COMPREHENSIVE

HUMAN REPRODUCTIVE

HEALTH

AND

FAMILY PLANNING

COMPREHENSIVE HUMAN REPRODUCTIVE HEALTH AND FAMILY PLANNING VOLUME 1

BY

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First Published 2022

Published by: Danchels Nigeria
Location: Zone A, Iba housing estate, Estate main gate, Iba, Lagos. **Tel:** 08038054527, **Email:** danchelsnig@gmail.com

Printed by: Success Printers
Location: 17, Oba Akran Street, Badagry, Lagos State
Tel: 08056133738, 08023885572, 08028749335, 08100800638

ISBN: 9782-2202-2072

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DEDICATION

I dedicate this to book to:

The first Love of my life, GOD the creator of all, who gave me this privilege to be a writer and my LOVELY wife, Dr. Mrs Gabriel Jeremiah, who always stood by me in everything good.

ACKNOWLEDGMENTS

I wish to thank some of my Colleagues in west African Union University, International University of Bamenda, My Mentees in TOCHIDWORFI, Nascreative company, the designer of this book, Abundance private schools, Rivers/Bayelsa Union, Jesus witness International Mission, world peace tract ambassadors, The directors of total Child development world International, Dr Paul Nwala, my beloved brother, and my lovely wife, Dr Mrs Gabriel Jeremiah for their support and encouragement during the writing of this book. I am most grateful to Prof DJIBRIL M. Najibou, Alphonsus Izuchukwu Opurum, Pharm. Victor Cheluchukwu Nwankpor, and OKPANACHI MICHAEL, my friends for their useful comments and suggestions which helped to build the manuscript of this book. I am indebted to all my teachers and lecturers, especially Sir ThankGod George Ikor, Sir Samuel, Sir Eboju Andrew, Dr. Mrs Okocha, and Prof. Wirba Amenu Foven who educated me while I was in School as a student.

I will not fail to recognize my Parents, Mr and Mrs Jeremiah Oruikor Alfred, My Brothers and Sisters, Especially Mr Nsan Jeremiah Oruikor, My Uncles, Capt. George C Iboroma, Mr Oruikor Alfred Alfred and others who had supported me in all my stages of life.

Very importantly, I am grateful to Pst & Dr Mrs Madukor, the founder of Abundance Private Schools, Pst (Engr) & Pst Mrs Tony Chukwu, the Founder of Jesus Witness International Mission, Dr Godwin Onwe, the founder of Christ life Tabernacle, Pst Tonybede Ohaeri, the resident Pastor of House

of Victory Bible Church Benin, Dr George Tanko, Director of IUB campus, Pst Useful Nsoghai, Mr & Mrs Tchandjoun, Sis Hortence EWANE, Mr Wisdom Maxwell, Sis Constance Ikpe, Rev Jehoshaphat Omaka, the founder of Good shepherd Internal, Pst. Jacob Amaechi, Rev. Dr Azu Emanuel, the founder of Christ Evangelical team, Mr.Promise Obulor Ahamefula, and Emmanuel UKACHUKWU Njoku,Chairmen of Rivers/Bayelsa Union Benin, Mr Robert. N.K, the International students affairs IUB, and Mrs Glory Eke, they have been my great encouragers and supporters.

My Profound gratitude goes to Prof. Stephen Nwawolo, the DVC West African Union University, Dr. Bishop Adeyemi Olayemi, the President of West African Union University, Alhaji Onifade A. Abdulkabir, the Registrar of WAUU, Mrs Johnson Alice, the Deputy Registrar WAUU, Dr. Dave Aghwe, Dean faculty of Biological sciences, Dr. Timothee Demahou the Medical director Clinique la Masses Des Figures, Dr Emanuel, the medical director Debrose medical center and Dr. Engr Oladayo. A, the director of heritage foundation, for the opportunity to work in their institutions.

Finally, for all Persons who by one way or the other supported me, I appreciate you.

FOREWORD

One of the most critical and sexiest aspects of life is the reproductive health.

Humans are able to reproduce and increase numerically in their kinds as a recompense of reproduction.

If life must continue, then this subject must be a priority in everyday studies to enhance quality life and maintain the highest level of functioning reproductively.

It is worthy of acknowledgement that many are living silently in the world of reproductive health disaster and filled with reproductive challenges ignorantly. While some are just adamant of it, others are bereft of the knowledge and the right key to obtain reproductive health.

Also there are lots of diseases and abnormally planned families which have given rise to scarcity of resources leading to poverty and poor life status.

It is based on the aforementioned perspectives and concepts that the author of this book, **Dr. Oruikor Gabriel Jeremiah**, a seasonal medical practitioner placed his ink here.

The book, "**COMPREHENSIVE HUMAN REPRODUCTIVE HEALTH AND FAMILY PLANNING** " provide analytical and innovative approaches for the understanding of this subject ,and as well as to create awareness, educate and offer solutions to many of the ever asked questions on reproductive life improvement. This book is

a multidisciplinary one, as it examined the said subject in different dimensions:

The first part (Chapter 2-3) covers the basic anatomy of the reproductive system; the second part (chapter 4) covers the basic process of conception; the third part (chapter 5-8) covers the major sexually transmitted infections and management; the fourth part (chapter 9) covers all perspectives of family planning.

I warmly attest that the information in this publication is current and of great values to medical and health science students, health science lecturers, and as well as individuals who seeks to maintain their reproductive health. Therefore, I recommend this edition for the purpose of teaching, studies to acquire knowledge on the reproductive health.

PROFESSOR NADJIBOU DJIBRIL, PhD
- Prof & Researcher in clinical pharmacology, University of Parakou
- Head of department in Drug research
-Specialist of cardiovascular emergencies

PREFACE

Every human has organs that have similar function in reproduction. These organs combined together to form reproductive systems. For effective functions to be achieved, they must be maintained adequately.

The reproductive organs are one of the most sensitive organs of the human body and proper care has to be taken in order to protect oneself from the suffering caused by the various reproductive issues, and also to prevent sexually transmitted diseases (STDs) to come close. Taking proper care of the reproductive health is needed in order to have a safe and satisfying sexual life. It is also a necessity for having healthy children.

Reproductive health is important for psychological well-being in addition to its physical necessities. It is very important for safe sexual reproduction that can be defined as the natural way of producing the young ones, where two parental organisms are involved in a course of events. Organisms that undergo sexual reproduction include humans, birds, reptiles, animals, insects as well as plants.

Reproductive health ensures that people can have a satisfying and safe sex life, they are capable of reproducing and have the freedom to make a decision regarding when and how often to perform it. Male reproductive health, as well as, female reproductive health are important aspects of the overall reproductive system as both are equally important to create a new organism.

Reproductive health also deals to prevent themselves from getting any sexually transmitted diseases or infections (STDs or STIs). STDs (or STIs) are diseases that are mainly spread by sexual intercourse and these diseases can be seriously dangerous as a cure to some of them had not been found ye.

The importance of reproductive health is for a healthy state of physical and mental conditions in the human body where the proper functioning of reproductive organs takes place. All phases of reproduction can take place safely when reproductive health is well taken care of. And it ultimately results in the formation of new offspring or a whole new organism.

The three components of reproductive health are - family planning, sexual health, and maternal health.

This book is a manual for students in health sciences and biological sciences who need a simplified, but comprehensive guide on reproductive system, family planning and reproductive health. The author of this book used both scientific and medical approaches to discuss all the parameters necessary for the understanding of these subjects.

It is worthy of acceptance that the subjects in this book are not new because many researchers and authors have written on them, but most of their books are not readily understood by many students and readers due to the voracious approaches, hence the birth of this book in a simplified way to meet the students and readers need was necessary.

Also, just as these subjects are not new, the author employed and built his writing from other authors and researchers who had worked in these areas.

I wish to appreciate and acknowledge all the great researchers by whose efforts gave birth to this book.

ORUIKOR GABRIEL JEREMIAH, DrPH

CHAPTER ONE

1.1 INTRODUCTION

Reproduction is the process by which an organism reproduce another organism of its kind. In reproduction, there's need for mutual behavior which in turns to form zygote. For reproduction to take place, the male gamete (spermatozoa) and female gamete (ova) must be combined together. These gametes can't perform its functions without having channel by which it operates. The channel is known as reproductive system, which are organs that have similar function. These organs are naturally formed, each with adequate ability to function. These organs must be maintained to function adequately. It means that much efforts and attention should be given to it in order to maintain quality life.

Reproductive health is a part of sexual and rights that helps in addressing the well-being of a person in relation to reproductive processes, functions and systems at all stages of life. WHO defines health as a collective state of complete well-being, including reproductive health in addition to others like physical, mental and social well-being. This gives us the reproductive health definition.

We live in the world filled with divers diseases caused by pathogenic organs. This leads to a road filled with medical bills. These organisms must be prevented to avoid entrance to the reproductive system.

The process of adequately managing and caring for the reproductive system is known as reproductive health.

To further under the term reproductive health, another term "Contraception" is important. But before that, it's important to first understand the word "Conception".

Conception can take place at any time during the fertile period when fertilization occurs naturally free of any impediments (unprotected coitus) and spermatozoon is mature and capacitated.

Marriage is honorable and one of the fruits of marriage is children which is evident as a result of conception. But it's important to understand that today's world is expensive, so the number of children given birth into a family must be put to check in order to ensure sanity in the society. Each family must ensure that the number of children they would have can survive their overall income. For this to be properly done, the family must plan for the number of children they would have and how to space it base on their activities. The process to achieve the above task is by using of Contraceptive devices or any other methods.

