mark is 50%.

FACILITATION

There are hours of facilitation to support this course material. You will be notified of the dates, times and locations of these facilitation as well as the names and phone numbers of your facilitator.

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COURSE**

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MODULE 1 FAMILY PLANNING

Unit 1 Internal Male and Female Reproductive Organs

Unit 2 Family Planning Methods

**UNIT 1 INTERNAL MALE AND FEMALE
REPRODUCTIVE ORGANS****CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Uterus
 - 3.2 Vagina
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 - 3.5.1 Bladder and Urethra
 - 3.5.2 Rectum
 - 3.5.3 The Physiology of Female Reproductive System
 - 3.6 The Ovarian Cycle
 - 3.6 Ovulation
 - 3.7 Ovarian Hormones
 - 3.8 Endometrial Cycle (Menstrual)
 - 3.9 Premenstrual Syndrome
 - 3.10 Anatomy and Physiology of Male Reproductive System
 - 3.11 Organs of male Reproductive System
- 4.0 Summary
- 5.0 Conclusion
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

The internal reproductive organs are contained in the true pelvic cavity and comprise the uterus, vagina, ovaries and fallopian tubes.

2.0 OBJECTIVES

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

- describe the female internal reproductive organ
- discuss the physiological functions of female internal reproductive organ
- describe the male reproductive organs and their functions.

3.0 MAIN CONTENT

3.1 Uterus

Uterus is a hollow muscular, pear shaped organ contained in the cavity of the true pelvis. It is situated behind the urinary bladder and in front of rectum. It has a body which has a rounded upper part called fundus and a lower part called neck or cervix. It measures approximately 7.5 cm in length, 5 cm in width at its widest part and 2.5 cm in thickness (in anteroposterior diameter). It weights approximately 60 gm. In it, the fertilised ovum embeds, is nourished and protected for 40 weeks, until during labour, the fetus is expelled by the powerful constructions of the uterine muscle.

The angle where the Fallopian tube is inserted is known as the Cornu or horn. The body of the uterus gradually tapers downwards and the constricted area immediately above the cervix is known as Isthmus which distends during pregnancy to form the lower uterine segment.

- **The perimetrium** is a layer of peritoneum; which covers the uterus except at the sides, beyond which it extends to form the broad ligaments. The perimetrium is firmly attached to the uterine wall except at the lower anterior part where, at the level of the isthmus, the peritoneum is reflected on to the bladder.
- **The myometrium**, or muscle coat has very great expansile properties. It forms seven-eighth of the thickness of the uterine wall and consists of three layers, an inner circular layer of fibres, a thick intermediate layer, the fibres of which form an encircling figure of eight arrangement surrounding the blood vessels, and by constricting them act as living ligatures to control, bleeding during the third stage of labour. The fibres of the outer muscle layer are arranged longitudinally and because they are four times more plentiful in the fundus the decreasing gradient plays a part in the expulsion of the fetus.

- **The endometrium** lines the body of the uterus and consists of columnar epithelium glands, which produce an alkaline secretion, and stroma or connective tissue cells capable of the rapid regeneration necessary following menstruation. It is also a rich source of prostaglandins. The endometrium is richly supplied with blood and is about 1.5 mm thick. When embedding of the fertilised ovum occurs the endometrium is known as the decidua, because after labour it will be shed.

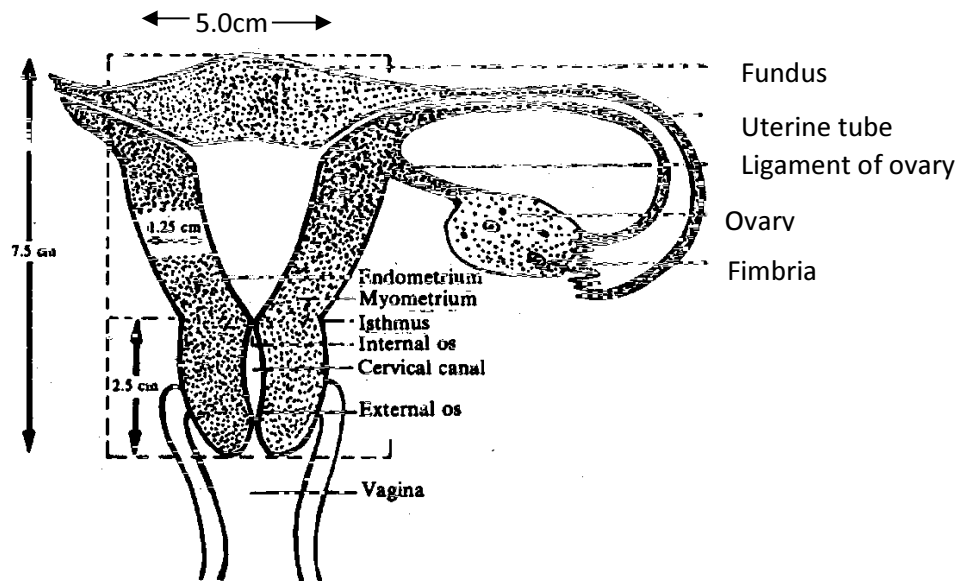


Fig. 1.1: The uterus and the left uterine tube and ovary

There are 4 pairs of ligaments which give additional support and maintain the uterus in its forward inclination. These are:

1. The two broad ligaments-continuous structure that is formed by a fold of the peritoneum.
2. The two round ligaments, one on each side, are fibromuscular chords composed of muscles prolonged from the uterus and a small amount of connective tissue.
3. The two utero-sacral ligaments, again one on each side extend backward from the cervix, pass on each side of the rectum, and insert at the posterior wall of the pelvis.
4. The transverse cervical ligaments give support to the uterus from below.

The blood supply to the uterus is through the uterine artery which is a branch of the internal iliac artery. The autonomous nerves (sympathetic and parasympathetic) supply the uterus.

3.2 Vagina

Vagina is a muscular membranous canal. It connects the internal and external reproductive organs.

The vagina consists of:

- a muscular layer
- a loose connective tissue layer
- the mucous layer which is arranged in folds called rugae.

During child bearing years of life the vaginal secretion is normally acidic, with a pH ranging from 4.0 to 5.0 due to lactic acid resulting from breakdown of glycogen by Doderlin bacilli.

The space between the cervix and vagina is termed as fornix (an archlike structure). There are four fornices of vagina: the anterior, the posterior and two lateral fornices. The posterior fomix is considerably deeper than the anterior because posterior wall of vagina is larger. Anterior wall of vagina is 6.7 cm long whereas posterior vaginal wall is 8-y cm long. Fomices are important in pelvic examination.

3.3 Fallopian Tubes or Uterine Tubes or Oviducts

Fallopian tubes, are two slender muscular tubes, that extend laterally from the cornua of the uterine cavity, one from each side. It consists of three layers:

- Serous layer- the outer layer, made up of peritoneum covering
- Muscular layer- the middle layer
- Epithelial layer - the inner surface is lined by ciliated and nonciliated, secretory cells.

The length varies from 7 to 14 cm. and thickness also varies. The proximal end is very small, but there is a slight gradual increase in width distally. Each tube has four parts:

- The interstitial portion - passes through the muscle wall
- The Isthmus is immediately adjacent to the cornua of uterus
- The Ampulla is the expanded lateral portion
- The imbricated end or infundibulum, is the wide distal funnel shaped opening

3.4 Ovaries

The ovaries are the female sex glands (gonads). They are two small, flatten almond shaped organs located one on each side of the uterus. Each ovary is attached the posterior surface of the broad ligament by the mesovarian ligament. The ovaries the fallopian tubes are supplied by the ovarian arteries.

An ovary is usually described as having the size and shape of an almond; each is about 4-5 cm long, 2 cm wide, and 1 cm thick and weighs about 3 gm.

The ovary consists of two parts: central portion or medulla, and an outer layer or co The medulla is composed of connective tissue, blood and lymph vessels and nerves. In the cortex numerous minute follicles are embedded, each of which contains an oocyte, germ cell of the female. These are produced during the first five to six months of foe life.

It is estimated that 200,000 oocyte are present in each ovary at birth. At the beginning adolescence 500,000 oocyte are present, called primary oocyte. At mature stage during reproductive period these are termed as graafian follicle. The ovaries perform two vital functions:

- i) they produce, mature and extrude ova
- ii) they secrete hormones

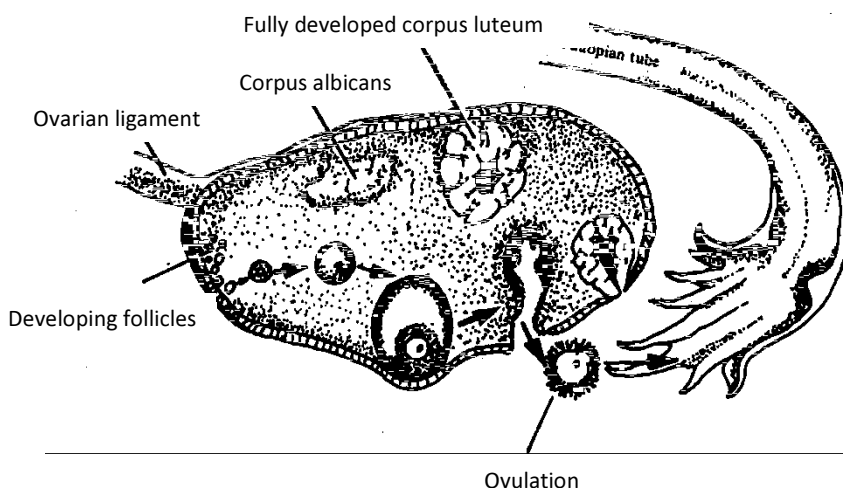


Fig. 1.2: Life cycle of the Graafian follicle

The function of ovaries will be described in detail in subsection 1.2.5.

3.5 Related Pelvic Organs

We have already learnt about the external and internal reproductive organs of the female. Now you will learn about the related organs such as bladder and rectum which are situated in the pelvic cavity, and lie in close proximity to the reproductive organs. We will learn in brief the structure, function and exact location of these organs. If bladder or rectum is full, it interferes with satisfactory pelvic examination of woman. Full bladder and rectum also cause delay in the progress of labour. Injuries to bladder and rectum do occur sometimes at the time of childbirth. Let us discuss bladder and urethra first and then talk of rectum.

3.5.1 Bladder and Urethra

The urinary bladder is a muscular membranous sac. It is situated behind the symphysis pubis and in front of the uterus and vagina. Urine is collected into the bladder by the ureters. The ureters pass across the brim of the bony pelvis, to the posterior part of the bladder, which they enter somewhat obliquely at about the level of the cervix.

The bladder empties through urethra - a short passage/tube 3-8 cm long that terminates in the urinary meatus. The meatus is a small opening situated in the middle of its vestibule between the clitoris and vaginal orifice.

3.5.2 Rectum

The lowest segment of the intestinal tract is situated behind and to the left of the uterus and vagina. The terminal inch of the rectum is called the anal canal. The anus is a deeply pigmented, puckered opening situated 4-5 cm below the vaginal orifice. It consists of bands of circular muscles, the internal and external sphincter ani muscle. Veins of the lower rectum and anal canal sometimes become engorged and inflamed during pregnancy, as a result of pressure exerted by greatly enlarged uterus. The distended veins or enlargement of veins of lower rectum and anal canal are called hemorrhoids or piles.

3.5.3 The Physiology of Female Reproductive System

During childhood the reproductive system undergoes gradual growth, along with other parts of the body, and becomes mature during adolescence. About the age of 9 to 11 years the reproductive organs begin to undergo rapid development. Given below is a note on the physical changes of puberty; i.e. the usual sequence of sexual development in girls and the average age at which these changes are first seen:

1. Before 8 years precocious sexual development
2. Appearance of secondary sex characteristics before the age of eight years in girls. (Certain pathological conditions may stimulate the ovaries to premature activity)
3. 12-13 years - average age of sexual development
4. After 12-13 years-Delayed sexual development, physical changes, growth of bony pelvis and widening of hips,
5. Certain changes in breasts also appear
6. Growth of public hair, auxiliary hair, growth of external genitalia
7. Acceleration of growth
8. The first menstrual period is termed as menarche. Menarche appears between 9 to 17 years.
9. Ovulation usually begins one or two years following menarche.

Functions of the mature reproductive cycle

After the ability to reproduce has been attained, the reproductive organs of the female go through a series of cyclic changes each month throughout child bearing period (like menstruation) except during pregnancy, lactation and cessation of menstruation (menopause). These changes involve two cycles:

- i) Ovarian cycle
- ii) Endometrial cycle or menstruation

Let us discuss ovarian cycle first.

3.6 The Ovarian Cycle

The ovarian cycle consists of the series of changes in an ovary that are repeated at monthly intervals. Main phrase of the cycle includes of development of the-graafian follicles, ovulation and formation. of corpus luteum.

Let's discuss briefly these three developments below:

Graafian Follicles

It is estimated that at birth each ovary contains two lacs of immature follicles. Approximately fifty thousand are present in each ovary when puberty is reached. From the time ovulation begins during puberty until the menopause, some of the primary follicles, under the influence of follicle stimulating hormones (FSH) from the anterior pituitary develop to full maturation. The structure of a fully mature graafian follicle (see Fig. 1.6) shows the following structures.

Theca internal - inner layer

- Theca external - external layer
- Mendera ganulosa - cells lining the graafian follicle
- Discus proligerous - mass of cells
- Liquor follicle - fluid accumulates in the centre of the graafian follicle
- Oocyte - enclosed in discus proligerous

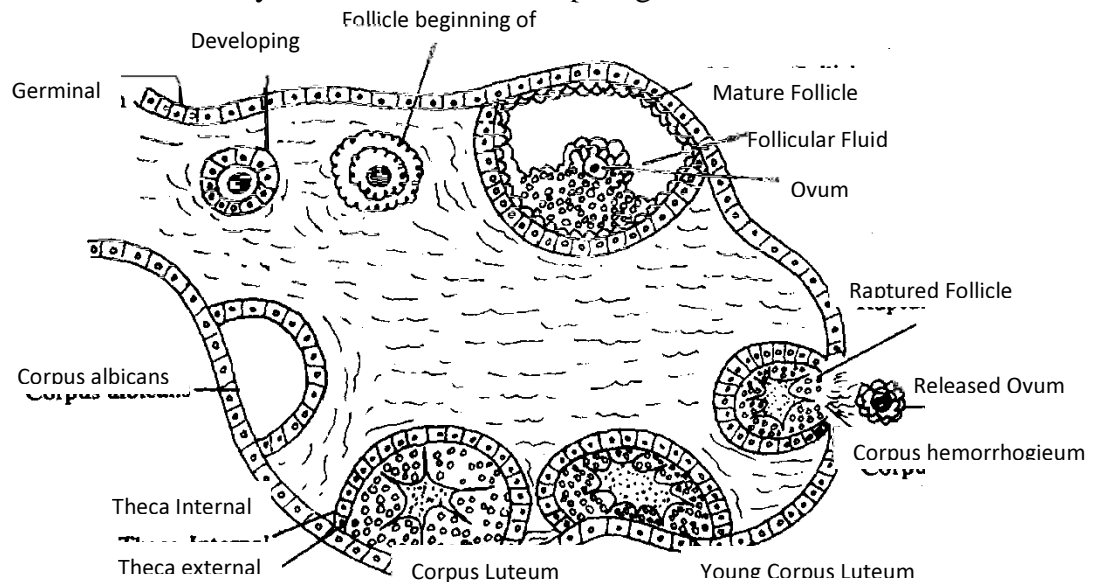


Fig. 1.3: Ovulation

3.6 Ovulation

When a graafian follicle, with its enclosed maturing oocyte, reaches the surface of the ovary, its wall becomes thinner and it finally ruptures. The process of extrusion of a matured oocyte from the ovary through rupture of graafian follicle is called ovulation. The ovum is discharged near the fimbriated end of the fallopian tube. Ovulation is the dividing period between the two phases of the ovarian and menstrual cycle. The pre-ovulatory period is termed follicular phase and post-ovulatory period termed luteal phase.

The time of ovulation is approximately 10 days before the end of a cycle. Several signs and symptoms may give evidence that ovulation will or has taken place. These are:

1. Mid-cycle abdominal pain.
2. Mid-cycle vaginal bleeding amounting to no more than spotting.
3. A shift in basal body temperature. Body temperature is relatively higher during post-ovulatory period. The basal body temperature shift is a useful clinical method of determining the approximate

time of ovulation. The woman is instructed to take her oral temperature daily for six months immediately after awaking in the morning and before getting out of bed to determine the time of ovulation.

Corpus Luteum

After ovulation the cavity of the ruptured graafian follicle is replaced by a compact mass of tissue termed as corpus luteum (Yellow body), so named because it is of yellow colour. The corpus luteum functions as an endocrine organ. It produces progesterone and secretes the follicular hormone estrogen. Corpus luteum degenerates and forms the corpus albicans. If pregnancy occurs, it is termed corpus luteum of pregnancy, and continues approximately three months.

3.7 Ovarian Hormones

The ovaries produce two steroid hormones: estrogen and progesterone.

- i) **Estrogen:** is a female sex hormone. It is responsible for the growth of female reproductive organs and the mammary glands. Estrogen is also involved in a number of systemic processes such as fluid, electrolyte balance and body temperature. The functions of estrogen are as under:
 - a) Changes cervical mucus to favour migration of sperms.
 - b) It stimulates mobility of fallopian tubes to propel matured ova through them.
 - c) It prepares endometrium for implantation of fertilized ovum.
 - d) It helps in the growth of uterus and breasts during pregnancy.
- ii) **Progesterone:** The corpus luteum secretes progesterone in large amount and also some estrogen. Progesterone is a progestational hormone. Its functions include the following:
 - a) It prepares uterus for implantation of a fertilized ovum and maintenance of pregnancy.
 - b) Progesterone along with estrogen causes cyclic changes in the reproductive tract.
 - c) It is necessary for the complete development of the mammary glands.
 - d) It has some effect on metabolic process.