But sometimes there is need for protection against unplanned pregnancy, which may lead to unpleasant consequences in our health.

Contraception can enable couples and individuals realize their basic right to decide freely and responsibly if, when and how many children to have.

According to Oxford Dictionary, Contraceptive device is anything that is introduced into the body to prevent conception. The contraceptive device help people to achieve the number of children they desire, reduces the number of unwanted pregnancies and the risk of certain sexually transmitted infections.

Contraception control implies the right of every family to plan to have as many children as they can care for and spacing the birth for maximum benefits.

In 2014, WHO opined that women worldwide are exposed to the risk of unwanted and unintended pregnancies as a result of ineffective or non-use of contraceptives. They further stated that family planning is not viewed only from the point of control of birth rate, fertility rate and population growth. Family planning is broadly perceived as a way of life which contributes effectively to the socio-economic development of a community or society in general through helping them choose a convenient method of contraceptive such as pills, injectable, condoms, diaphragm, spermicides, intrauterine contraceptive device (IUCD).

(Onuzulike, 2008) asserted that family planning is that large umbrella that centers for the well-being of family members as

concerns feeding, clothing, daily care and housing. (Eshre, 2005) stated that family planning contributes indirectly to the children's health, development and survival reducing the risk of maternal morbidity and mortality and also increase the productivity because proper spacing allows the mother to have time to contribute to the economy and adopt safer sex behavior.

CHAPTER TWO

2. 0. FEMALE REPRODUCTIVE SYSTEM

1 **The vulva**

The vulva is the outer part of the female reproductive system. It's also part of the external genitalia.

This term applies to the external female genital organs. The vulval blood supply comes mainly from the pudendal arteries and apportion of the inferior rectus artery. The blood drains through the pundendal veins.

The vulva consists of the following structures:

i. The mons pubis or mons veneris - is a pad of fat lying over the Symphysis pubis. It is covered with pubic hair from the time of puberty.
ii. The labia majora (greater lips)
iii. The labia minora (lesser lips) - anteriorly encloses clitoris and posteriorlny forms furchette. The clitoris is a small rounded organ of erectile tissue at the forwarded junction of the labia minora.
iv. The vestibule- is the flattened, smooth surface inside the labia
v. The vaginal orifice - In most virgins, the external opening to the vagina is partially closed by a thin fold of tissue known as the hymen. The opening (vaginal orifice) is partially .

vi. Bartholin's glands (volvovaginal glands) - are located just lateral to the vaginal opening on the sides.
vii. The furchette - is ridge of tissue formed by the posterior joining of the two labia minora and the labia majora.

2. The vagina: This is a canal running from the vestibule to the cervix. The vaginal fluid is strongly acidic, since it has PH 4.5.

The vagina is embedded with layers which are, vascular connective tissue, squamins epithelium, weak inner coat of circular fibers and stronger outer coat of longitudinal fibers.

It has a posterior wall that's longer than the anterior walls, making it possible for the vaginal wall to stretch during intercourse and child birth.

It blood supply comes from braches of the internal iliac artery and drains through corresponding Veins, and Lymphatic drainage via the inguinal, the internal iliac and the sacral glands drains the lymphatic fluid.

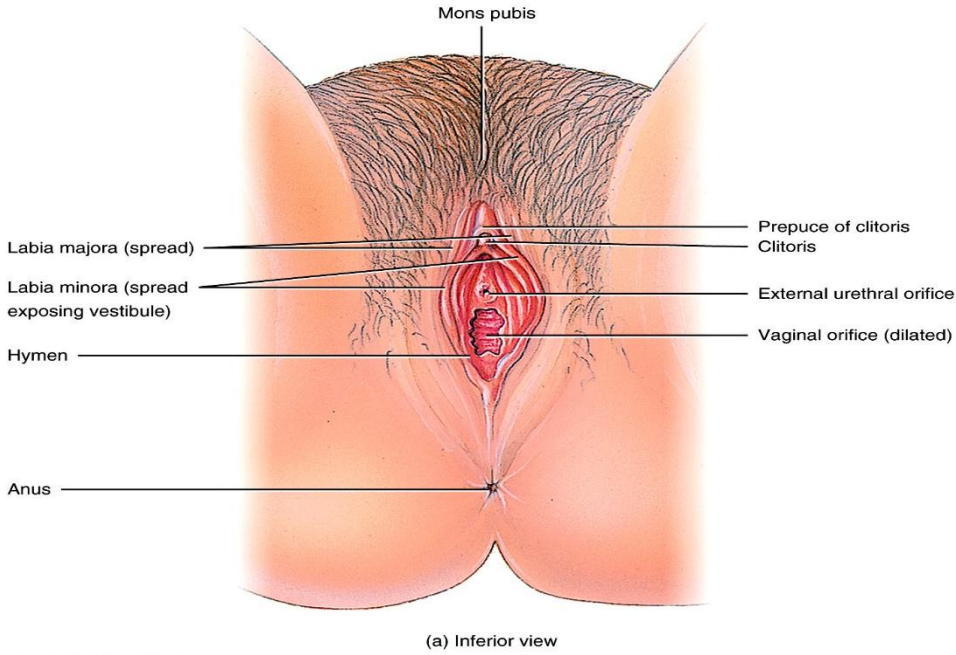


Figure 28.20a Tortora - PAP 12/e

Components of the vulva

3 **The uterus**

The uterus is a hallow, muscular, pear shaped organ found in the true pelvis.

Structurally, the non-pregnant uterus 7.5 cm long, 5cm wide and 2.5cm in depth, each wall being 1.25 cm thick. The Cervix forms the lower third of the uterus.

It leans forward, which is known as ante version, it bends forwards on itself, the process is called as ante flexion.

The Uterus is divided into these parts:

a. The isthmus -It is a narrow area between the cavity and the cervix, and it is 7mm long. During pregnancy, the isthmus enlarges to form the lower uterine segment.
b. The cervix (neck) - It's a protrusion into the vagina.
c. The internal os (mouth)- This is the narrow opening between the isthmus and the cervix.
d. The cornua - Is the upper outer angle of the uterus where the fallopian tubes join.
e. The cavity -is a potential space between the anterior and posterior walls.
f. The body or corpus - Is the upper 2/3 of the uterus and is the greater part.
g. The fundus - the domed upper wall between the insertions of the fallopian tubes.
h. The external os - This is a small round opening at the lower end of the cervix

Apart from the parts of the uterus mentioned above, it also has three layers, which include:

i. The endometrium: - It forms the lining of ciliated epithelium (mucous memberane) on a base of connective tissue or stroma. It is constantly changing in thickness throughout the menstrual cycle.

ii. The myomatrium or muscle coat: - is thick in the upper part of the uterus and is sparser in the isthmus and cervix. It is further divided into three parts namely: The Outer longitudinal, the middle oblique and the inner circular.
iii. The perimetrium:- is a double serous membrane, an extension of the peritoneum, which is dragged over the uterus.

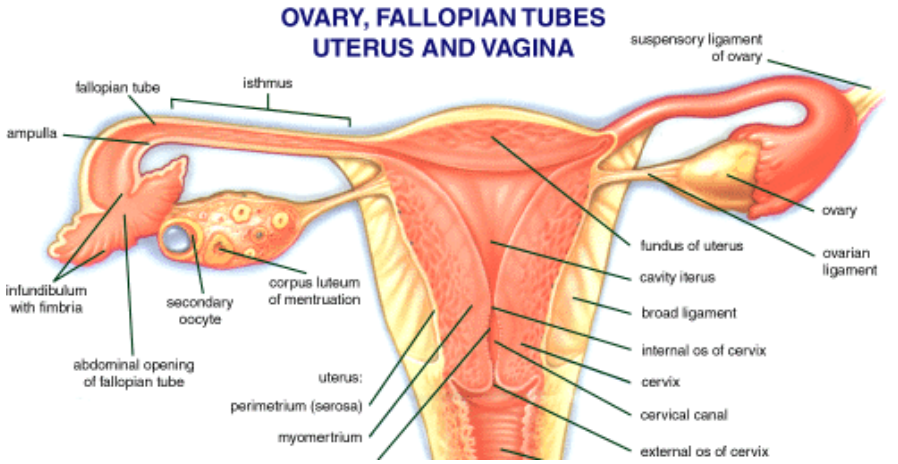
Functions of the Uterus

- It serves as shelter to the fetus during pregnancy.
- It expels the uterine contents.

4. **Fallopian tube or uterine tube**

Structurally, Each tube is 10cm long. It has four portions

- The interstitial portion is 1.25cm long and lies within the wall of the uterus. Its lumen is 1 mm wide.
- The isthmus is another narrow part which extends for 2.5cm from the uterus
- The ampoule is the wider portion where fertilization usually occurs. It is 5 cm long.
- The infundibulum is the funnel - shaped fingered end which is composed of many process known as fimbriae.



Functions of The Fallopian tube

- provides a site for fertilization
- It supplies the fertilized ovum with nutrition during its continued journey to the uterus
- Propels the ovum towards the uterus
- Receives the spermatozoa as they travel up wards

5. The Ovaries

The ovaries are a key part of the female reproductive system. Each woman has two ovaries. They are oval in shape, about four centimetres long and lie on either side of the womb (uterus) against the wall of the pelvis. They are held in place by ligaments attached to the womb but are not directly attached to the rest of the female reproductive tract, e.g. the fallopian tubes.