Ovarian hormones bring cyclic changes in the cervix and vagina.

SELF-ASSESSMENT EXERCISE 2

List the ovarian hormones and their functions.

Cervical Mucus

Varies considerably in its characteristics during the course of each cycle. Cervical mucus can be examined and evaluated for its qualities to determine approximate time of ovulation and to assess ovarian functions.

Vaginal Mucosa

Mucosal cells and the secretions of the vagina undergo regular changes during each ovarian cycle. Vaginal smears may be used to estimate estrogen activity.

Now we will come to the discussion on endometrial cycle.

3.8 Endometrial cycle (menstrual)

As the ovary undergoes cyclic changes, so the endometrial lining of the uterus also undergoes a series of changes. The endometrial cycle can be described in three main phases:

- i) **The Follicular Phase:** This phase commences about two days after the cessation of menstruation and lasts until ovulation takes place (14 days previous to next menstruation period). Estrogens are responsible for the growth of the endometrium which takes place at this time.
- ii) **The Luteal Phase:** The premenstrual phase commences after ovulation, when progesterone causes the endometrium, which has already been growing under the influence of estrogens to hypertrophy still further. The endometrium glands increase in size, the capillaries are distended with blood, and small haematoma form under the epithelium producing red congested surface. This thick soft vascular membrane is admirably prepared for the reception of the fertilised ovum. Should fertilization not take place, the ovum dies, the corpus luteum disintegrates, the secretion of estrogens and progesterone falls and endometrium shows degenerative changes which are followed by desquamation and bleeding.
- iii) **The Menstrual Phase:** The menstrual phase, characterised by vaginal bleeding, lasts for three or four days, and occurs every 28-30 days from puberty to the menopause in the normal woman. This is the terminal phase of the menstrual cycle. The superficial layer of the endometrium is shed, along with blood from the capillaries. The unfertilised ovum is also discarded. As soon as menstruation ceases the regeneration of the endometrium begins. The remaining glands and stroma cells multiply and the effused blood is absorbed as in the healing of a wound. The endometrium is reformed.

Certain signs and symptoms appear a few days before the onset of menstruation. Collectively these signs and symptoms are called premenstrual syndrome.

Let us discuss the premenstrual syndrome.

3.9 Premenstrual Syndrome

A few days before bleeding begins, certain promontory signs are frequently noticed. Common signs are abdominal distention, headache, backache, breastfullness, bladder irritability, constipation and premenstrual tension characterised by depression or anxiety. These signs and symptoms should be considered as normal. It is believed that if menstruation is accepted/regarded as a normal physiological process it often reduces discomforts of menstruation such as dysmenorrhoea.

The Climacteric or Menopause

The cyclic changes of the reproductive organs of female continue during the child bearing period. Beyond this period the function of the ovary gradually decreases and ultimately stops. This period is called climacteric or menopause.

The climacteric, frequently termed as the menopause and sometimes called "the change of life", is the period of life at which ovarian function gradually decreases and eventually stops. Menopause means permanent cessation of menstruation. The climacteric occurs between the age of 40 and 50, but there is considerable variation of time. As menopause approaches menstruation often occurs irregularly. The flow sometimes increases slightly, but usually begins to decrease in amount.

Vaso-motor changes - hot flushes - of the face and neck sweats and flashes of heat that may involve the entire body are the most characteristic symptoms of climacteric.

3.10 Anatomy and Physiology of Male Reproductive System

In the foregoing section and subsections, you have learnt about anatomy and physiology of female reproductive organs. In this section we shall focus the anatomy and physiology of male reproductive organs. The description of these organs is given below in subsection 1.3.1.

3.11 Organs of Male Reproductive System

The male reproductive organs are:

1. Testes
2. Epididymis

3. Vas deferentia (Singular -vas deferens)
4. Seminal Vesicles
5. Ejaculatory ducts
6. Prostate Gland
7. Bulbo Urethral Glands (Cowper's Glands)
8. Penis
9. Scrotum and Spermatic

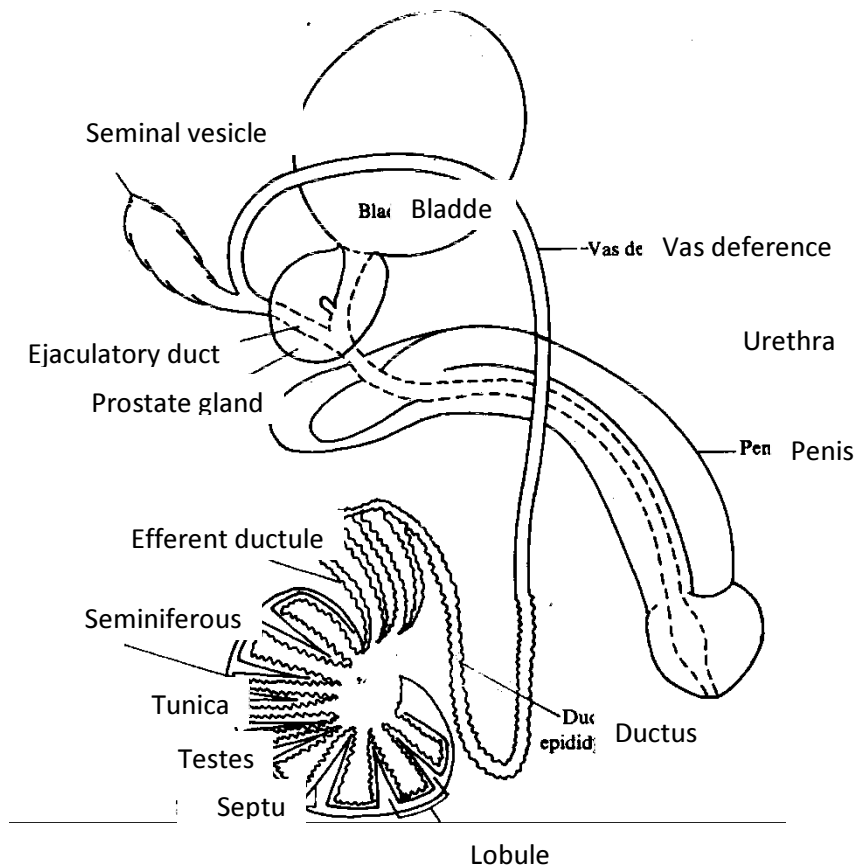


Fig. 1.4: Male reproductive organs

Let us discuss each of these organs.

Testes

The testes, the sex organs or gonads, of the male are two slightly flattened, ovoid, glandular bodies. The testes are formed in the peritoneal cavity during foetal development and then normally migrate through the inguinal canal into, the scrotum during the eighth or ninth month of pregnancy, or occasionally soon after birth. Descent into the scrotum by the age of puberty is essential for normal spermatogenesis; which is adversely affected by the relatively higher temperature within the body. Each testis has a mass of narrow, coiled tubules, called seminiferous tubules. These tubules are from 1 to 3 feet long. The combined length of many tubules in one testis equals almost one mile.

Epididymis

The epididymies are bilateral narrow bodies situated along the upper posterior part of each testis. Each contain a narrow, tortuous tubule approximately 20 ft.in length. This tubule serves as the area to which the spermatozoa that have been released into the semiferous tubules are conveyed, and where they may remain for about three weeks. Here they are retained until physiological maturation is complete and until they become motile. As the tubule of the epididymis leaves the body, it becomes known as vas deferens.

Vas deferentia

The vas deferentia are bilateral ducts, approximately 18 inches long, which continue from each epididymis and then terminate in the bilateral ejaculatory ducts, which open into the urethra. A vas deferens ascends from each testes through a spermatic cord, passes through the inguinal canal, crosses the pelvic cavity, and after coursing upward and medially, passes downward to the base of the bladder where it widens into an ampulla. This terminal end joins with a duct from seminal vesicle, and they become the ejaculatory duct. The vas deferens serves as a storage site for sperm.

Seminal Vesicles: The seminal vesicles are two membranous pouches, situated between the lower part of the bladder and the rectum. Through a short duct each vesicle joins the terminal end of a vas deferens and with it becomes an ejaculatory duct.

Ejaculatory Ducts

The ejaculatory ducts are paired, narrow, short tubes formed by the joining of the terminal ends of the vas deferentia and the ducts from the seminal vesicles. These two ducts descend between the lobes of the prostate gland and open into the urethra into which they discharge sperm and secretions from the seminal vesicles and epididymis.

Prostate Gland

The prostate gland is located just below the bladder and surrounds the upper portion of the urethra. It secretes a thin, complex fluid that is discharged into the urethra through many small tubules that open into it.

Bulbo Urethral Glands (Cowper's Glands)

The bulbo urethral glands are two small pea sized bodies located below the prostate gland within the pelvic floor. They secrete an alkaline, viscous fluid that is emptied into the urethra, through a small duct from each gland.

Penis

The penis is the male organ of copulation. Semen is ejaculated through it into the vagina of the female during intercourse, and the active spermatozoa in the semen can enter the cervix and travel through the fallopian tubes where fertilization of an ovum may take place. The penis is a cylindrical organ composed of three elongated masses of erectile tissue. A slight enlargement at the end of the penis, called the glans penis, contains urethral opening and many very sensitive nerve endings. The skin of the penis extends over its end, covers the glans, and become folded upon itself. This is called the prepuce or the foreskin and is the portion that is surgically removed when a circumcision is performed.

Urethra

The male urethra, which extends from the neck of the bladder to the orifice in the glans of the penis, serves two purposes. It conveys urine from the urinary bladder at urination and transmits semen containing spermatozoa at copulation.

Scrotum and Spermatic Cord: The spermatic cords originate just above the inguinal canal, pass through the canal, and down to the scrotum. Scrotum a pouch like double chambered structure is made up of skin, fascia and muscle. The testes, epididymis, and parts of the spermatic cords are enclosed.

Physiology of Male Reproductive System

Physical changes occur in puberty in boys. The earliest physical changes in boys are , testicular growth, and thinning and pigmentation of scrotal skin. The growth of genital organs then continues.

Pubic hair begins to appear. Prostatic growth and secretory activity begin. Breast also enlarge slightly. Axillary hair grow. Fine hair appear on upper lip. Deepening of voice occur at this time. Physical growth is accelerated and height production increases rapidly. Boys continue to grow even beyond the age of 18 years. Fertility develops soon after mid puberty in boys.

The mature reproductive organs of the male perform three major functions i.e. of hormones, spermatogenesis and secretions from glands. The hypothalamus and pituitary gland are closely inter-linked with function of the reproductive organs. .Hormonal function is carried out by specialised cells of the testes called interstitial cells. These cells secrete` the male hormone testosterone. Testosterone is necessary for normal development and activity of male organs. Spermatogenesis also takes place in the lining of seminiferous tubules. The secretions from the male accessory glands are as follows:

1. The semen - produced and released from testes
2. The seminal fluid - the seminal vesicle secrete a yellow fluid
3. The secretion from the prostate gland the combined secretion from the seminal glands provides a fluid that serves as a medium for sperm transport and as a favourable substance to sperm fertility.

The pH of semen varies 7.35 to 7.50. Semen is ejected from the male genital tract in an average volume of 3 ml. Each milliliter of semen normally contains 50 to 150 million spermatozoa.

So far we have discussed the anatomy and physiology of female and male reproductive systems in general.

4.0 SUMMARY

The male and female reproductive organs are important in understanding family planning. Procedures like IUD cannot be mastered without knowledge of female reproductive organ.

5.0 CONCLUSION

This unit provided you the information you need to know about human anatomy that is related to family planning

6.0 TUTOR-MARKED ASSIGNMENT

1. Describe the internal organs of female reproductive system.
2. List the internal female reproductive organs.

7.0 REFERRENCES/FURTHER READING

Beckmann, C. R. B., Ling, F. W., Herbert, W. N. P., Laube, D. W. & Smith, R. P. (2010); *Obstetric and Gynecology* (6th ed). New York: Wolters Kluwer Health.

UNIT 2 FAMILY PLANNING METHODS

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- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Family Planning
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 - 3.2.1 Insertion and Removal of Jadelle (Levonorgestrel Implant)
 - 3.2.2 Insertion and Removal of Implanon
- 4.0 Summary
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- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

The current population of Nigeria is 200,000,000 with annual increase of population of 3.5%. This is about the highest rate of increase in the world. This unit enables you to understand the needs of family planning, the methods and the roles of the public-community health nursing in the implementation of family planning.

2.0 OBJECTIVES

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

- outline the importance of family planning
- state different types of planning methods
- discuss the mode of action of the method
- discuss the roles of public-community health nurses in family planning implementation.

3.0 MAIN CONTENT

3.1 Family Planning: refers to practices that help individuals or couples to attain the following objectives including to:

- i). Avoid unwanted birth
- ii). Bring about wanted birth
- iii). Regulate intervals of pregnancy
- iv). Control the time of birth in relation to age of the parents
- v). Determine the number of children in the family

Family planning is basic human right. The scope involved sterility, sex education, screening for pathological conditions related to reproductive system and marriage counseling. The eligibility couples are defined as currently married wherein the wife is in reproductive age of 15-45years who need family planning services.

3.2 Contraceptions

These are methods designed to prevent conception. There is no ideal contraception suitable for all couples. Each has advantages and disadvantages that must be put into consideration when making recommendation. It is the duty of the Public-community health nurse to provide the information to the couples to make informed choice on utilization of family planning.

The conventional contraception includes the following:

1. Spacing method
 - Barrier method- This include physical,chemical and combined methods
 - Intra-uterine devices
 - Hormonal contraceptions
 - Post-contraception method
2. Terminal Method
 - Vasectomy (male sterilization)
 - Tubectomy (female sterilization)

Physical method

- 1) **Condom:** This is the most common and widely used by men all over the world. It also protects individuals from sexually transmitted diseases. It is for a single use and is worn on the erected penis before coitus. When it is correctly used is effective. Currently there is female condom that is also effective.
- 2) **Diaphragm:** It is made of synthetic rubber and is used by women. It is cup-like with a rim that is strengthened by a spring. It is inserted into the vaginal canal before coitus and it is left in place six hours after intercourse.
- 3) **Chemical Methods:** The chemical methods include foam tablets, foam aerosol, creams and Jellies and pastes. These products contain spermicides.
- 4) **Intrauterine Device (IUD):** It is the introduction of a specially designed device into the uterine cavity of a fertile woman who desires to prevent conception/ pregnancy for specific period of time.

This is classified into

- First generation IUCD: They are made up of inert materials from polyethylene. Lippes loop is S-shaped with a thread attached at the end that help to identify it and aids the removal.
- The second generation is made of metallic copper. It is a T-shape.
- The third generation IUCD are with progesterone which is released slowly into the uterus

The mode of action of IUCD is to cause biochemical changes in the uterus that alter the mucus secretion and impair the survival of the sperm in the vagina.

Purpose:

1. To avoid unwanted pregnancy
2. To space pregnancy

Requirements: Trolley Procedure**Top Shelf**

A Sterile Pock Containing the following:

1. 2 gallipots for iodine and swabs
2. 1 Artery forceps curved 8¹/₂ long
- 3 Uterine forceps
4. 1 single or multiple toothed vulselum (Tenaculum)
5. 1 pair dressing forceps
- 6 1 Pair of sponge forceps
- 7 1 I.U.D removal forceps (Alligator fang type 8'-I
- 8 1 Curette for biopsy
9. Sterile Scissors size 8'
10. Uterine sound
- 11 . Vaginal speculum (CUSCOs) medium and large
- 12 .Sterile water.

Bottom Shelf

1. A jar with cheatle forceps
2. Disinfectant
3. Mask
4. Receiver for soiled swabs
5. Angle poise lamp

Procedure

1. Explain procedure to the client to allay anxiety
2. Assemble requirements on the trolley
3. Put the client in lithotomy position in the insertion room and screen the client
4. Put-on mask
5. Swab vulva

6. Perform bimanual examination (vaginal examination)
7. Apply vaginal speculum, leave it in situ and inspect the cervix excluding any abnormality
8. Stabilize the cervix with tenaculum clamping at 10cm or 2pm direction to prevent haemorrhage
9. Use uterine sound gently to determine the depth of the uterus.
10. The bloody discharges leaves a mark of the depth on the uterine sound, but if done after the menstrual flow, apply a small quantity of contraceptive cream or jelly on its tip before inserting. (Correct sounding, should not be painful).
11. After sounding, withdraw gently and note the depth of the uterus.
 - a. For uterine depth less than 4.5cm or type of IUD. 4.5-6.5cm (copper T, or small' T-coil 6.5- 9.9cm) most IUD are acceptable type).
 - b. For uterine depth 10cm or more, use large with a backup.
12. Load the device appropriately into its tube following the makers guideline
13. Place the loaded tube alongside the uterine s and adjust the tube to the appropriate depth of the uterus using the adjuster *for* Copper T.
14. Lippies loop, may not need an adjuster because its firmly attached to the body of the barrel (Not in use in Nigeria).
15. Select the correct size of the lippes loop or saf T.coil that corresponds with the parity and depth of the uterus and load (Do not load and keep for a long otherwise the device will lose its memory). Copper T need no selection.
16. Hiding the tenaculum, apply a gentle outward pressure to strengthen the cervix
17. Insert, using proper technique of pushing in for lippies loop or withdrawal for copper T.
That is, for lippies loop push in to release the device.
18. For Copper T, hold the piston stationary, and retract the barrel (vice versa)
19. After inserting the device, withdraw the tube and piston
20. Unclamp the cervix
21. Trim the string and swab the cervix
22. Remove the vaginal speculum and push the string i the anterior or posterior fornix of the vagina.
23. Move the client backward and disengage the legs from the stirrups
24. Clean her buttocks and make her comfortable
25. Remove *all* equipment for washing and sterilization
26. Record the findings and the device into the client chart
27. instruct the client accordingly on how to check for the string
28. For checking the string, she is advised to wash her hands clean, in

- squatting position or lying down position, she should carry out a self vaginal examination usually before and after menses
29. No intercourse for 2 days after the insertion.
 30. Analgesic can be given for pain and the need for personal hygiene stressed
 31. For follow-up next appointment is 6 weeks. 2 appointment in 3 months, 3rd appointment in 6 months.
 32. Client should report early if she has pelvic pain, persistent painful intercourse, vaginal discharge, unusual vaginal bleeding or fever.
 33. Appointment card with necessary information should be given to the client.

NOTE: Methods for disinfecting instruments and IUDs:

1. Instruments are boiled for 5 minutes, if not soaked in disinfectant.
2. Do not use salvon (cetrimide) for sterilization as it is a weak disinfectant.

3.2.1 Insertion and Removal of Jadelle (Levonorgestrel Implant)

It is a long-acting reversible contraceptive implant design to prevent pregnancy. It is a two-rod implant developed in the 1980s by the Population Council for five years of continuous use (population council 2010) Jadelle acts by preventing the release of the ovum and also thickening the cervical mucus thereby blocking the sperm.

Purpose

1. To avoid unplanned pregnancy
2. To enhance child spacing (pregnancy)

Requirement

1. Examination table or couch
2. Sterile surgical drapes
3. Sterile gloves
4. Antiseptic lotion (povidone iodine or spirit)
5. Sterile maker (optional)
6. Local anaesthetic agent(1% lignocaine) epinephrine free
7. Needles & syringes,
8. Sterile gauze
9. Adhesive bandage (plaster)
10. Pressure bandage (crepe)
11. An applicator with the following parts:
 - i. Needle shield/needle
 - ii. Applicator seal
 - iii. Cannulo

- iv. Obturator support
- v. Obturator
- 12. Sharp proof container (Injection Safety Box)
- 13. Leak-proof container or plastic bag
- 14. Pregnancy test strip

Procedure

Pre — Insertion Task

1. Explain procedure to client
2. Encourage client to ask questions
3. Provide privacy
4. Check to ensure that her arm is thoroughly washed if not, swab the area of insertion with spirit or iodine swab
5. Wash hands, dry and don gloves
6. Place the sterile drape under the arm to be inserted with the Jadelle rod
7. Mark area of insertion 6 — 8cm above the elbow fold in a “V” pattern
8. Clean area with high level disinfectant e.g. povidone iodine
9. Change hand gloves and replace with another sterile gloves
10. Instruct assistant to hold the lignocaine vial
11. Draw up 2mls of 1% Lignocaine without epinephrine (local Anaesthetic)
12. Inject under skin (subdermal) and raise small wheal
13. Advance needle about 4cm and injects 1mL of local anaesthetic in each of two sub-dermal tracks
14. Wait for 2minutes before checking for Anaesthetic effect
15. Start skin incision if anaesthetic effect is present

Insertion Task

1. Using the new sharper disposable trocar, insert directly sub-dermally
2. While tenting the skin, advances trocar and plunger to mark (1) nearest hub of trocar
3. Remove plunger and load first rod into trocar with forceps (preferably) or with gloved fingers
4. Reinserts plunger and advance it until resistance is felt
5. Hold plunger firmly in place with one hand and slide trocar out of incision until it reaches plunger handle
6. Withdraw trocar and plunger together until mark (2) nearest trocar tip (do not remove trocar from skin)
7. Move tip to trocar away from end to the rod and hold rod out of the path of trocar
8. Redirect trocar about 15° and advance trocar and plunger to mark (1)
9. Insert second rod using same technique

10. Palpate rod to ensure that two rods have been inserted in a V-shaped distribution
11. Palpate to check that all rods are at least 5mm clear of insertion (if rod is protruding through point of insertion remove and reinsert)
12. Remove trocar only after insertion of the last rod

Post Insertion task

1. Remove drape and wipe client skin with antiseptic
2. Apply pressure dressing with bandage
3. Dispose implant trocar, needle, syringe in a sharp box before you remove gloves
4. Dispose waste materials (gauze, cotton wool etc). into a leak proof container or plastic bag.
5. Immerse both glove hands. 0.5% chlorine solution
6. Remove by turning inside out and place in leak proof container or plastic bag.
7. Wash hands thoroughly and dry
8. Complete client records (jadelle) card including drawing position of rods

Removal of Jadelle Implant

Jadelle implant is a Long Acting Reversal Contraceptive method of family planning inserted to last for duration of five (5) years. The implant may be removed at an time of the menstrual cycle for personal or medical reasons.

Requirement for the removal of Jadelle implant

1. Local anaesthetic
2. Needle and syringes
3. Puncture prove container
4. Scalpel
5. Two different types of forceps (mosquito and Crile)
6. Gauze
7. Antiseptic lotions
8. Gallipot
9. Kidney dishes
10. Adhesive
11. Cotton wool

Procedure

1. Explain procedures to patients
2. Obtain consent
3. Provide privacy
4. Provide lamination
5. Palpate to locate implant

6. Clean skin using forceps and sterile cotton wool soak into antiseptic control end
7. Wait for effect of anaesthetic
8. Make an incision of about 2 – 4mm with the scalpel below the end or bottom of the V
9. Cripple the end of the implant at the point when visible incision with the mosquito artery forceps
10. Remove the implant very gently (this take time more than inserting the implant may be nicked, cut or broken off during removal).
11. If removal prove difficult, the patient can be ask to return for a second visit after the incision have healed
12. Repeat same procedure for the 2nd rod
13. If patient wishes to continue with a new set of implant may be inserted using the same incision or use of opposite direction or hand
14. Tidy the equipment

3.2.2 Insertion And Removal of Implanon

It is a single thin, flexible and long-acting reversible contraceptive implant. It is about the size of a match stick and approved for 3 years of continuous use. It acts by preventing ovulation and thickening of cervical mucus to block the sperm.

Requirements

1. Examination couch
2. Sterile surgical drapes
3. Sterile gloves
4. Antiseptic solution
5. Sterile marker (optional)
6. Local anaesthetic (1% Lignocaine eprephine free)
7. Sterile gauze
8. Adhesive bandage
9. Applicator with the following parts:
 - (a) Needle shield
 - (b) Applicator seal
 - (c) Needle
 - (d) Cannula
 - (e) Obturator support
 - (f) Obturator
 - (g) Pregnancy test strip

Prior to Insertion

Prior to insertion, carefully read the instruction for insertion and removal as well as the full prescribing information.

Note:

1. Proper implanon insertion facilitates removal
2. Correct timing of insertion is important
3. Take history and perform physical examination including a gynaecological examination before implanon insertion
4. Ensure that the patient understands the risks and benefits of implanon before insertion
5. Provide the patients with a copy of the patient labeling included in package
6. Have the patient review and complete a consent form
7. Exclude pregnancy before insertion

Checklist for the implanon Insertion. Getting Reading

1. Check to be sure client has thoroughly washed and rinsed her entire non-dominant arm
2. Tell client what is going to be done and encourage her to ask questions
3. Position woman's arm and place clean, dry cloth under her arm
4. Mark position on arm for insertion of rod 6cm to 8cm above the target insertion point
5. Determine that required sterile or high level disinfected instrument implanon trocar with one rod is present.

Pre- Insertion Tasks

1. Wash hands thoroughly and dry with clean personalized towel or air dry
2. Put on sterile gloves on both hands (if powdered, remove powder from gloves fingers)
3. Prepare insertion site in a radial manner with antiseptic solution
4. Place sterile or high level disinfectant drape with a central hole over arm (optional)

Insertion Tasks

1. Draws 2cc of local anaesthetic (1% lignocaine without epinephrine and/or adrenaline) and inject just under skin to raise a small wheal
2. Advance needle towards the second marked point (4cm) and inject about 1ml of local anaesthetic in one sub-dermal track
3. Place used needles and sharps in container
4. Wait for 2 minutes and then check for anaesthetic effect before marking and then check for anaesthetic
5. Remove the sterile disposable applicator carrying implanon from buster pack
6. While keeping the shield on the needle, visually verify the presence of the implants is not seen. Tap the top of the needle shield against a firm surface to bring the implant into the needle
7. Following the visual confirmation of the presence of the implant, the implant is lowered back into the needle

8. Remove the plastic needle shield
9. Stretch the skin around the insertion site with thumb and index finger
10. Insert the tip of the needle at about 20⁰ angle
11. Release the skin
12. Lower the applicator to a horizontal position
13. Lift the skin with the tip of the needle, keeping the needle in the sub-dermal connective tissue
14. While lifting the skin, gently inserts the entire needle in the direction of the 2nd marked point keep the applicator parallel to the skin
15. Break the seal of the applicator
16. Turn the rounded end of the obturator a quarter turn, about 90⁰
17. Hold the obturator against the client arm with one hand and with the other hand, slowly draw the needle out of the arm, never pushing against the obturator
18. Check the needle to make sure the implant is absent, after retraction of the cannula, the grooved tip of the obturator should be visible
19. Verify the presence of the implant by palpating the skin. Check to make sure that the lower end of the implant is at least 5cm from the insertion point
20. Check the insertion site of bleeding (if bleeding put pressure with gauze)
21. Apply a sterile gauze to insertion point and hold in place with surgical tape
22. Wrap the arm with pressure bandage

Post Insertion Tasks

1. Before removing gloves, disposed of the applicator, needles, syringe in a sharp box and any used instrument (Gallipot, bowl, kidney dish etc.) in 0.5% chlorine solution for 10 minutes
2. Dispose other waste materials e.g. cotton wool, gauze, etc. by placing in a leak proof containers or plastic bag.
3. Immerse both gloved hands in 0.5% chlorine solution, Remove gloves, by turning inside, out and place in a leak-proof container of plastic bag
4. Wash hands thoroughly and dry
5. Fill out the implanon user and give it to the client
6. Complete client record including noting in which arm the implanon was inserted.

Removal of Implanon

1. Receiver with swabs
2. A curved mosquito artery forceps
3. Surgical blade

4. Lignocaine
5. Syringe and needle
6. Antiseptic lotion e.g Savlon
7. Sterile dressing
8. Adhesive
9. Sterile gloves

Procedure

1. Welcome client and make her comfortable
2. Explain the procedure to the client
3. Help her to adopt a comfortable position
4. Put on sterile gloves after washing and drying hands
5. Clean the point of insertion with antiseptic lotion using sterile swabs
6. Using your sterile hands, gently push the implanon towards the incision until the tip is visible
7. Then grasp the implant with forceps (curve mosquito artery forceps) and pull it out gently
8. If it encapsulated, make an incision using a sterile with 1mI lignocaine into the tissues sheath
9. Then remove the implanon with the forceps
10. Apply pressure on the incision site with sterile swabs
11. Dress the wound with sterile dressings and apply plaster
12. Make the patient comfortable
13. Advice on care of the wound
14. Return your use equipment and dispose the waste as directed above.

SELF-ASSESSMENT EXERCISE

List the types of family planning

4.0 CONCLUSION

Family planning has been defined and the importance presented. The different methods like barrier and chemical methods with their made of actions explain.

5.0 SUMMARY

This unit provided to you the knowledge needed to carry out family planning service to those in need of it in your community.

6.0 TUTOR-MARKED ASSIGNMENT

1. State different types of planning methods
2. Discuss the mode of action of the method

3. Discuss the roles of public-community health nurses in family planning implementation

7.0 REFERENCES/FURTHER READING

Beckmann, C. R. B., Ling, F. W., Herbert, W. N. P., Laube, D. W. & Smith, R. P. (2010); *Obstetric and Gynecology* (6th ed). New York: Wolters Kluwer Health.

MODULE 2 CHILD HEALTH

Unit 1	Neonate
Unit 2	Infant
Unit 3	Toddler
Unit 4	Pre-school Age
Unit 5	School Child

UNIT 1 NEONATE

CONTENTS

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	The Neonate
3.1.1	Physiological Status of Neonate
3.1.2	Assessment of the Neonate and Nursing Management
3.1.3	Common Health Problems of Neonate
4.0	Summary
5.0	Conclusion
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1.0 INTRODUCTION

The child has to pass through various stages of growth and development. Safe childhood is the essence of child survival and family welfare in primary health care. In this module you will learn about development and care of the neonate and study the growth and development of infant and toddler. Growth and development of preschool and school age will be explained.

2.0 OBJECTIVES

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

- describe physiological status of neonate
- advise on care of neonate
- describe the growth and development of neonate.

3.0 MAIN CONTENT

3.1 The Neonate

The neonatal period is from birth to 28 days. The neonate after birth has to make physiological adjustment to extra uterine environment. Health status of newborn depend; on pre-natal development. The pre-natal development, physiological status, assessment and common problems of neonate are briefly described in the following subsections.

3.1.1 Pre-natal Development

Development from zygote to fully mature infant is due to two process:

1. Growth that result when cells divide and synthesize.
2. Differentiation by which these cells are systematically organised to form all the tissues necessary to assure an organised, coordinated individual.

The development process is as follows:

Embryogenesis

Soon after fertilization, the zygote changes into morula stage, and followed by blastocyst stage. The outside layer of blastocyst is called trophoblast. The collection of cells inside the blastocyst is called inner cell mass. Implantation occurs on the 9th day. Villous structure at the point of attachment forms the placenta and chorion. Embryonic cells form the amnion.

Foetal Growth

Foetal growth is accomplished by two processes - Hyperplasia and Hypertrophy. Most rapid linear growth takes place: during mid-foetal life. The most rapid gain in weight occurs in late foetal life.

Environmental Factors

Before birth unfavourable maternally imposed environment may produce long range health problems in the infant or child. These factors are maternal age, chemicals, infections, radiations and mechanical factors.

3.1.2 Physiological Status of Neonate

New-born period or neonatal period is the first 28 days after birth. The first 24 hours of birth are the most critical period during which respiration is initiated. Heat loss can also occur through conduction and convection and neonate has to adjust to extra uterine life.

The physiological status of new-born is given below:

Respiratory system: Respiration in new-born is abdominal. The rate is generally 30-50 breaths per minute.

Haemopoietic system

The average red blood cells count of the new-born is 5 million/ mm³. The average hemoglobin value at birth is 16-18 g/100 ml of blood. The levels of serum bilirubin from the breakdown of red blood cells rises due to immaturity of liver of new-born.

Fluid and electrolyte balance

The infant has higher ratio of extracellular fluid than the adult and higher level of total body sodium chloride and a lower level of potassium.

Thermoregulation

The major sources of body heat are heart, liver and brain. There is an additional source unique to neonate, that is brown fat. It has a greater capacity for heat production.

Gastro-intestinal system

The stomach has a capacity of 90 ml. The intestines are longer in relation to body size. Regurgitation is common due to immature cardiac sphincter. Enzymes are adequate to handle digestion. The liver is most immature.

Renal system

All the structural components are present in the renal system. But their functional deficiency exists in the kidneys.

Integumentary system

All the structures within the skin are present but many of the functions are immature. The protective function of the skin is fairly efficient.

Musculoskeletal system: Contains larger amounts of cartilage than ossified bones. The process of ossification is rapid during the first year.

Defences against infection

The infant is born with several defences against infection and is protected against major neonate diseases.

Endocrine system

Is adequately developed. Maternal sex hormone causes engorgement of infant breast which secretes milk during the first few days of life. Female new-born may have pseudo menstruation due to sudden drop of the level of oestrogen and progesterone.

Neurological system

At birth, the nervous system is incompletely integrated. Most of the neurological functions are primitive reflexes.

Sensory functions

1. **Taste**
The lips and tongue are very sensitive. The sense of taste is not very well developed, but babies seem to prefer sweeter food.
2. **Hearing**
Loud noises cause the baby to cry, but the ability to discriminate between sounds is not developed for two or three months.
3. **Sight**
True vision is not present at birth, but at one month the baby looks towards bright light. The eyes do not focus properly for some weeks.

3.1.3 Assessment of the Neonate and Nursing Management

The assessment includes physical and neurological assessment as given below. We shall briefly discuss this here.

The physical assessment

1. Head circumference: 33 to 35.5 cm
2. Chest circumference: 30.5 to 33 cm
3. Crown to rump length: 31 to 35 cm
4. Head to feet length is 48 to 53 cm
5. Weight 2700 to 4000 g.

Vital signs

1. Temperature: 35.5°C to 37.5°C
2. Pulse: 100 to 140 beats per minute
3. Respiration: 30-50 breaths per minute.

General appearance**Posture**

Is one of flexion, a result of inutero position.

Colour

The infant becomes red when crying.

Skin

The skin is smooth and puffy. The skin is covered with vernix caseosa, lanugo is present on the skin.

Milia as tiny white papules appear on the cheeks. Several colour changes may be noted on the skin.

Head

The nurse palpates the skull for all patent sutures and fontanelle noting the size, shape, moulding and for any presence of Caput succedaneum and cephalohaematoma.

Eyes, ears and nose

Are examined to detect abnormalities.

Mouth

The nurse inspects the mouth and looks for cleft lip and palate.

Neck, chest, abdomen, genitalia, lower extremities and back are examined to locate congenital abnormalities especially for imperforated anus.

Neurological Assessment

Several reflexes such as sucking, gagging, resting, corneal and papillary reflexes are usually observed during physical examination. Several other reflexes are seen such as moros reflex, tonic neck and startle reflex.

Nursing Care of the Neonate

We have discussed the physical and neurological assessment of the new-born. Now we shall talk briefly of nursing management of neonate.

The objectives/principles of care of the new-born include:

1. Establishment and maintenance of air way
2. Maintenance of stable body temperature
3. Protection from infection
4. Provision of adequate nutrition
5. Promotion of infant parent attachment (child-parent bond)

Nursing care of neonate can be divided into two periods: immediate care and delayed care.

Immediate care includes the following:**Vital signs**

Temperature, heartbeat and respiration should be observed after every 15 minutes immediately after birth, for the first hour; then 2 hourly for the next 5 hours and every 4 hourly until 24 hours of age. Rectal temperature is preferable to axillary temperature.

Observe colour, muscle tone and reflexes

Apgar Scoring chart may be used to evaluate the condition of the new-born for the first minute and 5 minutes after birth.