The ovaries release an egg (oocyte) at the midway point of each menstrual cycle. Usually, only a single oocyte from one ovary is released during each menstrual cycle, known as ovulation. A female baby is born with all the eggs that she will ever have. This is estimated to be around two million, but by the time a girl reaches puberty, this number has decreased to about 400,000. From puberty to the menopause, only about 300 - 400 eggs will be released through ovulation.

The function of the ovaries is controlled by gonadotrophin-releasing hormone (GnRH) released from the hypothalamus which in turn stimulates the pituitary gland to produce luteinising hormone (LH) and follicle stimulating hormone (FSH). These hormones are carried in the bloodstream to the ovary to regulate the menstrual cycle' data-content='1847' >menstrual cycle.

Functions of the ovaries

The ovaries have two main reproductive functions in the body, namely:

a. Oocytes (eggs) Production
b. Produces the reproductive hormones, such as oestrogen, progesterone and androgens.

6. **Cervix**

The Cervix is a cylinder-shaped tissue neck between the vagina and uterus.

The cervix is considered as the lower part of the uterus in the female reproductive system.

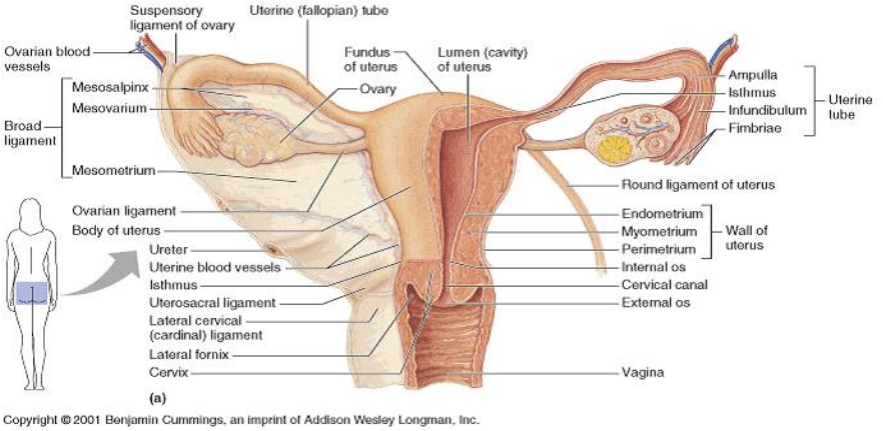
The cervix has two main divisions, namely:

i. The ectocervix, known as the external os, opens to allow passage between the uterus and vagina.
ii. The endocervix, or endocervical canal, is a tunnel through the cervix, from the external os into the uterus.

The overlapping border between the endocervix and ectocervix is called the transformation zone.

Functions of the Cervix

1. The cervix produces cervical mucus that changes in consistency during the menstrual cycle to prevent or promote pregnancy.
2. During menstruation, the cervix opens a small amount to permit passage of menstrual flow.
3. During childbirth, the cervix dilates widely to allow the baby to pass through.



The female reproductive system

6. The Female Human Breasts

The essentials of the human breast can't be overemphasized. Every female has mainly two breasts.

The female breasts, also known as the mammary glands, which are accessory organs of reproduction.

The breast is the tissue overlying the chest (pectoral) muscles, and are stabilized by suspensory ligaments.

Each breast is a hemispherical swelling and has a tail of tissue extending towards the axilla (the axillary tail of spence)

Each breast is situated on each side of the sternum and extends between the levels of the second and sixth rib.

Women's breasts are made of specialized tissue that produces milk (glandular tissue) as well as fatty tissue.

The female breast is divided into the following parts:

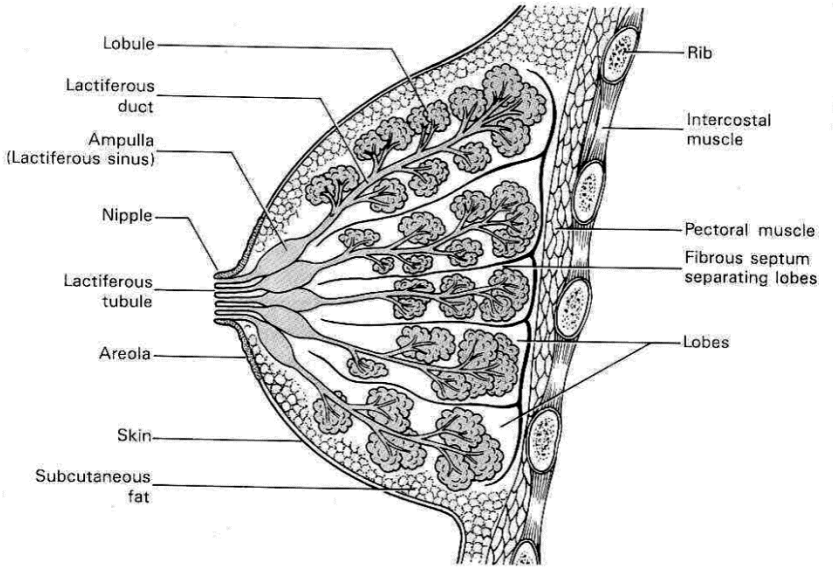
a. Nipples: The nipple is in the center of the areola. Each nipple has about nine milk ducts, as well as nerves.
b. Lymph vessels: Part of the lymphatic system, these vessels transport lymph, a fluid that helps your body's immune system fight infection. Lymph vessels connect to lymph nodes, or glands, found under the armpits, in the chest and other places.
c. Nerves: Nipples have hundreds of nerve endings, which makes them extremely sensitive to touch and arousal.
d. Areolae: The areola is the circular dark-colored area of skin surrounding the nipple. Areolae have glands called Montgomery's glands that secrete a lubricating oil. This oil protects the nipple and skin from chafing during breastfeeding.
e. Blood vessels: Blood vessels circulate blood throughout the breasts, chest and body.
f. Lobes: Each breast has between 15 to 20 lobes or sections. These lobes surround the nipple like spokes on a wheel. It is the milk-producing part of the breast.
g. Glandular tissue (lobules): Within each lobe are smaller structures, called lobules, where milk is produced. These small sections of tissue found inside lobes have tiny bulblike glands at the end that produce milk.

h. Milk (mammary) ducts: These small tubes, or ducts, carry milk from glandular tissue (lobules) to nipples.

The amount of fat determines the size of the breast.

The female breast is made up of the following tissues:

- Glandular: Also called lobules, glandular tissue produces milk.
- Fatty: This tissue determines breast size.
- Connective or fibrous: This tissue holds glandular and fatty breast tissue in place.



(Sylvia Verrals, 1993), Anatomy of the Female Breast.

CHAPTER THREE

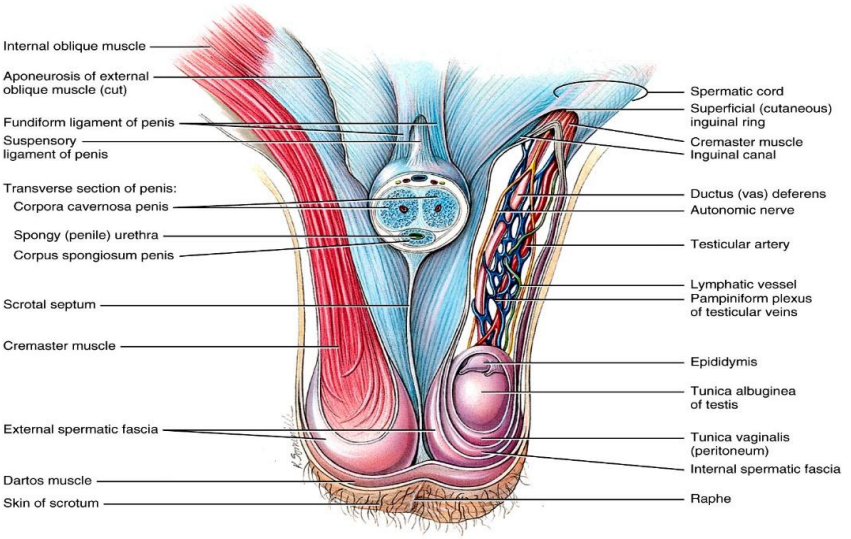
3.0. THE MALE REPRODUCTIVE SYSTEM

MALE REPRODUCTIVE SYSTEM

Scrotum

The scrotum is a sac-like organ made of skin and muscles that houses the testes. It is located inferior to the penis in the pubic region. The scrotum is made up of 2 side-by-side pouches with a testes located in each pouch. The smooth muscles that make up the scrotum allow it to regulate the distance between the testes and the rest of the body.

When the testes become too warm to support spermatogenesis, the scrotum relaxes to move the testes away from the body's heat. Conversely, the scrotum contracts to move the testes closer to the body's core heat when temperatures drop below the ideal range for spermatogenesis.