Bathing

Should be done after 24 hours after the vital signs are stabilized. Bathing time is an excellent time for observations of infant behaviour such as irritability, state of arousal, alertness and muscular activity.

Umbilical cord: The umbilical cord separates through the process of drying and usually falls off between 7-10 days. The umbilical stump is an excellent medium for bacterial growth. Therefore, it should be kept clean and dry. Instruct parents regarding proper umbilical care.

Infant nutrition

Although heredity determines the infant's growth but nutrition influences the attainment of the growth. Hence optimum nutrition during foetal life and infancy should be the goal for each child. In general, two methods of infant feeding are used: that is, breast feeding and artificial feeding. Breast milk is the best and most perfect food for infant nutrition.

Identification and registration of the neonate.

Common Health Problems of Neonate

The neonate can have following problems after birth.

Hyperbilirubinaemia

Hyperbilirubinaemia may occur due to physiological jaundice and Rh or ABO incompatibility.

Neonatal hypoglycaemia

This condition of low blood glucose (less than 30 mg/100 ml.) Commonly occurring during the first 48 hours of life, is a hazardous state that must be recognised and dealt with at once. Early feeding of babies has reduced the incidence of hypoglycaemia.

Hypothermia

The normal baby's temperature may fall to 35.5°C or less within one hour of birth, unless precautions are taken to avoid chilling, the new born may go into hypothermia with the temperature falling below 35.5°C.

Sepsis

Within few hours of birth, staphylococci generate colonies on the baby's skin and in the nasal passages: the umbilicus becomes infected, more readily than nostrils and skinfolds such as axilla and groin. Any person suffering from respiratory infection or diarrhea, or one who has any septic focus should not be allowed to come in contact with babies.

Eye infections

The baby's eyes may be infected during his passage through the birth canal, or later by the mother's hands. A number of cases of neonatal

conjunctivitis are due to the B-Proteus and staphylococci which produces a yellow discharge. Pneumococci and streptococci are sometimes found but gonococcal infection is the most dreaded infection.

Oral thrush

Oral thrush is characterised by white patches in the mouth. The causal organism is the *Candida albicans* which is present in the vagina of some women.

Kangaroo Mother Care

Requirement

- ❖ Baby in socks, nappy and a cap
- ❖ Front-open top
- ❖ Baby shawl
- ❖ 2 bowl with clean and Soapy water
- ❖ Hands towel

Procedure

- Explain the procedure to the mother
- Gather necessary equipment
- Wash hand with soap and water and dry
- Ensure warm and clean environment
- Observe baby's general condition, including the vital signs to ensure fitness
- Dress the baby in socks, napkin and a cap
- Place the baby between the mother's breast
- Secure the baby on the mother's chest with a cloth
- Put a blanket or shawl on top for additional warmth
- Instruct the mother to put on a front opened top to maintain an effective skin to skin contact
- Instruct mother to keep baby up right when walking or sitting
- Counsel the mother on the importance of having the baby in a continuous skin to skin contact twenty four hours daily
- Advise the mother to sleep in half sitting position in order to maintain the baby in vertical position.

SELF-ASSESSMENT EXERCISE

Outline the common problems of a neonate

4.0 CONCLUSION

The characteristic of neonate as well as those health challenges are very important in the understanding of their care. The basic care needed by neonates are important in prevention of neonatal mortalities.

5.0 SUMMARY

This unit focused on providing you the essential knowledge needed to care for neonates.

6.0 TUTOR-MARKED ASSIGNMENT

1. Describe physiological status of neonate
2. Outline the advice you will provide to mother on the care of neonate

7.0 REFERENCE/FURTHER READING

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UNIT 2 INFANTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Growth and Development
 - 3.1.2 Motor Development
 - 3.2 Health Promotion
 - 3.3 Common Health Problems
- 4.0 Summary
- 5.0 Conclusion
- 6.0 Tutor Marked Assignments
- 7.0 References/Further Reading

1.0 INTRODUCTION

We have discussed the care of the new-born. Now we shall learn about the physical growth of the infant, its health promotion and health problems. Here we shall discuss the preventive and promotive aspect in the care of an infant, the growth and development aspect will be discussed in detail in course (Paediatric Nursing).

2.0 OBJECTIVES

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

- discuss the growth and development of infants
- state the health promotion programs for infants
- describe common health problems of infants.

3.0 MAIN CONTENT

3.1 Growth and Development

The first year of life is characterized by rapid changes in body size, proportion and function. The infant increases in length dramatically during the first year. By the end of the first year the infant's increase in length is 50 per cent greater than at birth. The birth weight trebles. Physiological changes occur in all the systems of the body. Intellectual growth takes place gradually. The child starts interacting with his environment. Few teeth appear the child crawls, sits and tries to stand.

3.1.2 Motor Development

Motor development involves the activities of muscles which lead to changes in posture, movement and coordination of movement with the infant's developing sensory apparatus. Motor follows.

Cephalocaudal development that is infants gain control of their heads and upper torsos before they can effectively use their arms.

It also follows proximodistal pattern and differentiation that is; infants can control their trunks and shoulders before they can use their hands and fingers. The development of hand skills is a clear example of proximodistal development.

Motor development proceeds in an orderly sequence but there are considerable variations in the timing at which children first engage in the activities. Although the sequence mostly remains the same, some children will skip a step. The dynamic systems theory of motor development views new motor skills as reorganisation of previously mastered skills which leads to more effective ways of exploring and controlling the environment. Each new skill is a joint product of central nervous system development, the body's movement possibilities, the child's goals and environmental supports for the skill. According to the working of the systems theory, mastery of motor skills involves acquiring increasingly complex systems of action. When motor skills work as a system, separate abilities blend together, each cooperating with others to produce more effective ways for example, control of the head and upper chest combine into sitting with support, kicking, rocking on all fours and reaching combine to become crawling. Then crawling, standing and stepping are united into walking (Thelen, 2000).

In addition, the theory supports the fact that motor development cannot be genetically determined. The reason for this is the fact that it is motivated by exploration and the desire to master new tasks. Heredity just maps it out only at a general level. The following factors: central nervous system development, the body's movement capacities, the goals the child has in mind and the environmental support for the skill determine/affect each new skill.

Therefore, a new skill is a joint product of the factors listed. It should be noted that the factors that induce the change vary with age. For example, in the early weeks of life, brain and body growth are especially important as infant achieve control over the head, shoulders and upper torso. Later the baby's goals (crossing the room) and environmental supports (parental encouragement) play a greater role.

This theory says that when a skill is first acquired infants must relearn it e.g. a child trying to crawl, often collapse on his/her tummy, move backward and later figure out how to propel self forward by alternatively pulling with arms and pushing with feet, belly-crawling, in various ways, for several weeks. Motor mastery involves intense practice, for example in learning to walk, toddlers gradually make their unsteady steps change to a larger stride, move their feet closer together, toes point to the front and legs become symmetrically coordinated.

3.2 Health Promotion

Health promotion during first year includes the following aspects: i) nutrition guidance, ii) immunisation, iii) safety and security.

- i) **Nutrition guidance:** Infant nutrition and feeding habits or ways are highly individualised. Breast milk or cow's milk are excellent sources of nutrition for the infant for the first three months of life. While giving supplementary milk, teach methods to develop the habit of using cup and spoon and not to use feeding bottle. Supplementation of mineral or vitamins is dependent upon the type of formula given. After three months, milk does not meet the nutritional requirement of the infant, so solid foods should be introduced as discussed below.
- a) **Introduction of solids:** The main purpose of initiating the feeding of solid foods to the infant is to provide adequate iron; cereal is an excellent source of iron. The type of iron added to the commercial formula is better absorbed. Solid foods facilitate adequate chewing and digestion of foods in later life. Cereal is introduced first because of its high iron content. Preparing food at home is simple and inexpensive. Spoon should be used to feed the child. New foods should be introduced to small amounts and singly at intervals of 4-7 days. The introduction of the infant to solid foods is called weaning.
- b) **Weaning:** is the process of giving up one method of feeding for another. It is psychologically significant because the infant is required, to give up a major source of pleasure and gratification. There is no fixed time or weaning, but most children show signs of readiness at the age about five to six months. Over-feeding should be avoided. Obesity in infancy may predispose to obesity in later life.
- ii) **Immunisation:** Primary schedule of immunization begins during infancy and is completed during early childhood with the exception of booster doses. The discussion on childhood immunizations for diphtheria, tetanus, pertussis, polio, measles, mumps and rubella will be presented in Unit 11.
- iii) **Safety and Security:** Accidents are a major cause of death during infancy. Common accident hazards are suffocation, falls, burns,

poisoning, aspiration of foreign object, road accidents and drowning etc. You must be aware of possible causes of injury and plan anticipatory preventive teaching for the parents. Teething, thumb sucking, sleep etc. are some of the concerns of parents requiring extension of guidance to them.

3.3 Common Health Problems

The infant's immature physiological system predisposes him/her to several potential health problems during the first year. Some of the important problems are listed as under.

i) **Nutritional Deficiencies**

- a) Iron deficiency anaemia
- b) Protein calorie deficiencies - Kwashiorkor - Marasmus
- c) Vitamin deficiencies like night blindness, scurvy, rickets

ii) **Allergy**

It is an adverse reaction to a foreign substance or an antigen. During infancy eczema, nutritional allergies and seborrheic dermatitis can occur.

iii) **Colic**

Colic is described as paroxysmal abdominal pain or cramping that is manifested by loud crying. It is more common in the infant under the age of three months. Causative factors may be too rapid feeding, over-eating and swallowing excessive air. Colic is considered a mild ailment but can have an intense emotional impact on a colicky infant.

iv) **Failure to thrive**

Is also referred to as maternal deprivation syndrome. There is lack of physical growth due to lack of emotional and sensory stimulation from the mother.

v) **Sudden infant death**

Syndrome is also referred to as crib death between the ages of 2 weeks to 1 year. The airway gets blocked at the level of vocal cords from laryngospasm. There are many theories regarding the etiology of sudden infant death. Parents should be explained that it cannot be predicted or prevented.

vi) **Diarrhea**

Infant diarrhea is common due to unhygienic feeding habits and drinking unsafe water.

viii) **Acute respiratory infection**

This is common where the child is unprotected from the natural elements of environment such as, cold, heat, rain, wind etc. It becomes serious if immediate care is not given.

SELF-ASSESSMENT EXERCISE

What are the health promotion program for infants?

4.0 CONCLUSION

Infant as a special group has their own characteristic in term of growth and development. You as a nurse utilize these characteristic in their care. Mother are given health education based on their needs.

5.0 SUMMARY

The on- going lecture is focused on the care needs of the infants. You have been equipped on how to go about to meet these needs of the infant

6.0 TUTOR-MARKED ASSIGNMENT

- 1 Discuss the growth and development of infants
- 2 State the health promotion programs for infants

7.0 REFERENCES/FURTHER READING

Moyse, K. (2009). *Promoting Health in Children and young people. The role of the nurse*. Oxford: Wiley- Blackwell Publication.

Parizkova, J. (2010). *Nutrition, Physical Activities and Health in Early life*. New York: CRC Press.

De Sevo, M. R. (2015) *Pediatric Nursing*. Philadelphia: F A Davis company.

UNIT 3 THE TODDLER

CONTENTS

- 1.0 Introduction
- 2.0 Objective
- 3.0 Main Content
 - 3.1 Growth and Development
 - 3.2 Health promotion and special characteristics of toddlers
 - 3.3 Cognitive Development in Children
 - 3.4 Piaget's Theory of cognitive Development
 - 3.5 Assimilation in Cognitive Learning:
 - 3.6 Accommodation in Cognitive Development
- 4.0 Summary
- 5.0 Conclusion
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

The "terrible twos" has been used to describe the toddler's years from 12 months to 24 months of age. It is a time of intense exploration of the environment. You must understand the dynamics of behavior in order to help parents to deal effectively with the tasks of this age. The growth and development patterns of toddler are given below.

2.0 OBJECTIVES

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

- discuss the changes in growth and development of toddlers
- describe the special characteristics of toddlers
- outline health promotion programs for toddlers
- discuss piaget's theory of cognitive development
- define the terms assimilations and accommodations in cognitive development

3.0 MAIN CONTENT

3.1 Growth and Development

The growth and development of the toddler has been explained under:

i) **Development Tasks**

The toddler is faced with the mastering of several important tasks. Toddler period builds on previously acquired needs and acquired completion of tasks. The toddler has the need for self-esteem - the desire to feel important, in control, competent in his/her own way. The toddler's ability to control his/her environment is greatly enhanced by his/her increased motor skills and energy. The birth of a new sibling has special significance for the toddler in his/her quest for autonomy. There is development of ego which may be thought of as reason or common sense. It is evident that the child is able to tolerate delayed gratification. There is also rudimentary beginning of super ego. Within the psychosexual framework the anal zone becomes the center of child's physical, emotional and psychological activities. Pleasure comes from moving his bowels. Cleanliness of toileting should not be over-emphasised as this may make the toddler tense.

ii. **Biological development**

Biological development and maturation of body systems is less dramatic during early childhood. Physical growth slows considerably in toddlers as compared to the infant.

iii) **Neurological development**

By the end of the first year all the brain cells are present but they continue to increase in size. Visual ability is fairly developed by the end of the first year and undergoes refinement until the age of 6 years. The senses of hearing, smell, taste and touch become increasingly well developed.

iv) **Musculoskeletal system**

Bone growth continues to be rapid. More than 25 ossification centres appear during the second year. Growth in height is mainly due to elongation of legs, the feet develops normal arches.

v). **Dentition**

By one year of age most children have between six and eight temporary teeth -- the upper and lower central and lateral incisors: 'Dental hygiene can be started when the first tooth erupts.

The defense mechanism is much more efficient in the toddler than in infant.

- vi) **Adaptive behaviour**
Gross and fine motor behaviour: The major gross motor skill during the toddler period is the acquisition of locomotion. Fine motor development is demonstrated in increasingly skillful manual dexterity.
- vi) **Language behaviour**
Increasing levels of comprehension develop. By the end of two years the child acquires 300 words. The child uses multi-word sentences.
- vii) **Intellectual development:** By the beginning of the second year the toddler 'thinks' and 'reasons', things out. There is deliberate trial and error experiment to produce certain results. The mental abstracts of time, space and causality begin to have meaning.

3.2 Health Promotion and Special characteristics of Toddlers

As a health care provider, you have to teach parents how to ensure the optimum development of their child according to the following guidelines.

- i) **Developing a sense of autonomy**
Give children opportunity to assert themselves. Appropriate limit setting and discipline are essential. Discipline is a positive, necessary component of child rearing. A child's wants and needs may be restricted. Unrestricted freedom is a threat to their security and safety.
- ii) **Temper Tantrum**
Children may assert their independence by violently objecting to discipline. It is best to investigate temper tantrums and other forms of indiscipline which can occur during such as meal times, bedtime and toilet training. Sibling rivalry is a crisis for even the best prepared toddler.

Health Promotion during the Toddler Years

Nutritional requirement: Calorie requirement for toddler is 100 Kcal/kg; Protein 2.0 gm/kg; Fluid 125 ml/kg. Vitamins requirement remains the same as in the case of the infant. The need for minerals, iron, calcium and phosphorous is still high. Health Hazards. You should also teach the parents about the prevention of common accidents to the toddler. These can be:

1. Road accidents
2. Drowning
3. Bums
4. Poisoning
5. Aspiration and asphyxia
6. Cuts and abrasions

3.3 Cognitive Development in Children

Definition of Cognition: The word cognition has its roots in the Latin word “cognoscere” which means “to know”. The mind is the spring board of knowing so the development of the mind falls within the cognitive domain. Cognitive domain has many overlapping components such as reasoning, concepts, memory and language. Each of these aspects has specific characteristics and patterns. Cognitive development therefore is the gradual and orderly changes by which mental processes become more complex and sophisticated. In other words, cognitive development can be viewed as the changes in intellectual abilities which include attention, memory, academic and everyday knowledge, problem-solving, imagination, creativity and language.

3.4 Piaget's Theory of Cognitive Development

Piaget's theory of Cognitive development states that children actively construct knowledge as they manipulate and explore their world. According to him people form mental concepts about their world regardless of age. These concepts about the world, he called „Schemas“. These schemas are general ways of thinking about or interacting with things in the environment. Piaget noted that our thinking processes change radically, though slowly from birth to maturity because we constantly strive to make sense out of the world. He identified four (4) factors affecting this radical change. They are: biological maturation, activity, social experiments and equilibration. These factors interact to influence changes in thinking.

- (1) He explained maturation to be the unfolding of the biological changes that are genetically programmed. There is little or no external or environmental impact on this aspect of cognitive development. To him, cognitive development follows a predictable pattern of maturation as determined by biological (hereditary) factors.
- (2). In activity, physical maturation helps the increasing ability to act on the environment and learn from it. The activities generated such as exploration, observation and organising of 28 information by maturation enables us to alter our thinking processes at the same time.

- (3). According to Piaget, cognitive development is influenced by learning from others, that is social transmission (social experiments). We reinstate the knowledge already gathered from the cultural environment.
- (4). The fourth factor – equilibration will be discussed in the next unit as it is closely related to imitation and accommodation.

Jean Piaget believed that experiences within the environment are key factors influencing the developing mind. He provided a biological explanation for the connection between the developing mind and the developing brain. He also believed that environment plays a vital role throughout the course of cognitive development.

3.5 Assimilation in Cognitive Learning

Assimilation takes place when people use their existing schema to make sense out of objects or events in their world. Assimilation involves trying to understand something new by fitting it into what we already know. In other words, if new information or experience can be incorporated within an existing schema, then the process of assimilation occurs. Cognitive assimilation therefore refers to the process by which someone responds to new objects or events according to existing schema or ways of organising knowledge.