Anterior view of scrotum and testes and transverse section of penis

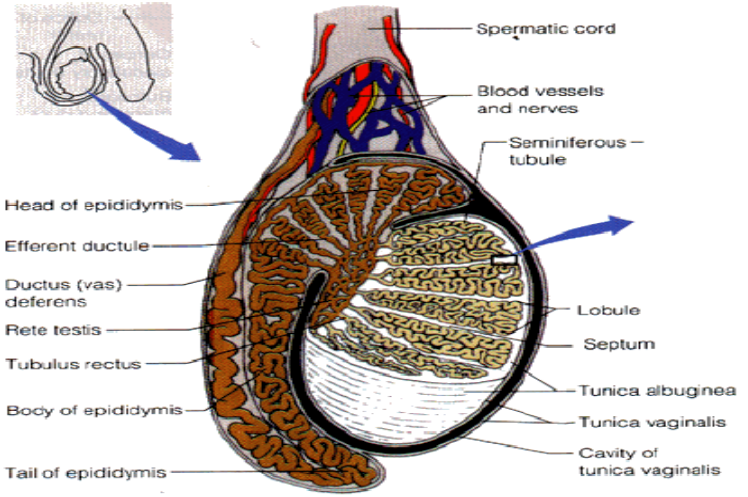
Figure 28.02 Tortora - PAP 12/e

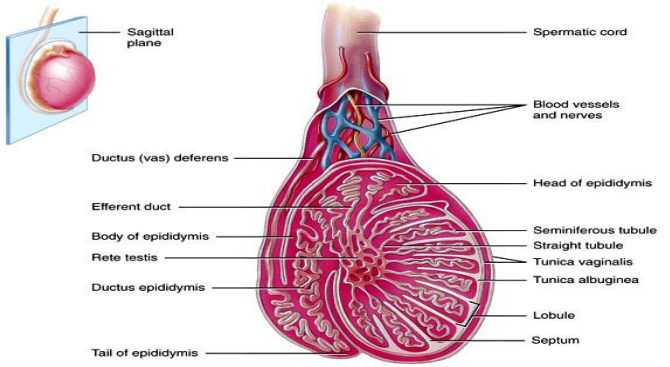
Testes

The 2 testes, also known as testicles, are the male gonads responsible for the production of sperm and testosterone. The testes are ellipsoid glandular organs around 1.5 to 2 inches long and an inch in diameter. Each testis is found inside its own pouch on one side of the scrotum and is connected to the abdomen by a spermatic cord and cremaster muscle. The cremaster muscles contract and relax along with the scrotum to regulate the temperature of the testes. The inside of the testes is divided into small compartments known as lobules. Each lobule contains a section of seminiferous tubule lined with epithelial cells. These epithelial cells contain many stem cells

that divide and form sperm cells through the process of spermatogenesis.

Diagram of the testes





(a) Sagittal section of a testis showing seminiferous tubules

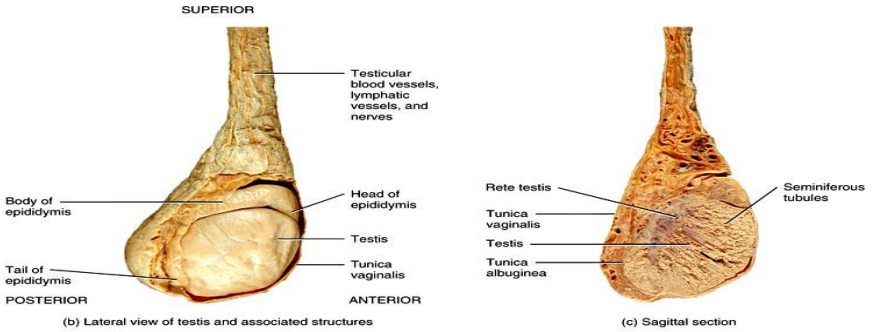


Figure 28.03 Tortora - PAP 12/e

Internal and external Anatomy of the testis

Epididymis

The epididymis is a sperm storage area that wraps around the superior and posterior edge of the testes. The epididymis is made up of several feet of long, thin tubules that are tightly coiled into a small mass. Sperm produced in the testes moves into the epididymis to mature before being passed on through the male reproductive organs. The length of the epididymis delays the release of the sperm and allows them time to mature.

Spermatic Cords and Ductus Deferens

Within the scrotum, a pair of spermatic cords connects the testes to the abdominal cavity. The spermatic cords contain the ductus deferens along with nerves, veins, arteries, and lymphatic vessels that support the function of the testes.

The ductus deferens, also known as the vas deferens, is a muscular tube that carries sperm superiorly from the epididymis into the abdominal cavity to the ejaculatory duct.

The ductus deferens is wider in diameter than the epididymis and uses its internal space to store mature sperm. The smooth muscles of the walls of the ductus deferens are used to move sperm towards the ejaculatory duct through peristalsis.

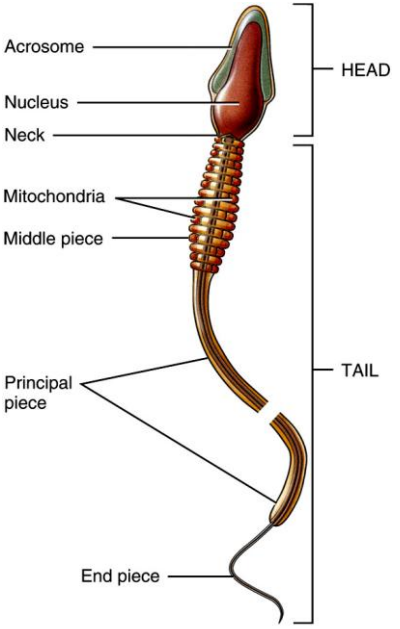


Figure 28.06 Tortora - PAP 12/e

Sperm cells

Seminal Vesicles

The seminal vesicles are a pair of lumpy exocrine glands that store and produce some of the liquid portion of semen. The seminal vesicles are about 2 inches in length and located posterior to the urinary bladder and anterior to the rectum. The liquid produced by the seminal vesicles contains proteins and mucus and has an alkaline pH to help sperm survive in the acidic environment of the vagina. The liquid also contains fructose to feed sperm cells so that they survive long enough to fertilize the oocyte.

Ejaculatory Duct

The ductus deferens passes through the prostate and joins with the urethra at a structure known as the ejaculatory duct. The ejaculatory duct contains the ducts from the seminal vesicles as well. During ejaculation, the ejaculatory duct opens and expels sperm and the secretions from the seminal vesicles into the urethra.

Urethra

Semen passes from the ejaculatory duct to the exterior of the body via the urethra, an 8 to 10 inch long muscular tube. The urethra passes through the prostate and ends at the external urethral orifice located at the tip of the penis. Urine exiting the body from the urinary bladder also passes through the urethra.

Prostate

The prostate is a walnut-sized exocrine gland that borders the inferior end of the urinary bladder and surrounds the urethra. The prostate produces a large portion of the fluid that makes up

semen. This fluid is milky white in colour and contains enzymes, proteins, and other chemicals to support and protect sperm during ejaculation. The prostate also contains smooth muscle tissue that can constrict to prevent the flow of urine or semen.

Cowper's Glands

The Cowper's glands, also known as the bulbourethral glands, are a pair of pea-sized exocrine glands located inferior to the prostate and anterior to the anus. The Cowper's glands secrete a thin alkaline fluid into the urethra that lubricates the urethra and neutralizes acid from urine remaining in the urethra after urination. This fluid enters the urethra during sexual arousal prior to ejaculation to prepare the urethra for the flow of semen.

Penis

The penis is the male external sexual organ located superior to the scrotum and inferior to the umbilicus. The penis is roughly cylindrical in shape and contains the urethra and the external opening of the urethra. Large pockets of erectile tissue in the penis allow it to fill with blood and become erect. The erection of the penis causes it to increase in size and become turgid. The function of the penis is to deliver semen into the vagina during sexual intercourse. In addition to its reproductive function, the penis also allows for the excretion of urine through the urethra to the exterior of the body.

Semen

Semen is the fluid produced by males for sexual reproduction and is ejaculated out of the body during sexual intercourse. Semen contains sperm, the male reproductive gametes, along with a number of chemicals suspended in a liquid medium. The chemical composition of semen gives it a thick, sticky consistency and a slightly alkaline pH. These traits help semen to support reproduction by helping sperm to remain within the vagina after intercourse and to neutralize the acidic environment of the vagina. In healthy adult males, semen contains around 100 million sperm cells per milliliter. These sperm cells fertilize oocytes inside the female fallopian tubes.

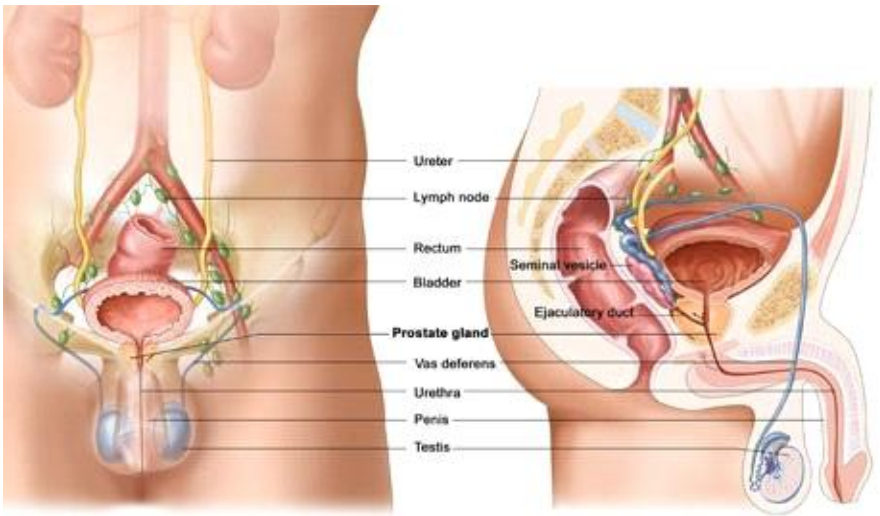
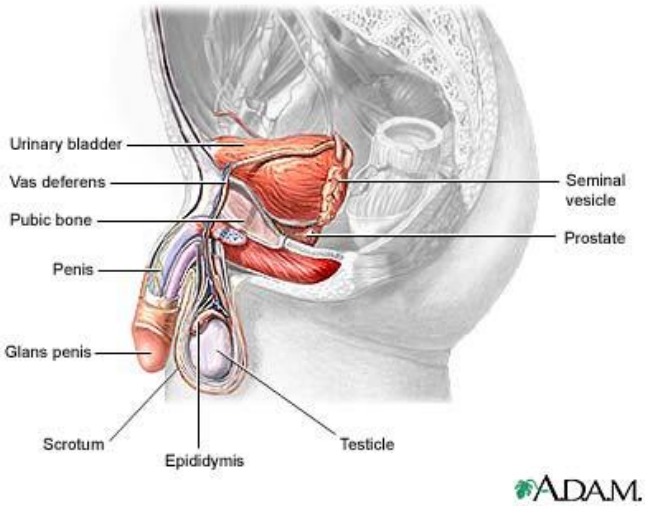


Fig 2.11: Male Reproductive Organs
Source: http://en.wikipedia.org/wiki/Reproductive


Urinary bladder
Vas deferens
Pubic bone
Penis
Glans penis
Scrotum
Epididymis
Testicle
Seminal vesicle
Prostate
A.D.A.M.

CHAPTER FOUR

4. 0. PROCESS OF CONCEPTION IN WOMEN

Conception is the union of the ovum and a spermatozoa.

The term conception is used to describe fertilization, impregnation or fecundation.

Fertilization must occur fairly quickly after release of the ovum because it usually occurs in the outer third of a fallopian tube, the ampullar portion. The functional life span of a spermatozoa is about 48 hours, and it may be as long as 72 hours or longer.

Therefore, sexual coitus during this time may result in fertilization (pregnancy)

The Four Phases of Menstrual cycle

i. **Menstruation**

Menstruation is the elimination of the thickened lining of the uterus (endometrium) from the body through the vagina. Menstrual fluid contains blood, cells from the lining of the uterus (endometrial cells) and mucus. The average length of a period is between three days and one week.

ii. Follicular phase

The follicular phase starts on the first day of menstruation and ends with ovulation. Prompted by the hypothalamus, the pituitary gland releases follicle stimulating hormone (FSH). This hormone stimulates the ovary to produce around five to 20 follicles (tiny nodules or cysts), which bead on the surface.

Each follicle houses an immature egg. Usually, only one follicle will mature into an egg, while the others die. This can occur around day 10 of a 28-day cycle. The growth of the follicles stimulates the lining of the uterus to thicken in preparation for possible pregnancy.

iii. Ovulation

Ovulation is the release of a mature egg from the surface of the ovary. This usually occurs mid-cycle, around two weeks or so before menstruation starts.

During the follicular phase, the developing follicle causes a rise in the level of oestrogen. The hypothalamus in the brain recognises these rising levels and releases a chemical called gonadotrophin-releasing hormone (GnRH). This hormone prompts the pituitary gland to produce raised levels of luteinising hormone (LH) and FSH.

Within two days, ovulation is triggered by the high levels of LH. The egg is funnelled into the fallopian tube and toward the uterus by waves of small, hair-like projections. The life span of the typical egg is only around 24 hours. Unless it meets a sperm during this time, it will die.

When you want to have a baby you can improve your chance of getting pregnant if you know about ovulation and the 'fertile window' in the menstrual cycle. Read more on ovulation and fertility window.

iv. Luteal phase

During ovulation, the egg bursts from its follicle, but the ruptured follicle stays on the surface of the ovary. For the next two weeks or so, the follicle transforms into a structure known as the corpus luteum. This structure starts releasing progesterone, along with small amounts of oestrogen. This combination of hormones maintains the thickened lining of the uterus, waiting for a fertilised egg to stick (implant).

If a fertilised egg implants in the lining of the uterus, it produces the hormones that are necessary to maintain the corpus luteum. This includes human chorionic gonadotropin (HCG), the hormone that is detected in a urine test for pregnancy. The corpus luteum keeps producing the raised levels of progesterone that are needed to maintain the thickened lining of the uterus.

If pregnancy does not occur, the corpus luteum withers and dies, usually around day 22 in a 28-day cycle. The drop in progesterone levels causes the lining of the uterus to fall away. This is known as menstruation. The cycle then repeats.

CHAPTER FIVE

SEXUALLY TRANSMITTED DISEASES IN HEALTH PART ONE:

BACTERIAL INFECTIONS

Admittedly, sexually transmitted Infections are caused by Bacteria, viruses and Parasites. But in this chapter, I will discuss bacterial infections.

Generally, sexually transmitted diseases (STDs) are contracted or acquired by sexually oriented behavior or contact. These pathogenic microorganisms (The bacteria) may pass from person to person in blood, semen, or vaginal and other bodily fluids.

Sexually transmitted diseaess caused by Bacteria include: Gonorrhea, syphilis and chlamydia

1. **Gonorrhea**:

Aetiology: How is Gonorrhea contracted or causes? Gonorrhea can affect humans, ranging from infants to adult. It's transmitted by direct inoculation of secretions from one mucous membrane to another, most commonly through vaginal, anal or oral sexual intercourse. Infection of the eye most commonly results from autoinoculation by an infected individual. Gonococcal infection among infants usually results from exposure to infected cervical exudates at birth, making

screening during pregnancy important. The creen is important because Gonorrhea can also be transmitted from birthing parent to baby during delivery.

Pathophysiology of Gonorrhea: N. gonorrhoeae is the responsible bacteria for Gonorrhea. It's known as a widespread sexually transmitted disease caused when Neisseria gonorrhoeae bacteria infect the normally protective inner lining of human genital tissues.

This bacteria enters through sexual contact and attach to mucosa and epithelial cells. They invade the cells and damage the mucosa. The body will usually cause an inflammatory response with exudate at the site of infection.

Clinical manifestations of Gonorrhea: Most times the symptoms of Gonorrhea are not noticeable**.** But even someone who is asymptomatic carrier can still transmit gonorrhea.

The signs and symptoms of the diseases are manifested based on the gender . **For human male**, within 2 to 30 days after exposure, the individual will develop signs and symptoms of Gonorrhea.

The following are possible evidences of Gonorrhea:

i. Itching and soreness in the anus ii. Burning or pain during urination may be the first symptom to notice .iii. Urgency of urination iv. Discoloration and swelling at the penis opening. v.

Testicular swelling or pain. vi. Pain when having bowel movements Vii. Rectal bleeding or discharge

Viii. A pus-like discharge or drip from the penis. This discharge could be yellow, white, beige, or greenish.

For human female:

Many females don't develop any symptoms of gonorrhoea. But those who do experience can appear from a day to several weeks after exposure.

These symptoms might be very similar to that of vaginal yeast or other bacterial infections, which can make them even more difficult to recognize.

Possible symptoms include: a .watery, creamy, or greenish vaginal discharge

b. Pain or burning while urinating can urge to urinate more frequently. d. Heavier periods or spotting between periods .e. Pain during penetrative vaginal sex. f. Sharp pain in the lower abdomen. Itching and soreness in the anus. g. Rectal bleeding or discharge. h. painful bowel movements

Diagnostics findings: There are many strategies employed by health workers to diagnose this condition, but not limited to these:

i. Urine examination .ii. Fluid emanation: This method involves penis, vagina, throat, or rectum swab to get a sample of fluid for culture.

iii. Blood test: it's important, but rarely used to detect gonorrhoea. It's not usually conclusive.

Therapeutic Management:

Education:
a. No sex for 7 days
b. Safe sex.
c. Condom use provides partial protection.
d. Notify sexual partners for treatment
e. Early treatment
f. Allow patient teach-back on symptoms
g. Explain fertility and morbidity risks.
h. Educate parents on importance of Erythromycin post-birth

Nursing Intervention
1. Use standard precautions when obtaining specimens for laboratory examination and when caring for the patient.
2. Isolate the patient with an eye infection.
3. If the patient has gonococcal arthritis, apply moist heat to ease the pain in the affected joints.
4. Before treatment, determine if the patient has any drug sensitivities.
5. Monitor the patient for complications.

6. Tell the patient that until cultures prove negative, he's still infectious and should avoid unprotected sexual contact.
7. Urge the patient to inform his sexual partners of his infection so that they can seek treatment.
Advise the partner of an infected person to receive treatment even if she doesn't have positive cultures.
8. Counsel the patient and his sexual partners to be tested for human immunodeficiency virus and hepatitis B infection.
8. Instruct the patient to be careful when coming in contact with his bodily discharges so that he doesn't contaminate his eyes.
9 .Tell the patient to take anti-infective drugs for the length of time prescribed.
10. To prevent reinfection, tell the patient to avoid sexual contact with anyone suspected of being infected, to use condoms during intercourse, to wash genitalia with soap and water before and after intercourse.

Medical Management
According to GUM Clinic, National guidelines recommend first line treatment with Ceftriaxone 500 mg by intramuscular (IM) injection as a single dose, plus azithromycin 1 g orally as a single dose.

If an IM injection is contraindicated or refused, oral cefixime 400 mg orally as a single dose, plus azithromycin 1 g orally as a single dose can be offered.

If cephalosporins are contraindicated (for example the person has a true allergy to penicillin-type antibiotics), consider a fluoroquinolone (ciprofloxacin 500 mg, single oral dose or ofloxacin 400 mg, single oral dose) plus azithromycin 1 g, single oral dose.