3.6 Accommodation in Cognitive Development

A new experience or information cannot easily fit into an existing schema. In that case, the existing schema may be changed or a new schema may be created to incorporate the new event, information or experience. This process is called accommodation. In other words, accommodation is the modification of existing schema to permit the incorporation of new events or knowledge. Piaget believed that assimilation and accommodation are adaptive mental processes that occur spontaneously and continuously to help individuals make sense of the world. They are lifelong processes but not deliberate mental processes (Estes, 2004).

From Piaget's theory, we learnt that the actual changes in thinking take place through the process of equilibrium (that is the act of searching for a balance). This is the source of intellectual motivation and it lies at the heart of the natural curiosity of the child.

SELF-ASSESSMENT EXERCISE

State Piaget theory of cognitive development.

4.0 CONCLUSION

Toddler is an important stage in life of a child. The "terrible twos" has been used to describe the toddler's years from 12 months to 24 months of age. They have special characteristic that predispose them to health challenges. You are to understand these peculiar nature of toddler in other to be able to help them and their care givers.

5.0 SUMMARY

This unit has provided you an in-depth knowledge to enable you care for this sub-group in the community.

6.0 TUTOR-MARKED ASSIGNMENT

1. Outline health promotion programs for toddlers
2. Discuss Piaget's theory of Cognitive Development
3. Define the terms assimilations and accommodations in cognitive development

7.0 REFERENCES/FURTHER READING

- Moyse, K. (2009). *Promoting Health in Children and young people. The role of the nurse*. Oxford: Wiley- Blackwell Publication.
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UNIT FOUR PRE-SCHOOL AGE

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Growth and Development
 - 3.1.1 Biological Growth
 - 3.1.2 Cognitive Development
 - 3.1.3. Psychosocial Development
 - 3.2 Play
 - 3.2.2 Types of Play
- 4.0 Summary
- 5.0 Conclusion
- 5.0 Tutor Marked Assignments
- 6.0 References/Further Reading

1.0 INTRODUCTION

Pre-school age are emerging as creative persons. This is also a time for changes in the parent-child relationship. Growth and development, psychosocial development and play is described in the following subsections.

2.0 OBJECTIVES

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

- describe the grow and development of a pre-school child
- discuss the psychological development of a pre-school age
- outline types of play.

3.0 MAIN CONTENT

3.1 Growth and Development

3.1.1 Biological Growth

Children in the pre-school years grow relatively slowly, they become taller and thinner.

- i) **Weight and height**
The pre-school age gains approximately 1.8 kg per year. Growth and height occur at a fairly steady pace. Sex related differences in weight and height are insignificant in the pre-school period.
- ii) **Body proportions:** A pre-school age looks like an adult because of skeletal maturation.
- iii) **Dentition**
Changes in dentition are few during the pre-school years. Dental carries are most common during the pre-school period.
- iv) **Integumentary system**
Dry skin continues to be a problem because of the minimal amount of serum production. The hair continues to become coarser, darker and straighter.
- v) **Blood value**
During pre-school years, fat replaces the red bone marrow of the long bones.
- vi) **Respiratory system**
When respiratory tract infections occur, they are localised in the upper tract. Tonsils and adenoids remain large and should not be removed.
- vii) **Immune system**
Adult level-immunoglobulin A (IgA) are reached during the pre-school years.
- viii) **Nervous system**
Cerebral dominance is achieved. Co-ordination and the ability to voluntarily control movements is increased significantly.
- ix) **Sensory development**
The development of auditory structures is complete by the end of pre-school years. The other senses of taste, smell and touch continue to develop. In addition, children experience pleasurable feelings associated with touching their bodies.

3.1.2 Cognitive Development

Mental powers develop rapidly between 3-6 years. At the beginning of pre-school, they remain in the pre-conceptual phase. They devote a great deal of time to imitation and symbolic play. During this period children are very rigid in their demands. They have great difficulty in disentangling an object from its background, a problem that has been termed field dependency. From the age of 4 years children are in the stage of mental development which is described as intuitive phase. Children use numerous concepts. Children's attention span, level of interest and ability to communicate and interact with the environment to facilitate rapid acquisition of concepts and knowledge, increases. Pre-school children become involved in the formation of new concepts. They tend to define objects according to their use, e.g., a bed to sleep. Perception of time and

space is fairly good in the pre-school child. Reasoning and generalization in their own thinking is also developed.

Memory is influenced by the levels of perceiving and conceptualizing, modes of attending and capacity for extracting meaning from the situation. The memory of pre-school children can be improved through the intervention of parents, teachers or nurses. Language development proceeds at a fast pace during the pre-school years. At the age of two years the child has a vocabulary of about 300 words. At the age of six this has grown to 8000-14000 words. There is also a steady increase in the number of words used in a sentence.

3.1.3 Psychosocial Development

Interdependency in all spheres of development is again demonstrated in the pre-school child. Intelligence and reason play a large part in the development and maturing of the capacities of the ego. With the increase of mental and physical powers, the ego is assisted in its function of testing reality through interaction with and exploration of the environment. A child's ego becomes strengthened through relationships with children and adults.

The areas of psychosocial development are described below.

i) **Identification with parents**

Identification refers to the process whereby a pre-school child begins to behave like the parent of the same sex. Identification is facilitated by dependency on parents and by conscious awareness of parental expectations related to cultural standards of behaviour and sex role identity. Identification is also furthered by acquisition of attributes or skills currently defined masculine and feminine behaviour; children's perceptions that others regard them as possessing a particular sex role; experiencing the parents as powerful and significant nurturant who are in command of the desired goal such as power and love.

ii) **Conscience development:** Through identification, the child may come to resemble not only what the parent is, but also what the parent wishes the child to become. Parents' standards and ideals become internalized in the child's character, so that the child is no longer as dependent on the parents for behaviour regulation. With the development of conscience or superego, older children are able to resist temptations in the absence of parents. They begin to feel guilt for their misdeeds.

iii) The internalization of moral standards involves three different components.

- Behavioural
- Emotional
- Judgmental

The child's conscience becomes modified in later stages of development, though meeting and adapting to the standards and conversions of his or her group, peers, teachers and eventually the wider community. Development of Moral Judgment: As children begin to interact with others and acquire increasing cognitive capacity to define situations, their reasoning for moral action becomes more mature. During the pre-school and early school years, children view rules passed down by their parents as fixed and absolute. As children's experiences increase, their moral judgements progress toward more internal and subjective values.

iv) Socialisation and Social relationships

During the pre-school period, children identify with their own particular culture and adopt its value, belief and norms. Family structure, educational institutions and child rearing practices vary among societies. The culture in which children grow up determines both the content and the methods of socialization of its members.

During pre-school period parents continue to act as the major agents of socialization of children. In school, children can learn to become more independent and to express feelings with greater freedom because relationships to other adults are less emotionally charged than the relationship with parents. In a group, children's potentials for socialisation can unfold, and the teacher can help them to turn to playmates for release of affectionate feelings. When children succeed in making friends with other children in the group, disappointment over family relationships becomes more tolerable. For many children, a pre-school experience provides the first opportunity to interact with children from different socioeconomic, cultural, ethnic and religious backgrounds. Optimum health is also vital to children beginning a new experience. Health problems have a direct bearing on the child's capacity for adjustment and ability to handle this new experience constructively.

Adjustment to pre-school experience is usually gradual. Children have different method of coping with the unfamiliar situation. Some children plunge into new situation aggressively and others are passive at first and need to survey the situation from a distance before entering into group activity.

v) Development of sex role

As the child begins to behave like the parent of the same sex, he or she begins to experience some of the emotions as the parent. For example, while cuddling a doll the girl may feel warmth, happiness, and pride the emotions her mother felt while caring for her. The boy may experience pride when he learns to throw a ball like his father and receives praise for his accomplishment.

Gender role of sex typing is important to most parents in the socialization of their children. From the time of birth they may have given differential treatment to their child according to sex, so that the child learns, throughout early childhood that particular behaviours and mannerisms are expected of sex role identity in a particular culture. Older sibling and peers also influence the child's sex role training, and can act as models. For instance, boys with older sisters are more likely to exhibit greater feminine characteristics whereas the reverse is true for girls with brothers.

vi) Development of body image:

When children begin to distinguish themselves as separate persons, they begin to, form a mental image of themselves and their bodies. They also begin to recognize and respond to parental pride or disappointment in their appearance and abilities. Vision plays a part in the developing body image. When first viewing themselves in a mirror, babies may shriek with distress. Later, however, they are able to recognize the image as the self and to incorporate the external image into the concept of the body. If parents register, disapproval of exploration of body parts during care taking activities, a child may develop long lasting disgust. Natural curiosity about the body may be transformed into guilt and anxiety.

At this age, children develop an image of their bodies as attractive or unattractive, and normal or 'different' as a reflection of the opinions of others particularly those of parents. We discussed about psychosocial development now we become to the next part i.e. play as given below.

3.2 Play

It has been found that children spend most of their waking hours playing. Childhood is closely related to play. Children express play in many ways.

The United Nations Convention on the Rights of The Child suggests that there is a collective agreement about the value of play for young children and stating that a child should not have to work but should have opportunities for play and leisure activities. U.N defined play as" a

natural, spontaneous, creative activity, voluntary and intrinsically generated activity that brings fun to children". It is through play children learn a number of things. The beginning of playful activity can be observed from the period of infancy. For children, play is a learning process wherein they learn about the world around them, learn various concepts, learn to adjust to others, and to work out fears and master emotions. It is essential that you recognize that play is as important to a baby as to an older child. The baby plays with his fingers and toes by moving them, feeling them and tasting them. He/she starts grasping rattles and other objects in his vicinity, holding them, throwing them, banging them, tasting them etc. He responds to playful tickling by the mother.

Through play the baby learn:

- (a) About "me", his personal boundaries, that is, where he "stops" and others "start". In other words, he learns to differentiate himself from the world around him.
- (b) About different objects and their qualities and what he can do with them.
- (c) About relationships, about responding to others and about mutual enjoyment.
- (d) To develop communication. When you talk to him, the baby responds by cooing, gurgling, babbling. This is the first stage of language development.

Pre-school child learns play:

- a) Various concepts such as colour, size, shape, volume, weight etc. He becomes familiar with and learns the names of different animals, birds, vegetables, fruits etc.
- b) To use and develop his motor skills. This not only improves his muscular coordination, but also gives him a sense of confidence, achievement and a feeling of power and mastery, which is the basis of a healthy self-concept.
- c) To express as well control emotions like love, sympathy, hostility, anger and jealousy, which are always in the foreground at this stage. Play provides an outlet for the release of pent-up emotions as much emotional energy is expended during the process.
- d) To appreciate and enjoy music, art and poetry. The child learns to observe and appreciate the beauty of the trees, birds, flowers, etc, in his natural surroundings thus, acquiring an aesthetic sense.
- e) To expand his imagination and increase his creativity. Through make-believe play, a child learns to use images, assemble events in his mind, imitate sounds and movements and discover new ways of using materials.
- f) The different roles of people in the society. Through play, he is given an opportunity to "try out" these roles by imitating his parents, teachers, the doctor, farmer, policeman etc.

3.2.2 Types of Play

- (1). **Solitary Play:** During infancy, the child plays alone with his own hair, hands, toes and with toys or with objects around him such as rattles, mobiles and his feeding bottles. He is not interested in play with others. This type of play is termed 'Solitary play'
- (2). **Onlooker Behaviour:** Children spend most of their time watching others. They make comments on the play of others but do not attempt to join.
- (3). **Parallel Play:** After infancy, the beginning of parallel play is observable when the child plays side by side with other children although each child is busy playing with his own toys, with no intentional sharing or interaction. Often they use the same toys in close proximity with others, yet in an independent way. At this stage, the conversation is restricted to each child talking to himself, vocalizing his actions. Although there is little or no direct interaction, the children are aware of one another's presence and enjoy companionship.
- (4). **Associated Play:** Children can begin to interact with others. They can share, borrow and lend play toys, play may be unorganized but there is no assignment of activities or roles.
- (5). **Cooperative Play:** Parallel play may also lead to cooperative play, which involves direct interaction in the form of sharing play material, playing games together, holding conversations with each other. The child enjoys the companionship of his peers and he is at the stage where he is developing the capacity to accept, understand and respond to the ideas and actions of others. This pattern of play is seen among children between two to five years of age. They also engage in socio-dramatic play where they act out fantasies either individually or in groups. The play group is usually goal oriented. The beginning of a sense of competition can also be seen at this age but it is also the time when special friends are made and one-to-one relationships established.

Play is the principal business of early childhood. Play provides an outlet for their needs for self-expression. In dramatic play, children practice before one another the roles they may play as parents.

Purposes of play

- Play develops creativity in children.
- Children develop cognitive map of the environment with patterns of time and space.
- Play relieves tension, stress and painful experiences.
- Through play children learn social interaction.

Enhancing play activities

In the home, neighborhood and in pre-school, adults should be sensitive to children's needs for play. Play area should be checked for hazards. The play equipment should be checked frequently to prevent accidents. Children should be dressed appropriately for play. Parents interference should be kept to a minimum. They should not be left unattended. Play articles should be selected according to the physical and mental development of each child. They should be colourful and harmless.

SELF-ASSESSMENT EXERCISE

Outline the types of play and importance of play.

4.0 CONCLUSION

The pre-school child has special trend in their physical and developmental stages. They have psychological issues that must be addressed. Issues like personal identity and socializations. Understanding these issues as concerning toddlers helps you to care for them.

5.0 SUMMARY

An in-depth knowledge has been provided you on the development of a pre-school child. You have also been given enough information on how to take care of health problems of this group of children.

6.0 TUTOR MARKED ASSIGNMENT

1. Discuss the Psychological development of a pre-school age.
2. Children spend most of their time playing, outline types of play as a public health nurse.

7.0 REFERENCES/FURTHER READING

Moyse, K. (2009). *Promoting Health in Children and young people. The role of the nurse*. Oxford: Wiley- Blackwell Publication.

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UNIT 5 THE SCHOOL AGE CHILD

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1.0 INTRODUCTION

The period of life from age 6-12 years (school age) has been given a series of labels. This age is also called the "gang age" as the child gives more importance to peers during this period. This is also the stage of industry and complexes. Between 6-12 years the child achieves intellectual development and mastery of concrete operations. Let us discuss the physical and mental development of the school age child.

2.0 OBJECTIVES

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

- discuss the mental and psychological development of school child.
- discuss health promotion programs for school children.

3.5.1 Growth and Development

During the school years the child shows progressively slower growth in height and a rapid growth in weight. General growth is slow until the growth spurt just before puberty. Muscular co-ordination improves steadily. Posture is good. The lymphatic tissues reach its maximum growth. During this period there is eruption of permanent teeth. The temperature, pulse and respiration approach the adult norms.

3.5.2 Mental and Psychosocial Development

In school the child has an opportunity to widen his social contacts as he develops his mental abilities. Let us first talk of mental development and then we shall discuss psychosocial aspects of development.

Mental Development

During school age the child gives up, to a large extent, his earlier pre-operational egocentricity. He is able to function at a higher level in terms of his mental abilities. Therefore he is able to learn in school. The school age child is able to arrange things or concrete objects according to their size and relationship to other things. The child is able to classify objects in a more complex manner. He can solve problems because he can manipulate symbols. As regards the concept of time, the child not only thinks about the present but of the past and future. The child's ability to speak and play becomes socialized and cooperative during school age.

Psychosocial Development**Sense of industry**

Between the ages of six and twelve years the child develops a sense of industry and a desire to engage in tasks in the real world. The child enjoys doing socially useful tasks for others which will yield a sense of worth. He learns how to cooperate with others. The kind of school a child attends is important to his developing a sense of industry.

Relation with family, siblings and friends

More time is spent with other children but the family still provides security and a place to relax. Children of large families find adjusting to peers and sharing with the group easier than an only child. The school child's jealousy of younger and older siblings increases as he/she attempts to keep ahead of a younger child and in pace with an older one. Scholastic ability is a principal cause of sibling jealousy among school children, particularly in a child who is mentally inferior. School children often prefer to be with their friends rather than their siblings.

Body image

The body image of school children is constantly changing because they are changing physically, emotionally and socially. Modesty appears at about 9 years of age and at 10 years investigation of their own sexual organs begins. The pubescent years bring rapid changes in body image.

Gang or groups

They form close friendships and ultimately form a group with other children. It may be a secret society or an antisocial gang. Girls also form their own groups and discuss their problems. Towards the end of the school period children learn to compete, compromise and cooperate. Parents should understand and accept the activities of their children. Children still need the continued love, interest and support of both parents.

Psycho-sexual development

Between 8 and 11 years, children begin to perceive sex roles in a near adult fashion. Boys and girls (as they approach puberty) should be informed about the reproductive cycle and their respective role. Both male and female sexual changes should be discussed by parents.

Spiritual development

During these years children are learning the specifics of their religion that will later develop into religious philosophy.

Play and work

Today school age children are increasingly interested in the type of play and work usually associated with those of the opposite sex i.e. the girls may be interested in participating in team sports traditionally reserved for boys. Boys may be interested in learning to bake and cook. Play serves as a learning tool for children and their play changes with development needs. Children participate in more organised sports.

3.5.3 Health Promotion

The health of the school child is influenced by the health supervision received from the family physician, nurse practitioner, the dentist, health instructions given by parents, teachers, school and school nurse, the home and school environment. As a health care provider you have to play the role of school health nurse as given below.

The Role of School Health Nurse Practitioner

The role of school health nurse practitioner or school health nurse is changing from being child centred to being family centred. Health fairs present the concepts (if health and well-being to school children. Hospital tours. can also be arranged by the school health nurse to familiarise the children with a hospital and prepare them for possible hospitalisation. The school health nurse should give health education in the' following areas.

Areas of Health Education**Nutrition**

School children usually eat well and have fewer food fads than pre-school children. Eating problems relate more to the time of eating. Milk and fruits are preferable to candy and cookies. As a school health nurse you have to ensure that the diet of the child should contain all the nutrients in proper adequate proportion and advise the child and parents on a balanced diet to prevent nutritional deficiency.

Eating habits

Meal time should be pleasant. There should be resting period in the day, but some parents do not keep it so because of over emphasis on manners.