Treatment with ciprofloxacin or ofloxacin is only recommended if N. gonorrhoeae is proven to be sensitive (i.e. culture and sensitivity results are available for the person or recent sexual partners), as there is a high prevalence of quinolone resistance worldwide.

2. SYPHILIS

Aetiology: Syphilis is caused by the bacteria known as Treponema pallidum. It can be gotten through direct contact with a syphilis sore on or in another person's body (mouth, penis, vagina, anus).

This usually happens during sexually oriented behavior or activity, but the bacteria can also get into the body through cuts on the skin or through mucous membranes.

In 1905, German scientists that the bacterium Treponema pallidum is responsible for the infection

Admittedly, Syphilis is primarily transmitted sexually (through oral, anal, or vaginal sex, or direct genital-to-genital contact), but Babies can also acquire syphilis if their mother has an untreated infection (congenital syphilis).

The fact that the bacteria that cause syphilis can't live for a long period outside the human body make it possible for Syphilis not to be contracted by:

Using eating utensils, Sharing a toilet, and wearing another person's clothing.

In 2020, 133,945 new cases of syphilis (all stages) were reported in the United States, according to the Centres for Disease Control and Prevention (CDC). Syphilis in people with vaginas is rising slightly more than people with penises, though both groups are seeing an uptick in cases overall.

Syphilis has different stages of Infection which include: primary, secondary, latent, and tertiary

Syphilis is most infectious during the first two stages.

When syphilis is in the hidden, or latent, stage, the disease remains active but often doesn't cause symptoms. Tertiary syphilis is the most destructive to health.

Pathophysiology: T. Pallidum is the cause of syphilis. The bacteria enter through a small abrasion during intercourse. In stage I T. Pallidum multiplies in the epithelial tissue and small chancre forms. The immune system responds. Stage II the bacteria spread to major organ systems. Stage III is the latent phase where it is a silent infection. Transmission is possible even though there are no signs of infection. Stage IV there is

destruction to the skin, bone, cardiovascular complications such as heart failure and aneurysms occur. There is a high chance of morbidity in stage IV as the bacteria overwhelms the body.

Clinical manifestations: Syphilis can be challenging to diagnose. Someone can have it without showing any symptoms for years. However, the earlier syphilis is discovered, the better. Syphilis that remains untreated for a long time can cause major damage to important organs, such as the heart and the brain.

At first, the bacterial infection has minimal to no symptoms. As time goes on, the infection progresses to affect multiple systems in your body, which can then have severe effects.

The clinical manifestations of Syphilis depends on the stage the patient is. There are four stages, which are:

1 Primary syphilis: This stage occurs about 3 to 4 weeks after an individual has exposed to the bacteria. It begins with a small, round sore called a chancre. A chancre is painless, but it's highly infectious. People may not even notice when they have one. This sore may appear wherever the bacteria entered the body, such as on or inside the mouth, genitals, or rectum.

On average, the sore shows up around 3 weeks after infection, but it can take between 10 to 90 days to appear. The sore remains for 2 to 6 weeks. Sometimes the only symptom will be swollen lymph nodes.

2. Secondary syphilis: Skin rashes and a sore throat may develop during the second stage of syphilis. The rash won't itch and is usually found on the palms and soles, but it may occur anywhere on the body. Some people don't notice the rash before it goes away.

During this stage Other symptoms may include: Weight loss, headaches, hair loss, fatigue, swollen lymph nodes, aching joints, fever.

3. Latent syphilis: The third stage of syphilis is the latent, or hidden, stage. The primary and secondary symptoms disappear, and there won't be any noticeable symptoms at this stage. However, the bacteria remain in the body. This stage could last for years before progressing to tertiary syphilis.

4. Tertiary syphilis: The last stage of infection is tertiary syphilis. About 14 to 40 percent. Trusted Source of people with syphilis enter this stage. Tertiary syphilis can occur years or decades after the initial infection. Tertiary syphilis can be life-threatening. Some other potential outcomes of tertiary syphilis include: blindness, loss of hearing, mental health conditions, memory loss, destruction of soft tissue and bone, neurological disorders, such as stroke or meningitis, heart disease, neurosyphilis, which is an infection of the brain or spinal cord

Diagnostic findings: Syphilis tests screen for and diagnose syphilis by looking for certain antibodies that are linked to the presence of Syphilis.

The Centers for Disease Control and Prevention recommends that all pregnant people have a syphilis test at their first prenatal visit. Pregnant people who are more likely to become infected with syphilis should be tested again at 28 weeks of pregnancy and at delivery.

The following methods can be employed:

1. First line; a.Rapid plasma reagin (RPR), which is a blood test.

b .Venereal Disease Research Laboratory (VDRL) test, which can be done on blood or spinal fluid

2. Second line of tests: This is necessary If the result of the first test is positive for antibodies linked to syphilis infections to confirm whether or not an individual have syphilis.

Usually, the second test looks for antibodies that the immune system makes only to fight off syphilis. If these antibodies are presence, it means an individual have a syphilis infection now, or had a syphilis infection that was treated in the past. Common tests to check for syphilis antibodies include:

a. Treponema pallidum particle agglutination assay (TP-PA)
b. Fluorescent treponemal antibody absorption (FTA-ABS) test
c. Microhemagglutination assay for antibodies to T. pallidum (MHA-TP)

d. T. pallidum hemagglutination assay (TPHA)
e. T. pallidum enzyme immunoassay (TP-EIA)
f. Chemiluminescence immunoassays (CLIA)

Therapeutic Management:

Education

1. Educate patients on risk of spreading
   a. Reproduction: Can pass from mother to child in utero
   b. Sexuality: Passes between sexual partners

2. Patient Education

   a. Incubation period varies: At maximum, takes 90 days to appear
   b. Potential for multiple sexual partners or needle sharers during this window
   c. Strongly encouraged to notify partners when diagnosed
   d. High risk populations .c. Multiple sexual partners .d. IV drug users

3. High risk individuals should seek medical treatment with: New onset sores, Unexplainable rash

Medical Management

a. Penicillin: Single dose given IM
b. Doxycycline and Tetracycline Can be given if PCN allergy present cannot be given to pregnant women

c. Ceftriaxone: Third line drug if first two options not viable

3. CHLAMYDIA

Aetiology

Chlamydia trachomatis (C. trachomatis) is the causative organism of Chlamydia. It's a very common sexually transmitted infection. Once a person's infected, they can spread chlamydia to their partners through intercourse, anal sex or oral sex. Infections can also occur when partners share sex toys that have become contaminated with the bacteria responsible for chlamydia.

There are lots of ways that the fluids from one person's genitals can transmit the bacteria that causes chlamydia.

Manual stimulation of the genitals or anus. Less commonly, infected vaginal fluid or semen can come in contact with a person's eye, causing an infection called conjunctivitis. For example, this can happen if you touch the genitals of an infected person and then rub your eyes without washing your hands first

Pathophysiology: The causative bacteria organism enters through sexual contact and reproduces within a host.

Clinical manifestations: Chlamydia bacteria often cause symptoms that are similar to cervicitis or a urinary tract infection (UTI). You may notice:

1. **Female**

a. White, yellow or gray discharge from vagina that may be smelly (female).
b. Pus in the urine (pyuria).
c. Pain or a burning sensation during urination (dysuria).
d. Bleeding in between periods (females).
e. Painful periods.
f. Painful intercourse (dyspareunia) (female).
g. Itching or burning in and around the vagina (female).
h. Dull pain in the lower part of your abdomen(female)

2. **Male**

Chlamydia bacteria most often infect your urethra, causing symptoms that are similar to nongonococcal urethritis. You may notice:

a. Mucus-like or clear, watery discharge from the penis.
b. Pain or a burning sensation during urination (dysuria).

Diagnostic findings: The Centers for Disease Control and Prevention recommends chlamydia screening for:

Sexually active women age 25 or younger. The rate of chlamydia infection is highest in this group, so a yearly

screening test is recommended. Even if you've been tested in the past year, get tested when you have a new sex partner.

Pregnant women. You should be tested for chlamydia during your first prenatal exam. If you have a high risk of infection from changing sex partners or because your regular partner might be infected get tested again later in your pregnancy.

Women and men at high risk. People who have multiple sex partners, who don't always use a condom or men who have sex with men should consider frequent chlamydia screening. Other markers of high risk are current infection with another sexually transmitted infection and possible exposure to an STI through an infected partner.

a. **Urine test**: A sample of urine is analysed in the laboratory for presence of this infection.

b. **Swab**: For women, a swab of the discharge from the cervix for culture or antigen testing for chlamydia. This can be done during a routine Pap test. Some women prefer to swab their vaginas themselves, which has been shown to be as diagnostic as doctor-obtained swabs.

For men, the doctor inserts a slim swab into the end of the penis to get a sample from the urethra. In some cases, the doctor will swab the anus.

CHAPTER SIX

SEXUALLY TRANSMITTED DISEASES IN HEALTH PART TWO:

VIRAL INFECTIONS

1. **Human papilloma virus**

Aetiology: Human papilloma virus (HPV) is the name given to certain categories of viruses, which are very common. These viruses do not normally cause health break down in most people, except some that are capable of causing genital warts, and sometimes cancer.

It is a skin condition, hence it affects the skin. Research has shown that HPV has more than 100 types of HPV in our world today.

Genital warts usually appear as a small bump or group of bumps in the genital area. They can be small or large, raised or flat, or shaped like a cauliflower.