The child's eating habits improve as he grows older. A friendly atmosphere and enjoyment of the meal are the best aids to appetite. Your responsibility as a school health nurse is to ensure and advise the child and parents regarding healthy eating habits such as washing hands before and after eating and eating in clean surroundings.

Dental problems

Dental health is of particular importance during this stage of development. Ideally, children should receive regular preventive dental care and supervision in daily hygiene from the time the teeth begin to erupt. Inadequate dental care results in dental caries, malocclusion and trauma. These conditions have harmful long range effects on children's health. The most effective means of preventing dental problems is to provide information to the child and parents regarding brushing of teeth and washing of mouth in both early morning and after taking food.

Sleep and rest: The amount of sleep and rest required during childhood is a highly individual matter and unique to every child. During school age children usually sleep 11-12 hours.

Exercise and activity

Exercise is essential for developmental progress in a number of areas such as the following muscle development and tone, refinement of balance and co-ordination, gaining strength and endurance, and stimulating body functions and metabolic processes. Children need ample space to run, jump, skip and climb and safe equipment to use inside and outside the home or school. Most children need little encouragement to engage in physical activity. They have so much energy that they seldom know when to stop.

Sex education

Evidence, indicates that many children experience some form of sex play during or prior to preadolescence as a response to normal curiosity; not from love or sexual urge. Children are experimentalists by nature, and this play is incidental and transitory. You, as a school health nurse, can provide information on human sexuality to both parents and children.

Prevention of accidents

As in all other age groups, the most common cause of serious accident, injury and death in school age children is motor vehicle accidents - either as pedestrians or passengers. Physically active, school age children are highly susceptible to cuts and abrasions, fractures, strains and sprains. The most effective means of prevention is education of the child and family regarding hazards of risk taking and improper use of equipment.

SELF-ASSESSMENT EXERCISE

What is the health promotion for school children?

4.0 CONCLUSION

School age is the most active period of childhood. They develop based on the orientation and culture of the community. They have special problems the school health nurse must help them and their family to handle. Play is an important aspect of their life. They must be properly guided.

5.0 SUMMARY

During pre-school and school age, the child is exposed to different kind of environment. Infections are common among these children. Physical examination of these children is to be carried out by the school health nurse. This unit has provided you the enabling knowledge and skills to care for school age. It enables you to identify and solve their health problems.

6.0 TUTOR MARKED ASSIGNMENT

1. Discuss the mental and psychological development of school child.
2. As a public health nurse, explain health promotion programs will provide to school children.

7.0 REFERENCES/FURTHER READING

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MODULE 3 THE ADOLESCENT AND ADULT HEALTH

Unit 1	Adolescent Health
Unit 2	Adult and Elderly
Unit 3	Special care of Adults and Elderly
Unit 4	Vulnerable Groups

UNIT 1 ADOLESCENT HEALTH

CONTENTS

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Puberty
3.2	Physical Growth
3.3	Physical Characteristics of Adolescence
3.4	Psychosocial and Emotional Development
3.5	Health Promotions and Anticipatory Guidance
4.0	Summary
5.0	Conclusion;
7.0	Tutor-Marked Assignment
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1.0 INTRODUCTION

Achieving independence from the family is an important goal of adolescence. The time period extends from 10-12 years to 18 years. This period is also called the teenager. The adolescent period has three stages; Prepubescent or pre-puberty period refers to the period of rapid physical growth when secondary sex characteristics appear.

2.0 OBJECTIVES

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

- describe physiological status of adolescent
- describe the growth and development of adolescent
- explain the growth and development of adolescent
- list the common health problems of various stages of development
- outline advise on their problem prevention to adolescents.

3.0 MAIN CONTENT

3.1 Puberty

This is the age at which girls begin to menstruate and the boys to produce spermatozoa. Adolescence begins when the secondary sex characteristics appear and when somatic growth is completed. The individual now is psychologically mature, capable of becoming a contributory member of society. Let us discuss the growth and development of puberty first and then talk of adolescence.

3.2 Physical Growth

Puberty is a period of rapid physical change and personality growth. Girls begin their pre-adolescent growth spurt at about 10 years of age and boys at 12 years of age.

The physical characteristics of puberty are given below:

- **Weight and height**
Rate of growth in height tends to decrease each year from birth but with the onset of puberty there is a rapid increase, or spurt, and the child becomes tall. Gain in weight is proportionately greater than gain in height during early adolescence.
- **Body proportion**
The skeletal system grows faster than its supporting muscles. This tends to cause clumsiness, poor posture, and lack of co-ordination. The extremities, hands, and feet grow out of proportion to the rest of the body and cause more co-ordination problems.
- **Dentition**
The number of permanent teeth increase.
- **Physiological development**
It is believed that due to changes in hypothalamus with resultant neuro-hormonal and pituitary gland, stimulation development of secondary sex characteristics occurs.
- **Physical changes in boys include in order of appearance**
Increase in size of genitalia; swelling of the breast, growth of pubic, axillary, facial and chest hair; voice changes; and production of spermatozoa. Boys grow rapidly in shoulder breadth from about the age of 13 years. Boys can become disturbed by nocturnal emissions and the loss of seminal fluid during sleep. If they have not been told that this is normal they may regard it as a disease or as a punishment because of masturbation or thinking too much about sex. They may also believe it is devitalising. Nocturnal emission is due to the activities of glands, and occasional release of spermatic fluid during sleep should cause no concern.

- **Physical changes in girls in order of appearance**
Include increase in the transverse diameter of the pelvis; development of the breasts; change in the vaginal secretions; and growth of pubic and axillary-hair. Menstruation begins. Average age of menarche (time of first menstruation) is 12.5 to 12.8 years. A girl's hips begin to broaden from about the age of 12 years. Because of lack of adequate information, girls may have misconceptions about menstruation. Children should be well oriented to the anatomic and functional differences between the sexes. Girls should have clear understanding about ovulation, fertilization, pregnancy and birth. Menstruation is a normal physiological phenomenon, so women need not curb their normal activities during it.
- **Integumentary system**
The sebaceous glands of the face, back and chest become more active. If the pores are too small, sebaceous material cannot escape. It collects beneath the skin and produces pimples or acne; perspiration is increased. Vasomotor activity produces blushing.

Cardiovascular and respiratory system

Heart and lungs grow more slowly than the rest of the body. The supply of oxygen may be inadequate, causing the pubescent to feel constantly tired. So far we have discussed the physical characteristics of puberty. Now we shall talk of adolescence.

3.3 Physical characteristics of Adolescence

After the pubescent years growth slows and the changes in the body proportion occurs more gradually. The stages of puberty and adolescence are on a continuum. Stress and anxiety may occur with these physical, emotional, social and intellectual changes in the young maturing person. Usually by 15 to 16 years secondary sex characteristics have developed fully, and adolescents are capable of reproduction. At the end of adolescence, young person appears physically like adults. The head is approximately one eighth of body length.

3.4 Psychosocial and Emotional Development

Children become increasingly more adaptable, approaching their peer group and problem situations at home and at school, with greater confidence. Parents become aware that during pubescence the hostility that previously existed between boys and girls gradually disappears. The sense of identity and the sense of intimacy:

Adolescence is a period of stress for young people and their parents. Adolescents must know who they are and must modify their conscious

thought of their adult role in life. Adolescents today are faced with many pressures; rapid rate of social change, the threat of nuclear war, the increase in speed of travel and technological progress and access to mind-altering drugs, pose problems. Although sense of identity is difficult to achieve, young person must gain it, in order to be saved from emotional turmoil. After developing a sense of identity during early adolescence, they should be able to develop a sense of intimacy between themselves with persons of both sexes.

If individuals have weak egos, and are uncertain of self, they will not be able to form close ties of friendship or love with other people. Close relations between boys and girls begin during pubescence; these are not intimate relations and serve only as settings for discussion, on what they think and feel. During late adolescence these relations serve another purpose. While a healthy adolescent is establishing a sense of intimacy, a struggle with sexual feelings, may be experienced. As a result peers become very important.

Achievement of independence from parents

Adolescent-parent separation is part of the natural course of the life cycle. The adolescent may also adopt the alternative styles of dress, philosophic view points, and goals of the peer group. The rules of the house set by parents are no longer acceptable to the adolescence. They begin to internalize the qualities of their parents, if they are perceived as valuable. These values may be constructive or destructive.

Emotional-Social needs

Adolescence is characterized by mood swings and extremes in behaviour. Friendships are important to adolescents. Groups of friends are important during early adolescence, but with maturity older adolescents pick and choose their friends. Peers influence greatly the adolescent's sense of identity.

Due to rapid body growth, there are changes in body image. To integrate these changing body image into their self-concepts, adolescents spend a great deal of time in body hygiene, grooming, and select clothing. Some individuals achieve emotional maturity during the later stages of adolescence whereas others may achieve it during adulthood.

Psycho-sexual Development: Masturbation: Masturbation is a central concern in early adolescence, especially in boys. Girls may indulge in it to a lesser degree. Adolescents should be informed that masturbation is a normal response to increased sexual development.

Factors influencing decisions about sexual behaviour:

Value and ethics

Value and ethics come from family, religion and peers and society.

Intellectual or Cognitive Development

Formal operational stage (11-15 years): Children progress from concrete to formal operations during early adolescence. Adolescents can make use of assumptions while thinking, formulating hypotheses, and constructing theories. They can use hypothetical deductive reasoning. They may reject the authority if they are not satisfied with the rationale and logic.

School

School subjects become more complex. Adolescents experience a period of rapid increase in vocabulary and language development. Mental growth is not correlated with increase in size. Adolescents may face some difficulties in adjustment to school. They may spend more time in extra-curricular activities. Adolescents' academic abilities and interest vary greatly. Besides academic preparation for adult life, high school offers adolescents an opportunity for extra-curricular activities to satisfy their needs for security, recognition and success. Parents should continue to take interest in the school life of the adolescent.

3.5 Health Promotions and Anticipatory Guidance

The adolescent girls and boys should be advised on the following general points.

- 1. Physical examination**
 - Personal hygiene
 - Nutrition
 - Exercise and sports
 - Dental health
 - Accident prevention
 - Prevention of addictive behaviour
 - Sex education
- 2. Health concerns of girls**
 - Menstruation
 - Pre-menstrual syndrome
 - Dysmenorrhoea
 - Amenorrhoea
 - Breast size and shape
- 3. Health concern of boys**
 - Size of genitalia
 - Gynecomastia
 - Muscle development
 - Acne
 - Growth of secondary sex characters.

SELF-ASSESSMENT EXERCISE

Outline the emotional problems of adolescents.

4.0 SUMMARY

Adolescents have a lot of problems that goes with it. They try to claim to be grown up yet they still exhibit childish behaviors. Their problems are physical like growth, psychological as well as social. As a public health nurse it is the proper understanding of these problems that will help you to care for them.

5.0 CONCLUSION

Adolescent years are important for the family and the community. Adolescents are unique. Teachers and parents should understand their needs and problems.

6.0 TUTOR-MARKED ASSIGNMENT

1. Describe physiological status of adolescent
2. Describe the growth and development of adolescent
3. Explain the growth and development of adolescent

7.0 REFERENCES/FURTHER READING

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UNIT 2 CARE OF ADULT AND ELDERLY

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Meaning of Aging
 - 3.1.2 Adults and Elderly Population Trend
 - 3.1.3 Family Dynamics
 - 3.2 The Role of a Public-Community Health Nurse in Home Care of the Elderly:
 - 3.3.1 The Role of Family in a Home Care of the Elderly:
 - 3.3.2 The Roles of the Family include:
 - 3.3.4 Community Resources for the Care of the Adults and Elderly:
 - 3.3.5 Helping the Family with Adults and Elderly
 - 3.4 The Role of public-community Health Nurse in the Institutional care of the elderly
 - 3.4.1 Practice and Prospect of Institutional Care
 - Adult and Elderly Nutrition
- 4.0 Summary
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- 7.0 Reference/Further Reading

1.0 INTRODUCTION

The aging is part of a life course continuum and its beginning is not clearly demarcated at any one specific point in time and there is a great deal of individual variation among people regarded as elderly. Aging does not start at any one chronological point; instead it is the accumulation of some common characteristics with increasing age that help to identify an elderly. Illness tends to accumulate with increased age.

2.0 OBJECTIVES

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

- explain the meaning of aging
- discuss family dynamics
- describe the home and institutional care of adults and elderly
- discuss the nutritional needs of adult and elderly.

3.0 MAIN CONTENT

3.1 Meaning of Aging

The peak of physical maturity is reached during younger adulthood but the peak of psychological maturity, with regard to aspects such as wisdom, creativity, spirituality and emotional growth is likely to be reached in elderly. Development continued during this period. Old age is a continuum and is determined to a small degree by age related changes and to a more significant degree by pathological conditions, risk factors and other factors that affect ones wellness and functioning. Some elderly people will be extremely healthy and maintain a high level of independent functioning through old age until their death, whereas others will have significant degrees of physical, mental or psychological impairment for brief and long periods of time. Gerontological view age identity on a continuum of subjective, wellness and this is based on assumption that old age accompanied by a decline in health. Consequently, people who feel younger and people who feel poorly will feel older. The only objective definition of aging is that it is a universal process that begins at birth and it is applied equally to young and old people.

Legally, an elderly person is a person of sixty-five years of age or above. The age of sixty-five is used not because of the actual physiological, psychological or sociological changes but because it is the age of retirement in most of the countries of the world.

Statistical analysis of research findings has shown that persons sixty-five and above constitute a group sufficiently different from others and that this grouping is well founded. Defining the population at risk as falling within a precise age-range (65 and above) makes it possible to plan a comprehensive service which will take account of the physical and emotional factors which many complicate old age. Certain events that commonly occur between the ages of 50 and 65 years foster sense of one's aging. These events include menopause, experiencing the deaths of parents and friends, being one of the oldest at work and having to face physical restrictions as well as retirement from work. Most of these are sociological in origin. The individual become more philosophical in approach to life, less irritable with minor issues. It is clear that those things that were previously ascribed to aging is as a result of disease or disuse. About one-third of functional decline in elderly is due to disease, another one-third due to inactivity (disuse) and the remaining one-third due to aging proper.

3.1.2 Adults and Elderly Population Trend

According to United Nation (2002), the profile of world aging is as follows:

1. The number of people in the world aged 60years and above will increase from about 600,000,000 in 2000 to almost 2,000,000,000 by 2050.
2. The fastest growing group of the older population is the group of people aged 80years and above.
3. The proportion of older adult are projected to increase globally from 10% in 1998 to 15% by 2025.
4. In Europe, the proportion of older adult will increase from 20% in 1998 to 28% in 2025.
5. Increases in the numbers of elderly will occur more dramatically in developing countries, where the older population is expected to quadruple in the next 50 years.
6. By mid-century, the old and young will represent equal proportions of the world population.

3.1.3 Family Dynamics

Grand-parenting can be a positive experience for older adults because they obtain enjoyment, affection and sense of purpose from caring for their grandchildren without the stress of child-rearing responsibilities. Grandchildren provide new interest and meaning to life. The relationship between siblings is stronger than any other relationship. Siblings drift apart during young and middle adulthood but re-establish stronger ties as older adults. At elderly stage, the siblings provide socialization, emotional, financial and household assistance. Marriages stabilize in elderly adults due to interdependency in life. The spouses provide to each other security and safety supports. They complement each other's action. The death of a spouse alters the life of older persons. It is usually difficult to adjust to loss of significant other added to the demand to learn the new task of living alone. Retirement is a major adjustment of an aging individual. It is often an individual's first experience of the impact of aging.

3.2 The Role of a Public-community Health Nurse in Home Care of the Elderly

The Home Care nurse function as a case manager through a multidisciplinary approach. They formulate the care plan based on the nursing process of assessing, diagnosing, planning, implementing and evaluating. The role of the nurse include:

1. Providing health rehabilitative and palliative therapies. Health promotional behaviour are viewed as a very important consequence of these therapies.
2. Educating the patient and caregivers about the illness or disability and mutually identified healthcare needs. Recommendation to promote optimal health or best level of functioning and self-care management follows.
3. Developing patient and care-giver competence, decision-making and judgement in self-care management at home.
4. Faster positive patient and caregiver adjustment to coping mechanism for change lifestyle, role and self-concept as a result of illness or disability.
5. Reintegrating the patient and caregiver back into the family, community and social support system.

These roles could be seen as having general purpose of providing the elderly and their caregivers with the understanding, support, treatment, information and caring need to successfully manage their healthcare needs at home.

3.3.1 The Role of Family in a Home Care of the Elderly

In home care of the elderly, the client must be viewed as a member of the family unit that are part of the health team and the therapeutic aims that must acknowledge the strengths and weaknesses of this team. The members of the family must be involved in planning and in actual care of the aged. This is the only way the family members will get the basic knowledge, skills and encouragement that are needed for extended period of care that are usually needed. The objective of the homecare nursing of the elderly is to maintain the elderly at home for as long as is consistent with his own health and happiness and the well-being of his relatives. When this is no longer possible, hospital resources should be used.

The home care given to an elderly person at home depend greatly on the willingness of the family members to cooperate in achieving a quality of life that is acceptable to the elderly in particular and the society in general. In other to help the family members to cooperate with the care, the characteristics of the elderly must be explained to the family members. Some of the characteristics include:

- i. Elderly person are very slow in carrying out all their activities. Any effort to quicken their rate of action is met with resistance.
- ii. They always try as much as possible to claim independence from the family members even where it is well known that he/she has high level of dependency due to illness and disability.

- iii. Provision of safety environment is of cardinal importance in the home care of the elderly. This is to prevent accident due to ongoing body system.
- iv. In modern time, the elderly suffer for social isolations. To prevent social isolation, the family members should know that the elderly should be included in all the social activities of the family as much as their health can permit.
- v. The elderly may never complain of any problem or when they complain, they try to play it down. So any complain made by an elderly should be investigated. Their health conditions can change very fast.
- vi. The elderly love to be respected in all ramifications.
- vii. The care of the elderly requires interdisciplinary actions and the financial burden is carried by the family.