HPV is the most common STI. There were about 43 million HPV infections in 2018, many among people in their late teens and early 20s.

According to a trusted source, Human papilloma virus (HPV) is the most common sexually transmitted infection (STI) in the United States.

Pathophysiology: The HPV virus is a small, non-enveloped, double stranded DNA virus that infects the mucosal or cutaneous epithelium" (Valentino & Poronsky, 2015, p. 156).

• Since HPV affects epithelial cells and does not enter the bloodstream, "having an HPV infection in one part of the body should not cause infection in another part (McCance & Huether,2014, p. 424).

• Once HPV gets into the epithelial cell, "the virus begins to make proteins that can interfere with normal functions in the cell, enabling the cell to grow in an uncontrolled manner and to avoid apoptosis" (McCance & Huether, 2014, p. 424).Underlying Pathophysiology

• HPV modifies the DNA damage response (DDR) "pathways by interacting with many proteins, including ATM, ATR, MRN, y-H2AX, Chk1, Chk2, p53, BRCA1, BRCA2, RAD51…"(Low et al, 2016, p. 28). and a few others.

• The HPV virus "can activate and dysregulate DDR pathways throughout various stages of their life cycles to replicate itself in host cells" (Low et al, 2016, p. 29).

• Cell biology during a different periods of a woman's life can make her more susceptible to contracting the virus (Choma & McKeever, 2015, p.51).

Clinical manifestations:

Plantar warts: Plantar warts are hard, grainy growths that usually appear on the heels or balls of your feet. These warts might cause discomfort.

Common warts: Common warts appear as rough, raised bumps and usually occur on the hands and fingers. In most cases, common warts are simply unsightly, but they can also be painful or susceptible to injury or bleeding.

Genital warts: These appear as flat lesions, small cauliflower-like bumps or tiny stem-like protrusions. In women, genital warts appear mostly on the vulva but can also occur near the anus, on the cervix or in the vagina.

In men, genital warts appear on the penis and scrotum or around the anus. Genital warts rarely cause discomfort or pain, though they may itch or feel tender.

Flat warts: Flat warts are flat-topped, slightly raised lesions. They can appear anywhere, but children usually get them on the face and men tend to get them in the beard area. Women tend to get them on the legs.

Diagnostic findings: warts are generally visible, but if they aren't visible, these tests can be conducted:

1. DNA test: This test, conducted on cells from the cervix, can recognize the DNA of the high-risk varieties of HPV that have been linked to genital cancers. It's recommended for women 30 and older in addition to the Pap test.
2. Vinegar (acetic acid) solution test: A vinegar solution applied to HPV-infected genital areas turns them white. This may help in identifying difficult-to-see flat lesions.
3. Pap test: A sample of cells are collected from the cervix or vagina to send for laboratory analysis. Pap tests can reveal abnormalities that can lead to cancer.

Therapeutic Management:
Warts often go away without treatment. This is true particularly in children.

Medications
Medications to eliminate warts are generally topical, hence it's applied on the lesions. It can take several application of these medications before the lesions can be eliminated.

1. Trichloroacetic acid: it's a chemical that burns off warts on the palms, soles and genitals. It might cause local irritation.
2. Salicylic acid: salicylic acid work by removing layers of a wart a little at a time. For use on common warts, salicylic acid can cause skin irritation and isn't for use on your face.

3. Imiquimod: This prescription cream might enhance your immune system's ability to fight HPV. Common side effects include redness and swelling at the application site.
4. Podofilox: This works by destroying genital wart tissue. Podofilox may cause burning and itching where it's applied.

Surgical Intervention
The second line of treatment when medications do not work is surgery and other methods. The surgery is aimed at removing warts.

The exams of surgical procedures and others are:
1. Freezing with liquid nitrogen (cryotherapy)
2. Burning with an electrical current (electrocautery)
3. Laser surgery

2. GENITAL HERPES

Aetiology: Genital herpes is one of the Infections caused by sexually transmitted Diseases. There are two types of the herpes simplex virus (HSV) that causes genital herpes:

HSV-1. This type usually causes cold sores, but it can also cause genital herpes.

HSV-2. This type usually causes genital herpes, but it can also cause cold sores.

The World Health Organization stated that in 2016, about 3.7 billion. Trusted Source people under age 50 years had

contracted HSV-1. In the same year, around 491 million people ages 15 to 49 years had an HSV-2 infection.

Although genital herpes is typically caused by HSV-2, the infection can also be caused by HSV-1.

According to the WHO's latest available statistics, it was estimated that 491.5 million people had an HSV-2 infection in 2016. This is over one-tenth of the world's population ages 15 to 49 years.

The WHO also estimates that 3.7 billion people had an HSV-1 infection in the same year, which accounts for around two-thirds of the world's population under age 50 years.

Pathophysiology: The viruses enter the body through skin abrasions or mucous membranes (the thin layers of tissue that line the openings of the body, found in nose, mouth, and genitals).

Once the viruses are inside the body, they incorporate themselves into the cells. Viruses tend to multiply or adapt to their environments very easily, which makes treating them difficult. The virus causes herpetic sores, which are painful blisters (fluid-filled bumps) that can break open and ooze fluid.

HSV-1 or HSV-2 can be found in bodily fluids, including: saliva, semen, and vaginal secretions

Clinical manifestations: How do you recognize the symptoms of genital herpes?

The appearance of blisters is known as an outbreak. On average, a first outbreak will appear 4 days after contracting the virus, according to the Centers for Disease Control and Prevention (CDC). However, it can take as little as 2 days, or as much as 12 days or more, to appear.

General symptoms for those with a penis include blisters on the: penis, scrotum, buttocks (near or around the anus).

Blisters around or near the: vagina, anus, buttocks.

General symptoms may include: Blisters may appear in the mouth and on the lips, face, and anywhere else that came into contact with areas of infection, The area that has contracted the condition often starts to itch, or tingle, before blisters actually appear, The blisters may become ulcerated (open sores) and ooze fluid, A crust may appear over the sores within a week of the outbreak, The lymph glands may become swollen. Lymph glands fight infection and inflammation in the body. The viral infection may cause headaches, body aches, and fever.

Babies who are born with genital herpes can develop very severe complications and experience: blindness, brain damage, death.

Diagnosing genital herpes: Genital herpes can be typically diagnosed by the transmission of a visual examination of the herpes sores. Laboratory tests are not necessarily recommended. Though a blood test can diagnose HSV before an outbreak occurs. However, if there has not been exposure to the virus and there are no symptoms being displayed, it's not always necessary to be screened for HSV-1 or HSV-2.

Therapeutic Management

The management of this disease is targeted towards reducing the outbreak, but can't be cured.

Medications

Antiviral drugs may help speed up the healing time for sores and reduce pain. Medications may be taken at the first signs of an outbreak (tingling, itching, and other symptoms) to help reduce the symptoms.

3. HIV/ AIDS

Aetiology: HIV (human immunodeficiency virus) is a virus that attacks cells that help the body fight infection, making a person more vulnerable to other infections and diseases. It is spread by contact with certain bodily fluids of a person with HIV, most commonly during unprotected sex (sex without a condom or HIV medicine to prevent or treat HIV), or through sharing injection drug equipment.

The late stage of HIV, when the body's immune system is badly damaged emanate into AIDS.

In the U.S., most people with HIV do not develop AIDS because taking HIV medicine as prescribed stops the progression of the disease.

A person with HIV is considered to have progressed to AIDS when:

the number of their CD4 cells falls below 200 cells per cubic millimeter of blood (200 cells/mm3). (In someone with a healthy immune system, CD4 counts are between 500 and 1,600 cells/mm3.) OR they develop one or more opportunistic infections regardless of their CD4 count.

Clinical manifestations: Within a few weeks of HIV infection, flu-like symptoms such as fever, sore throat and fatigue can occur. Then the disease is usually asymptomatic until it progresses to AIDS. AIDS symptoms include weight loss, fever or night sweats, fatigue and recurrent infections.

Diagnostic findings:

Antibody tests: This look for antibodies to HIV in a person's blood or oral fluid. Antibody tests can take 23 to 90 days to detect HIV after exposure. Antigen/antibody tests look for both HIV antibodies and antigens.

Therapeutic Management

Luckily, however, effective treatment with HIV medicine (called antiretroviral therapy or ART) is available. If taken as prescribed, HIV medicine can reduce the amount of HIV in the blood (also called the viral load) to a very low level. This is called viral suppression. If a person's viral load is so low that a standard lab can't detect it, this is called having an undetectable viral load. People with HIV who take HIV medicine as prescribed and get and keep an undetectable viral load can live long and healthy lives and will not transmit HIV to their HIV-negative partners through sex.

In addition, there are effective methods to prevent getting HIV through sex or drug use, including pre-exposure prophylaxis (PrEP), medicine people at risk for HIV take to prevent getting HIV from sex or injection drug use, and post-exposure prophylaxis (PEP), HIV medicine taken within 72 hours after a possible exposure to prevent the virus from taking hold. Learn about other ways to prevent getting or transmitting HIV.

CHAPTER SEVEN

SEXUALLY TRANSMITTED DISEASES IN HEALTH PART THREE:

PARASITIC INFECTIONS

Trichomoniasis

Aetiology: The most common parasitic sexually transmitted infection is Trichomoniasis. It result from a Parasite called Trichomonas vaginalis.

Trichomoniasis can affect all genders. Women (especially older women) are more likely than men to get the disease. Black women are more likely to get this disease.

Trichomoniasis is the most common curable STD affecting both men and women in America. Approximately 3.7 million people have the disease.