3.3.2 The Roles of the Family

- (i) **Provision of physical comfort:** The physical comfort may include helping the elderly meet the needs of activities of daily living. This includes daily bath, oral care and other body grooms. The comfort provided to the elderly enhances his/her living, sleeping, cooking, laundering activities etc. Where the elderly has a lot of money care provided are usually adequate when compared with the poor ones and those with loss of memory. The physical comforts expected from the family also include provision of good light, correct height of bed, chairs, toilet seat etc.
- (ii) The family provides an environment that is handicap friendly with regard to the elderly person's disability. Environmental adjustment includes provision of physical structures that enhances the comfort of the client.
- (iii) The family should make specific effort to involve the elderly in the family social activities. The involvement should depend on the ability of the elderly. The elderly where applicable should be encouraged to be involved in religious activities.
- (iv) The first member of the health team to notice that the elderly is sick is the family members. The family members usually provide the initial care before calling the attention of the nurse and others that are involved in the care. The family members should be educated on the health problems of the elderly.
- (v) The family should provide sensory stimulation to the elderly in order to promote mental activities. This contributes to the feeling of well-being. The family must consider intellectual and recreational needs of the individual. These will create interest in living and add meaning to life beyond mere physical existence. There should be balance between shared activities and individual activities.

- (vi) The family play significant role in rehabilitation of elderly. The family helps in speech therapy and physiotherapy.

3.3.4 Community Resources for the Care of the Adults and Elderly

Home care of the elderly requires multi-disciplinary that include family unit, nurse, medical personnel, social workers, clinical psychologists and rehabilitation therapist. Apart from the therapeutic benefits of such approach, there is research gains from having access to comprehensive knowledge available in such resources. The united energies and interaction of the care members ensure the development of appropriate philosophies of action and training, research programmes both clinical and operational can be more broadly oriented. The specialized knowledge and skill about old age syndromes may be more readily acquired and taught.

The Primary Health Care teams are in the best position to give a comprehensive health care to the elderly. The care may be personal service like home help, meal on wheel and attendance to day care centres. They also pay attention to eyesight and hearing. Occupational therapy and physiotherapy should also be available in the community for the interest of the elderly. Night nursing should be arranged for short period of acute needs.

The home visit has long been recognized as an essential care of the elderly. It is particularly valuable in the social assessment of the needs of the elderly. The behaviour of the elderly in out-patient unit is usually a deceptive. Home visiting offers the nurse the chance to assess the elderly in their natural environment. A much more realistic view is obtained from the patient's home where moreover, the observed presence of social stresses or intergeneration stress may help to elucidate the present problems of the elderly. The two most important variables which determine whether the patient requires admission or home care are the quality of home support available and the aim and types of physical disability.

Good transport system is very essential community resources needed for home care of the elderly. When good transportation service is available, the elderly could be managed in hospital clinics without admission and progressive impairment will be controlled. This offers relief to relatives.

3.3.5 Helping the Family with Adults and Elderly

Family members play a crucial role in the well-being of their elderly loved ones. Families play roles in both home care and institutional care of elderly. It is important that the nurse understand the impact of an elderly on the family and on the caregiver. The nurse provides information and support to the caregivers and the family in general. In our society, the family primary caregivers (women, wives, daughters and daughter's-in-law) provide the care as unpaid resources (Steele C.D., 2010).

The nurse must understand whom the primary caregiver is, the aspects of care that are most burdensome and what the caregiver think is wrong with the elderly.

Assisting caregiver by the nurse:

The nurse assists caregiver by;

1. Educating caregiver: In educating the caregiver, the nurse should aim at improving communication and understanding by
 - Use of simple language
 - Start from known to unknown
 - Reinforce, restate and repeat so that they can understand.
 - Be patient specific. Note that problems of elderly are individualized, so teach the caregiver focusing on the problems of the patients they are caring for.
 - Teach them the treatment options if any.
 - Help caregivers to understand and cope with behaviour problems.
 - Help the caregivers to reach and implement end-of-life care.
 - Help the caregiver find community resources.
 - Help caregiver maintain emotional and physical well-being.

3.4 The Role of Public-Community Health Nurse in the institutional care of the Elderly

The fact that the main needs of the elderly may be nursing care needs, the institutions that care for the elderly adults are usually called Nursing Homes. Nurses working in such homes restore health and alleviate sufferings of the elderly. Unlike the acute care setting where the client are sent home when they get better, in case of nursing homes, the elderly is still retain in the homes. The reason being that there is no facility or a committed caregiver at home. The roles of the nurse in these institutional cares setting are not different from the fundamental roles of the nurse which include the following roles:

1. The nurse co-ordinates the work of others involved in the care of the elderly persons including the physician, the physical therapist, the social workers etc. The nurse formulate the plan of care and make sure that the care is carried out as and when due. The nurse makes sure that the elderly person's appointment with the physician, for laboratory investigations, with the physiotherapist are kept. The work of homekeeper are checked and ensures that the catering staff service enough and adequate food to the elderly.
2. Provision of care-nurses provide continuous care to the elderly 24 hours a day. "When others have gone, Nurses stay". Nurses help the elderly to do what they should do for themselves if they have the ability. It is the duty of the nurse to ensure that the elderly in their care breathe properly, eat balanced diet, rest, sleep and remain comfortable. The nurses take care of the elimination needs and help them to avoid the harmful consequences of being immobile that are common in the elderly. Nurses use the nursing process to continually evaluate the conditions of the elderly and also plan for their care. The care of the physicians are called when the nurse identify a problem that requires medical treatment. The nurses carry out the prescribed treatment for the elderly in the care getting.
3. Protection of the Elderly: Elderly persons are more prone to infection and injury. The nurse ensures that the environment is safe and healthy. The nurse takes every precaution to prevent the spread of infection from one elderly to the other. The housekeepers are supervised to ensure that the rooms are clean, needles and other materials used for procedures are sterile, soiled materials are kept away from elderly. Sharp objects are placed in safety containers after use. The nurse washes hand with soap and water before and after care and ensure that the soap and water before and after care and ensure that the elderly maintain a good hand washing habit. The nurse protects the elderly's dignity and tries to save the elderly from embarrassment or shame. The nurse makes sure that the elderly is physically safe in bed or when ambulating. The nurse protect the elderly against anything that might be harmful in the institution's environment.
4. **Health Education:** Teaching is a major role of the nurse in restoring health, promoting health and preventing illness. The nurse demonstrates to the elderly deep breathing, active exercises bearing in mind the ability of the elderly. The nurse teaches the elderly self-care and how to minimize disability to maintain beat quality of life.

5. **Advocate for the Elderly:** Nurse spend all times with the elderly once admitted to the institution. The elderly share the most details of their lives with the nurses. They undress for nurses and trust them to perform different procedures on them. Nurses use the information they get from the client to speak on their behalf. Advancing is all about speaking on behalf of the elderly person and interceding when necessary. This advocacy is a part of the nursing care.

SELF-ASSESSMENT EXERCISE

List the roles of a public-community health nurse in institutional care of the elderly.

3.4.1 Practice and Prospect of Institutional Care

There are social arguments against institutionalizing elderly persons. The desire to return independence and/or to remain living in the community is strongly ingrained in our culture and should always be respected. People should be helped and encouraged to live in their homes and in their own communities for as long as they wish and able to do so.

Elderly people should at all times be given the facilities and opportunities to function independently and to retain their identity as individual persons irrespective of the care setting. The Ireland National Council for the aged takes the view that comprehensive repair and adaptation services to the house of the elderly, together with appropriately designed and serviced sheltered housing, supported by day care facilities, out and in-patient hospital facilities, respite and intermittent care in hospital and community support services are alternatives to institution care of the elderly.

Additionally, well organized nursing and home-help provision well serve as support to family doctors and the community caring network (family and voluntary workers) and so enable many more elderly people to remain living independently with or without their families and relatives.

In the cases of those whose physical or mental capacity is such that they cannot be cared for in the community, continuing nursing care home located as near to the elderly's home and family as possible and should be supported by a wide range of community services. In all instances of care, the service provision for elderly person should be based on the promise that elderly people's level of dependency changes over time.

3.5 Adult and Elderly Nutrition

Aging process lead to a lot of physiological changes that have far reaching implications to the dietary needs of the individuals. In prescribing a diet for the elderly, care must be taken to provide dietary intake of energy and essential nutrients adequate in type and quantity. It should also be remembered that socio-cultural influences play a more important role than instincts in directing food choice (Okaka et al. 2006). In this unit, the nutritional need for the elders will be examined.

Definition: Nutrition is defined as the science of food, nutrients and substances therein, their activities, interactions and balance in relation to health and diseases and the process by which the organism ingest, digests, absorbs, transport, utilize and excretes food substances.

For the maximum benefit from the foods, the needs of an elderly must be well planned. Meal planning for the elderly is not different from that of the middle-age adults since old age is a continuation of the past life with likes and dislikes for certain foods. The elderly is advised to continue to eat their favourite foods with minimum modifications to take care of their new physiological and disease conditions.

The guide for meal planning for adults and elderly includes:

1. The intake of protein by the elderly should be increased for about 1.5g-2g per kilogram body weight in order to maintain normal nitrogen balance since catabolism of protein increase in old age. Excessive protein intake should be avoided since this puts a lot of stress to the liver and kidney whose efficiencies are reduced by the aging process.
2. Energy intake should be reduced in view of the reduced physical activities and metabolism. Excessive intake of calories reduces the life expectancy of the elderly by initiating metabolic disease like diabetes mellitus and hypertension. It has also been documented that maintenance of working weight in elderly has a protective effect. So an elderly should take enough calories to sustain their working weight.
3. Water and fluid intake of the elderly should be generous. About 1.5-2.5 litres a day provided not contradicted by medical conditions. These levels of hydration will ensure a urinary output of at least 1.5 litres a day.
4. Vitamins and mineral intakes by the elderly should be generous especially iron, calcium and vitamin C and B. sodium intake should be reduced because of high blood pressure and renal conditions common in elderly.

5. Joules derived from fat should be cut down to about 20% of the total joules. It should be mostly essential fatty acids.
6. The diet of the elderly should contain high fibre to prevent constipation.
7. Attention must be paid to the state of dentition of the elderly and their foods must be presented in form that can be handled by such dental state.
8. To satisfy the recommended intake of certain nutrients like vitamin C, B and A, it is necessary to introduce specific foods like fresh fruits and dark green vegetables and milk.
9. Empty calory foods should be avoided. Such foods include sugar, horny and oil. Foods with high nutrient density should be given considering the disease state of the elderly.
10. Food choice responds principal to learned conditioning which influence all the activities of the elderly. The elderly should be presented with food that they are families with.

SELF-ASSESSMENT EXERCISE

List the those things that will guide you in planning the nutrion of adults and the elderly.

4.0 CONCLUSION

The adults and elderly tend to have similar problem but that of the elderly tend to me maore complex due to effect of aging in bady system. These are the bread winners in the homes and their health conditions go a long way to affect the other suub groups in the family. Issues like feeding must be properly handled.

5.0 SUMMARY

The problems of the adults and elderly are not exactly the same but they seen to be as a continuum. The preventive measures have been presented to enable you understand to care for these subgroups in the community.

6.0 TUTOR-MARKED ASSIGNMENT

1. Describe the home and institutional care of adults and elderly.
2. Discuss the nutritional needs of adult and elderly.

7.0 REFERENCE/FURTHER READING

Quest, C., Ricciordi, W., Kowachi & Lang, I. (2013). *Oxford Handbook of Public Health practice*. (3rd ed.). Oxford University Press page 267-274.

UNIT 3 SPECIAL CARE OF THE ADULTS AND ELDERLY

CONTENTS

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1.0 INTRODUCTION

Mobility is essential for monitoring independence in the activities of daily living. It also plays a role in avoidance of fall. Fall is an age-related functional consequence. Fall is an unexpected event that resulted in a person coming to rest on the ground or other lower surface. Falls and mobility problems are caused by multiple, diverse and interacting factors. The role of a nurse is to identify the most likely causes and contributing conditions and to plan interventions that address these factors (Murdoch et al (1985).

2.0 OBJECTIVES

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

- identify risk factors that predispose adult and elderly to fall.
- discuss health promotion for the skin in adults and elderly
- describe the effect of sleep and rest in health promotion.

3.0 MAIN CONTENT

3.1 The risk factors for fall in adults and elderly are:

1. Age –related factors like:
 - a. Vision and hearing changes
 - b. Osteoporosis
 - c. Slowed reaction time
 - d. Altered gait, increased sway
 - e. Postural hypotension
 - f. Nocturia
2. Pathologic conditions and functional impairments
3. Medication effects and interactions
4. Environmental factors e.g.
 - a. Physical restraints
 - b. Glare
 - c. Inadequate lighting
 - d. Lack of handrails on stairs
 - e. Slippery floor
 - f. Thron rugs
 - g. Cords
 - h. Unfamiliar environment
 - i. Highly polishing floors

The nursing diagnosis for a client having problem of mobility is “impaired physical mobility”. It is a state in which the individual experience is at risk of experiencing limitation of physical movement but is not immobile.

The nursing goals for an older adult with a nursing diagnosis of impaired physical mobility are to restore the person's functional ability, to prevent further loss of function and to prevent full and other serious consequences of impaired mobility.

3.1.1 Fall Prevention in Adult and Elderly

According to Miller (2009) fall can be prevented in elderly in the hospital by:

1. Identification of elderly at risk for falling by;
 - a. Identify any risks for falling and fall-related injuries e.g. medication and medical conditions
 - b. Address any risk factor for fall
 - c. Reassess the risks for fall at predetermined times
2. Education of staff, patient and family on fall by;
 - a. Instruct the patient and family about fall prevention programmes and how to obtain help if fall occur.
 - b. Use posters and fliers to heighten staff awareness of the fall prevention programmes.
3. Nursing intervention for all high-risk fall patients;
 - a. Keep the call bell within reach at all times
 - b. Offer assistance with activities of daily living (ADL) and try to anticipate the person's needs before help is needed.
 - c. Encourage the person to call for help when needed
 - d. Frequently check all people who cannot be relied on to call for help.
 - e. Make sure the bed is in the lowest position possible and the wheels are locked.
 - f. Carefully and frequently assess the environment for factors that increase the risk of either falls or fall related injuries. Address all modified risk factors.
 - g. Consider the use of a movement detection device
 - h. Carefully evaluate the potential consequences of physical restraints, including bed rails.
 - i. If restraints are used, re-evaluate their use every shift
 - j. If appropriate, orientation of person, place and time every shift and as needed.
 - k. Document fall prevention interventions on the persons chart.

3.2 Age-related changes affecting skin and their health Implication

1. Decreased rate of epidermal proliferation. This leads to delay wound healing and increased susceptibility of infection.

2. There is flattened dermal-epidermal junction, thinning of dermis and collagen. There is increased quantity but decreased quality of elastin. These changes lead to decreased resiliency, increased susceptibility to injury, bruising mechanical and blister formation.
3. There are reductions in dermal blood supply and the number of melanocytes and langerhim cells. These lead to decreased intensity of tanning, irregular pigmentation, diminished dermal clearance, absorption and immunological responses.
4. There are reductions in subcutaneous fat and dermal blood supply. These will lead to decreased sweating and shivering, increased susceptibility to hypothermia and hyperthermia.
5. There is decreased moisture content which leads to dry skin and discomfort.
6. There is decreased number of meissners which leads to diminished tactile sensitivity and increased susceptibility to burns.
7. There is slowed nail growth which lead to increased susceptibility to cracking healing.
8. There is a change in hair colour, quality and distribution which leads to negative impact on self-esteem.

3.2.1 Health Promotion on Skin Care

1. Maintaining healthy skin care;
 - a. Including adequate amount of fluid in the daily diet
 - b. Use humidifiers to maintain environmental humidity level of 40% to 60%.
 - c. Apply emollient lotion twice daily or more often.
 - d. Use emollient lotion immediately after bathing when the skin is still moist.
 - e. Avoid massaging over bony prominences when applying lotions. Do not use rubbing alcohol.
 - f. Avoid skin care products that contain perfumes and isopropyl alcohol.
 - g. Avoid multiple-ingredient preparations because some activities may cause allergic response.

Personal care practices;

- a. When bathing use mild soap
- b. Water temperature for bathing should be about 90°f – 100°f
- c. Make sure skin is well rinsed after soap use.
- d. Apply emollient products after bathing, rather than using them in the bath water, to minimize the risk for falls on oily surfaces.
- e. If emollient products are applied to the feet, use slippers or socks before walking.
- f. Make sure the skin is dried thoroughly especially between toes and in other areas where skin rubs together.

- g. When drying skin use gentle, pathing motions rather than harsh, rubbing motions
- 2. **Avoiding sun damage;**
 - a. Wear wide – brimmed hats, sunglasses and long sleeved garments when exposed to the sun.
 - b. Wear clothing made of cotton, rather than polyesters fabrics because ultraviolet rays can penetrate polyesters.
- 3. **Preventing injury from abrasive forces;**
 - a. Do not use starch bleach or strong detergent when laundering clothing or linens.
 - b. User soft terry or cotton washcloth
 - c. If plastic-lined pads are necessary, make sure that an adequate amount of soft, absorbent materials is placed over the plastic.
- 4. **Nutritional Consideration:** Include adequate intake of zinc, magnesium, vitamin A, B-complex, C and E in the diet.
- 5. **Prevention and managing pressure ulcers:** pressure ulcers is attributed to;
 - a. Impaired circulation
 - b. External pressure and the key intervention for preventing skin breakdown is to ensure adequate circulation and minimal external pressure. Change position at minimum of 2-hour intervals.
 - c. Pressure relieving measures are instituted to relieve any external pressure areas.

3.3.1 Sleep and Rest in Adult and Elderly

About one third of a person's lifetime is spent in sleep and rest activities. During periods of sleep and rest, many metabolic processes decelerate production of growth hormone increases and tissue repairs and protein synthesis accelerate. During the deeper stages of sleep, cognitive and emotion is stored, filtered and organized, so physiological well-being are affected by the quality and quantity of sleep.

3.3.2 Age-Related Change in Sleep

There is increased number of shifts into non-rapid eye movement (NREM) in stage 1; there is steady increase of 10-20% of total sleep time (TST) which is 5% of that of young adult. Stage II is 50% TST which is unchanged from young adults. Stage III is 10% TST which is also unchanged. Stage IV is very short or absent, especially in men while it is 10% TST in young adults. Rapid eye movement (REM) which is characterized by weak muscle tension, vivid dream is short, less intense, more evenly in adults where it is 25% TST.

Overall changes in sleep in elderly;

- 1. The required longer time to fall asleep

2. They have more frequent arousal.
3. They have different quality of sleep, with less time in deep sleep and spend more time in bed.
4. They have the same quantity of sleep during a 24-hour period as the younger adults.

3.3.3 Sleep Alteration Risk Factors in Adult and Elderly

1. Pains and discomfort from arthritis and other medical conditions
2. Alcohol which suppresses the REM sleep increase nightmares, early morning awakening
3. Medications like antidepressants anticholinergics, hypnotics which suppresses REM, increase awakening secondary to open.
4. Environmental factors like noise, very hot or cold condition.
5. Lack of day time activity or stimulation
6. Systematic disease like dementia.

3.3.4 Health Promotion on Sleep in Adult and Elderly

1. Establish a bedtime ritual that is effective for the client and try to follow it every night e.g. going to the toilet and taking a warm bath.
2. Maintain the same daily schedule for walking, resting schedule for waking, resting and sleeping.
3. In the afternoon, avoid foods, beverages and medications that contain caffeine which include tea, coffee and some over the counter drugs, alcohol, refined sugar.
4. Take pre-bed time that promote sleep include milk (warm) light snacks of complex carbohydrate e.g. whole grains.
5. Use one or more of the following relaxation methods: imagery, deep breathing, progressive relaxation, passive exercise, reading non-stimulating materials, watching non-stimulating television.
6. Perform daily moderate aerobic exercise, preferably before the late afternoon but avoid vigorous exercise in the evening.
7. Provide adequate intake of zinc, calcium, magnesium, manganese, vitamin-complex and vitamin C. vitamin E and folic are helpful for restless leg syndrome.

The following should be avoided to promote sleep:

1. Do not drink alcohol before bedtime because it may cause early awakening.
2. Do not smoke cigarettes in the evening because nicotine is a stimulant.
3. If bedtime is temporary changed, try to keep the waking time as close to the usual time, as possible and avoid staying in bed beyond your usual waking time.

4. Do not use bed for reading or other activities not associated with sleep.
5. If awoken during the night and cannot return to sleep, get out of bed after 30 minutes and engage in a non-stimulating activity such as reading in another room.
6. Arise at the usual time even if you have not slept well.

3.4 Age-Related Changes that Affect Thermoregulation in Elderly

The primary function of thermoregulation is to maintain a stable core body temperature in a wide range of environmental temperatures. With increased age, subtle alterations in the thermoregulation occur and these become important considerations in caring for healthy as well as frail older adults.

The age-related changes in thermoregulation in elderly include:

1. Decreased subcutaneous tissue.
2. Inefficient vasoconstriction
3. Delayed and diminished shivering
4. Decreased peripheral circulation
5. Improved ability to acclimatize to heat
6. Inefficient sweating mechanism
7. The above changes result in;
 - a. Lower “normal” temperature
 - b. Increased susceptibility to hypothermia
 - c. Increased susceptibility to heat-related illnesses
 - d. Diminished febrile response to infection

Risk factors for alteration in thermoregulation in elder include:

1. Dehydration
2. Extremes in environmental temperature
3. Diseases like infection, diabetes cardiovascular disease etc.
4. Inactivity and immobility
5. Age of 75 and above.
6. Medications like anticholinergics
7. Alcohol

3.4.1 Health Promotion on Thermoregulation in Elderly

1. Maintain room temperature as close to 28-30°C in the tropical countries and 21.1°C - 23°C in temperate countries.
2. Put on close knit undergarment to prevent heat loss.
3. Put on a hat and gloves when outdoor, nightcap and socks for sleep.
4. Provide flannel bed sheets or blankets of night.

5. Use fans to circulate the air and cool the environment
6. During hot weather, the elder should spend more time in shaded open space
7. Drink extra non-caffeinated non-alcoholic liquids even if you are not feeling thirsty.
8. Use umbrella to protect self against sun and rain when outside.
9. Eat small, frequent meals rather than heavy meals.

3.5 Health Promotion On Sexual Activity in Elderly

Older people remain fully capable of enjoying orgasm but their response to sexual stimulation usually is slower, less intense and of shorter duration. Increasing the amount and diversity of sexual stimulation and experimenting with different positions can compensate for these changes and increase sexual enjoyment.

The following habits enhance sexual enjoyment:

- Exercising regularly
- Limiting consumption of alcohol.
- Monitoring optimal health and nutrition.
- Using hearing aids and corrective lenses as needed.
- Enjoying in sexual activities when relaxed and energy level is at its peak.

Health promotion intervention for hot flashes resulting from menopause in women. I advise the women to;

- i. Engage in regular exercise especially aerobic exercise.
- ii. Avoid caffeine, alcohol, hot beverages and spicy foods.
- iii. Perform relaxation techniques like slow deep breathing several times daily and at the onset of a hot flash.
- iv. Keep environmental temperature cool
- v. Engage in regular weight-bearing exercises for prevention of osteoporosis
- vi. Provide daily intake of 1,500mg calcium and 600IU vitamin D for prevention of osteoporosis.
- vii. Perform pelvic muscle exercises to prevention of urinary incontinence.

3.6 Cognitive Function in Elderly

The age-related change in cognitive functions of the elderly is that elderly may show decline in some intellectual skills but they are capable of cognitive growth and intellectual development throughout adulthood. The dysfunction in cognitive function includes:

1. Slight decline in short-term memory.
2. No decline in crystallised intelligence like wisdom, creativity, common sense and breadth of knowledge.
3. There is slight and gradual decline in fluid intelligence like abstraction, calculation, spatial orientation and inductive reasoning.
4. There is slower processing of information.

The risk factors for impaired cognitive function include:

1. Impaired sensory function.
2. Alcohol consumption
3. Medications like anticholinergics
4. Physiologic disorders like malnutrition.
5. Psychosocial influences like anxiety and depression.
6. Environmental distractions
7. Lack of motivation.
8. Lack of stimulation

Elderly people have minor changes in cognitive ability but as the age increases due to pathologic conditions, more serious cognitive dysfunction may occur. Impairment of cognitive functioning causes loss of abilities that affects all aspects of functioning. This is one of the most devastating losses that confront the elderly and their caregivers. The two major conditions that cause cognitive dysfunction in elderly are delirium and dementia.

3.6.2 Adaptive Technique for Care of Elderly with Impaired Cognitive Function

1. Modify the environment to compensate as much as possible for sensory deficits and other functional impairments.
2. Use clocks, calendars, daily newspapers, radio and simple written cues for orientations.
3. Use simple pictures, colour codes for identifying items and places.
4. Place pictures of familiar people in highly visible places.
5. Turn light on as soon as or before it begins to get dark.
6. Avoid over stimulation.

3.7 Ensure Safety

1. Make sure the person carries some form of identification along with the phone number of someone to call.
2. Adapt the environment for safety by using alarm devices for doors to prevent wandering.
3. Keep the environment uncluttered.

4. Keep medication, cleaning solutions and any poisonous chemicals in inaccessible places.
5. Enrol the person in a protective programme such as the Safe Return Program.

3.8 Facilitate Activity of Daily Living

1. Keep all activities as simple and routine as possible.
2. Establish routines that allow for maximum independence and the least amount of frustration.
3. While keeping the routines as consistent as possible, it must be recognized that they will have to be changed as the person's level of function changes.
4. If the person need assistance with hygiene, use matter-of-fact statement, such as "it's time for your bath".
5. Arrange personal care items, such as grooming and hygiene aids, in a visible and uncluttered place, in the order in which the items are to be used.
6. Offer finger foods and nutritious snacks if the person will not sit at the table to eat a meal.

3.9 Affective Function

The commonest impaired affective functions found in elderly are depression and it is the most undetected and untreated of the treatable mental disorders in elderly. The signs and symptom of late-life depression include;

- i. Loss of appetite
- ii. Weight loss
- iii. Digestive system complaints, especially dysphasia, flatulence, constipation, stomach distress.
- iv. Insomnia awakening, other sleep disorders
- v. Fatigue
- vi. Pains
- vii. Blues
- viii. Feel empty.
- ix. Low self-esteem

Nursing Intervention

1. Help the client develop a positive self-concept. Opportunities for success should be provided and they are helped to form new goals.
2. Encourage the elderly to express their feelings. Nurses should afford time to listen and guide patients through these feelings. In addition to verbalize feelings.

3. Avoid minimizing feelings. Avoid statements like “do not worry, things will get better”. Or “do not talk that way; you have a lot to be thankful to God”. These statements are not helpful to the client’s feeling.
4. Ensure that physical needs are met. Good nutrition, activity, sleep and regular bowel movement are among the factors that enhance as healthy physical state, which in turn strengthen the patient’s capacities to work through depression (Eliopoulos, 2010).
5. Offer hope to the elderly: The nurse by words and deeds convey the belief that the future will have me*** and that the elderly’s life is of value.

3.10 Dementia in Elderly

Dementia is a global intellectual decline of sufficient severity to impair social and or occupational functioning that occurs in normal consciousness. According to Steel (2010) the elements to the dementia are;

- The impairment is global and affect reasoning, using and understanding language, coordinating learned motor movement.
- There is a decline from previous level of functioning.
- It interferes with normal functioning in everyday life.
- The patient is awake and alert. It occurs in 7% of elderly from 65years and 75-85 years.

Causes of dementia include:

- Alzheimer disease causes 50% of dementia. This is an incurable neurodegenerative disease.
- Front temporal dementia 15% of all cases of dementia. It affects the frontal and anterior lobes.
- Levy body dementia leads to 15% of all cases of dementia. It leads to progressive cognitive decline.
- Vascular dementia account for 10% of all cases of dementia. It results from impaired blood supply to the brain.

3.11 Mealtime Challenges in Elderly

Mealtime challenges must be addressed because the elderly are at risk for dehydration and malnutrition for many reasons. Elderly may forget to eat or may be distracted and leave the food unfinished. They may have problem of chewing due to dental problems. Some of them may have poor appetite due to side effect of drugs.

3.11.1 Mealtime Nursing Care

- The nurse should
- Adhere to mealtime routine by providing chair and tube.
- Follow former preferences and mealtime ritual.
- Maximize vision and hearing by putting on light and serving food with clean utensils.
- Offer more frequent small regular meals.
- Keep healthy snacks visible and available.
- Maximise the amount of food provide at the time the elderly is most likely to eat. Largest meal at breakfast is encouraged.
- Minimize noise by turning off television.
- During meals chat with the patient about social themes, their early lives and what their mother uses to cook. This makes meals social occasion.

Where the patient needed assistance, the following should be done:

- Serve food into bite-size pieces before presenting to the patient.
- Do not cut the food in his presence to preserve his dignity.
- When feeding an elderly, sit alongside, rather than standing over the patient.
- Note that thick liquids are easier to swallow than thin ones.
- Use simple language such as “chew” and “swallow”.
- Offer fluids between bites of food to facilitate swallowing and hydration.

3.12 Incontinence

One of the most challenges in care of the elderly is monitoring continence. Elderly patients may wet or soil themselves because they cannot find the bathroom in time or undress quickly enough.

Nursing Intervention

- Make the bathroom visible: keep doors open and lights on.
- Use loose-fitting clothing that is easy for the patient to manipulate.
- Assist patient with hygiene after voiding, to prevent the risk for urinary tract infection.
- Males need routine prostate examination.
- Place the elderly on a toilet schedule. This involves taking the patient to the restroom every 2 hours.
- At late stage incontinence, products should be introduced. They should be referred to as “underwear” instead of diapers for they will resist the use of diaper.

3.13 End-Of-Life Care

The last thing man like to talk about is death because human can be very reluctant to accept their mortality. In reality, 100% of elderly we care for die sooner or later. So nurses who care for the elderly must understand how to handle the complex nature of end-of-life. Nurses offer humanistic approach to caring for the dying patient. The dying elderly is given holistic care by recognizing that family members and significant others play a vital role in the dying process and are also considered.

Dying process is unique for every human being, so individualized nursing intervention is required. The care involves interdisciplinary effort to address physical, emotional and spiritual needs of the individual and family.

SELF-ASSESSMENT EXERCISE

Outline methods you can use to encourage sleep in adult and elderly.

4.0 CONCLUSION

The special care for adults and elderly is very important. These care like sleep and rest, dementia are here explained because if not properly handled other health issues may arise. These cares are more of preventive.

5.0 SUMMARY

This unit equipped you with knowledge and skills to give special care to adults and elderly people in the community.

6.0 TUTOR-MARKED ASSIGNMENT

1. As a public health nurse identify risk factors that predispose adult and elderly to fall.
2. Prepare a health talk on health promotion for the skin in adults and elderly you will give to community leaders in your place of work.
3. Describe the effect of sleep and rest in health promotion.

7.0 REFERENCES/FURTHER READING

Hund, R. (2009). *Introduction to Community – Based Nursing*. (4th ed.). New York: Walter Kluver page 243-256.

UNIT 4 VULNERABLE GROUP

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Vulnerable populations
 - 3.2 Vulnerability And Inequality In Health Care
 - 3.3 Health Disparities
 - 3.4 Care of Vulnerable Groups
- 4.0 Summary
- 5.0 Conclusion
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1.0 INTRODUCTION

Vulnerability is defined as being susceptible to neglect or harm, or being at risk of poor social, psychological and/or physical health, outcomes. The term vulnerable comes from a Latin word that means “WOUND”.

2.0 OBJECTIVES

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

- outline the effect of vulnerability
- explain factors that relate vulnerability
- describe types of health disparities.

3.0 MAIN CONTENT

3.1 Vulnerable Populations

Vulnerable populations are groups who have heightened risk of adverse health outcome. These groups often have higher mortality rate, less access to health care, lower life expectancy and poor quality of life.

Vulnerable group include people with

- Low income
- Low education
- Race and ethnicity
- Chronic illness and disability

- Mental illness and disability
- Alcohol and substance abuse
- Homelessness
- Suicide and homicide risk
- High-risk mothers and infants
- immigrants
- Refugees
- Single parents
- Prisoners

It is difficult to categorize at risk group because the population are usually overlapped.

3.2 Vulnerability and Inequality in Health Care

Unequal distribution of health care to vulnerable groups contributes to persistent and pervasive health conditions of the group. Political resources and social structures can also influence health and multiply the disadvantages and the irregularities associated with poor health of vulnerable group.

Socioeconomic gradient is the inverse relationship between social class and health. Population around the world has been related to poor health outcome.

The socioeconomic gradient has also been noted in behaviours such as smoking. The gradient is also apparent in studies in hospital death. The differences between high and low social and economic groups can be viewed as a disparity in health outcomes.

3.3 Health Disparities

Health disparity is a group of events that are connected by environment, access to utilization of and quality of care, health status and health outcome that require scrutiny. It is disproportionate burden of morbidity, disability, and mortalities found in specific portion of population in contrast to another.

Discrimination can occur during service deliver when there is biased judgment a specific population. Such population may be homeless, during use, people living with HIV, ethnic group.

Disparity by ethnicity is believed to result from complex interactions among genetic variations, environmental factors and specific health behaviour.

Income and education are intrinsically related. People with the work health status are among those with the highest poverty rate and least education. Poverty limits children's access to equal opportunities for growing up healthy. Low income communities are more likely to only have small convenience stores and where qualities foods are limited. Low-income children are more likely to live in substandard housing where they are exposed to hazards. Designing communities so that all children have access to fresh food, primary health care, safe housing and on environment free from pollution is a way to prevent disparity in health.

3.4 Care of Vulnerable Groups

Public Health Nurse and vulnerable group working with vulnerable group is an important component of the duty of public health Nurse. The nurse must understand the circumstances of a vulnerable group, their health needs and ways to meet their needs.

The roles of the public health nurse in care of the vulnerable groups include

1. **Help them take charge of their health:** The good of the Public Health Nursing is to help the vulnerable group to develop their compatibilities to take charge of their own lives. This can be challenging because most of these groups are disenfranchised. Engagement and developing rapport is essential.
2. **Empowerment:** Empowerment is on active, internal process of growth that help individual actualize the potential inherent in the individual or group. The public Health nurse see the process of empowerment as a two-way that help the client to gain skills and act on informed choice while it also enables the nurse to continue the act of empowering others. Empowering a vulnerable group include increase in self-efficacy, self-esteem and confidence.
3. **Activation of Resilience:** The other goal of a Public health nurse when caring for vulnerable group is to activities resilience as the group. Resilience is the ability to recover from the life's stressors without permanent injury. People bounce back to life of different rate. The rate of reliance depends on external support, along with temperament and other individual factors. It is the duties of the public health nurse continue supporting individual till they get to level of independence.

SELF-ASSESSMENT EXERCISE

What are the ways you will care for culnerable groups.

4.0 SUMMARY

Vulnerable groups are deprived of many social amenities due to one reason or the other. It is the duty of the nurse to identify them and make sure that they are not neglected. Effort is made to empower them to participate in health care.

5.0 CONCLUSION

There are a lot of vulnerable groups in the community. This unit has presented to you those people and has also provided you the in-depth knowledge and skill to care for them as a public health nurse.

6.0 TUTOR MARKED ASSIGNMENT

1. Explain factors that relate vulnerability.
2. As a public health nurse describe types of health disparities in your community.

7.0 REFERENCES/FURTHER READING

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