Clinical manifestations: This disease affect large number of people, hence spreads so easily. About 70% of people with this disease do not show symptoms. Men rarely show any signs of infection. When symptoms occur, they tend to appear within five to 28 days after exposure. The individual may experience: Thin (or sometimes foamy) white, yellow or greenish vaginal discharge that has a bad odor, White discharge from the penis, Genital itching or irritation, Burning or painful urination,

Burning after ejaculation, Pain or discomfort during intercourse.

Diagnostic findings: a. Physical exam: For women, this exam includes a pelvic exam.
b. Lab test: a sample of the genital discharge is collected and examined under a microscope to check for signs of infection. The vaginal swab collected may be sent to the lab for further testing if trichomonads are not seen under the microscope.

Therapeutic Management: A parasite called Trichomonas vaginalis causes this STD. Once a person is infected, the disease can be transmitted to someone else through: Vaginal-penile or vaginal-vaginal intercourse, Anal sex, Oral sex.

Without treatment, trich can last for months or even years. It doesn't go away on its own. The entire time you're infected, you can give the STD to your sexual partners.

Oral anti-infective medications kill trich. The doctor may prescribe metronidazole (Flagyl or tinidazole (Tindamax). It's important to keep the following points in mind while undergoing treatment: A single medication dose cures up to 95% of infected women. Men and women may need to take the medication for five to seven days.

Both sexual partners must be treated for trich, otherwise, the infection can be passed continuously.

CHAPTER EIGHT

GENERAL PREVENTIVE MEASURES FOR SEXUALLY TRANSMITTED DISEASES AND CARE FOR PRODUCTIVE HEALTH

The best way to take care of your sexual and reproductive health is to be more proactive, listen to your body, and not ignore even the most minor signs when something goes wrong because they can signal towards a more serious issue. In the recent times, leading an unhealthy lifestyle with poor choices has greatly affected the reproductive of people like engaging in unprotected sex with multiple partners that can increase the risk of contracting many types of sexually transmitted diseases. Sexually transmitted diseases come with a lot of risks, one of which is rendering a person infertile.

In the United States, as much as 1 in 8 couples face difficulties when it comes to getting pregnant. To avoid facing that issue, both men and women need to take their reproductive health seriously. Some healthy practices can be done to increase your chances of conceiving, maintaining a healthy pregnancy, and also avoiding succumbing to sexually transmitted diseases.

The Centers for Disease Control and Prevention (CDC) recommends the HPV vaccine for girls and boys ages 11 and 12, although it can be given as early as age 9. If not fully

vaccinated at ages 11 and 12, the CDC recommends getting the vaccine through age 26.

The hepatitis B vaccine is usually given to newborns, and the hepatitis A vaccine is recommended for 1-year-olds. Both vaccines are recommended for people who aren't already immune to these diseases and for those who are at increased risk of infection, such as men who have sex with men and IV drug users.

Use condoms and dental dams consistently and correctly. Use a new latex condom or dental dam for each sex act, whether oral, vaginal or anal. Never use an oil-based lubricant, such as petroleum jelly, with a latex condom or dental dam.

In order to protect your sexual & reproductive health, it's important to consider these:

1. Communicate. Before any serious sexual contact, communicate with your partner about practicing safer sex. Be sure you specifically agree on what activities will and won't be OK.

2. Getting immediately treated for Sexually Transmitted Diseases: Every year in the United States, 19 million people fall victim to sexually transmitted diseases; however, there are some things that you can do to lower the risk of contracting one. The most important step that you can take to avoid getting

infected by sexually transmitted diseases is to be aware of what it is and how it is spread.

In case of any disease, it is very important to know how it works and be more aware of its risk factors to protect oneself from getting it in the first place. The same is the case with sexually transmitted diseases as well. If you feel like you have been exposed or are experiencing its symptoms, it is important to get tested to protect yourself and your partner.

Sometimes, some types of sexually transmitted diseases do not show any symptoms; in that case, again, getting tested is the only way to confirm if you actually have it. Regular testing and screening should be actively followed in order to protect oneself from getting infected.

3. Getting contraception: For a healthy baby, mother, and a happier family, it is important to plan your pregnancies. In the United States, as much as 49 percent of pregnancies are not planned. Today there are so many options available when it comes to contraception, which can help you decide when to get pregnant.

For those that are looking for long term option, IUDs or intrauterine devices are a great option, these can last for many years, and when you decide that you want to get pregnant, you can remove these. Aside from IUDs, there are also other methods of contraception, like birth control pills and condoms. Birth control pills are not at all helpful in preventing oneself

from getting infected by a sexually transmitted disease. In that case, using a condom would be an effective option for both the partners.

4. Avoid smoking: Smoking not only affects the overall health of a person, but it can also affect his or her reproductive health. In most cases, people that have infertility issues smoking have been seen as one of the most common contributing factors in that. Quitting smoking can bring about a lot of positive changes in your health, and it can also help you conceive.

In males, smoking affects the volume of the semen and lowers the sperm count. In females, smoking 10 to 20 cigarettes each day can increase the FSH or urinary follicle-stimulating hormone levels, which affects the normal functioning of the menstrual cycle and lowers the count of eggs as well. In some cases, it also causes infertility issues and can even cause the

5. Weight control: Being either underweight or overweight, both overly affect the chances of getting pregnant. In males being overweight, there is more body fat, which can cause the testicles to be exposed to extreme body heat and affect the sperm count. In females, being overweight or underweight affects the ovulation process, and it also increases the risk of miscarriages. Therefore to conceive easily and to give birth to a healthy baby, both males and females need to maintain healthy body weight.

6. Mind your health: In order to maintain your reproductive health, it is important to be more proactive and go for regular screenings and checkups. Some serious issues like cancers of the uterus, cervix, and prostate can be treated much effectively if they are caught early on. Therefore getting regularly tested even if everything feels normal is important because sometimes symptoms take very long to show up. It can be very difficult to treat the disease if it has progressed to a much severe stage.

7. Consider male circumcision: For men, there's evidence that circumcision can help reduce the risk of acquiring HIV from a woman with HIV by as much as 60%. Male circumcision may also help prevent transmission of genital HPV and genital herpes.

8. Consider using preexposure prophylaxis (PrEP):The Food and Drug Administration (FDA) has approved the use of two combination drugs to reduce the risk of HIV infection in people who are at very high risk. They're emtricitabine plus tenofovir disoproxil fumarate (Truvada) and emtricitabine plus tenofovir alafenamide fumarate (Descovy).

9. Quit drinking: Both before getting pregnant and during pregnancy, consumption of alcohol can be very dangerous. Those women that are trying to get pregnant drinking alcohol can be a big hurdle in conceiving, and if they do get pregnant, there is an increased chance of miscarriages and the baby being born with birth defects. In males, drinking can lower the volume of the sperm, and it also affects its motility. Those

women that drink alcohol while they are pregnant increase the risk of passing the alcohol to the fetus, which can cause the baby to be born with serious birth defects.

10. Nurture your relationship: Another important thing that you can do to maintain a healthy reproductive system is to look for a supportive partner. They should not force you to do anything that might be detrimental to your health.

11. Take supplements: Those couples trying to conceive apart from refraining from drinking, smoking, and getting regular tests can also take the help of certain supplements that can increase their chances of getting pregnant. Women can take the prenatal DHA or omega-three fatty acids along with 800 mg of folic acid on a regular basis. Men can take multivitamins and Coenzyme Q10, which is a type of antioxidant to reduce the chances of the sperms getting damaged.

Precipitating factors for sexually transmitted or reproductive diseases

Anyone who is sexually active risks some degree of exposure to an STD or STI. Factors that may increase that risk include:

1. Having unprotected sex: Vaginal or anal penetration by an infected partner who isn't wearing a latex condom significantly increases the risk of getting an STI. Improper or inconsistent use of condoms can also increase risk.
2. Oral sex may be less risky, but infections can still be transmitted without a latex condom or a dental dam — a thin, square piece of rubber made with latex or silicone.

3. Having sexual contact with multiple partners: The more people you have sexual contact with, the greater your risk.
4. Having a history of STIs: Having one STI makes it much easier for another STI to take hold.
5. Being forced to engage in sexual activity: Dealing with rape or assault is difficult, but it's important to see a doctor as soon as possible to receive screening, treatment and emotional support.
6. Misuse of alcohol or use of recreational drugs: Substance misuse can inhibit your judgment, making you more willing to participate in risky behaviors.
7. Injecting drugs: Needle sharing spreads many serious infections, including HIV, hepatitis B and hepatitis C.
8. Being young: Half the new STIs occur in people between the ages of 15 and 24.
9. Eating a balanced diet with fibre-rich and low in fat foods.
10. Drinking plenty of water as water helps in flushing out the body toxins.
11. Getting regular exercise will help all the reproductive cells function well.
12. Getting enough sleep to ensure a healthy body and mind that contributes to the well-being of the reproductive system.
13. Avoiding tobacco, alcohol, or other drugs is equally important.
14. Managing stress in a healthy manner with various activities like meditation and yoga

CHAPTER NINE

9.0 FAMILY PLANNING AND CONTRACEPTIVE DEVICES.

Family planning is one of the most important components of reproductive health. As defined by the WHO, family planning is the ability of a couple to anticipate and attain their desired number of offspring with proper spacing and timing between their births. This can be achieved via taking proper precautions and birth control methods. The use of contraceptives and treatment of involuntary infertility is an important part of family planning.

There are various types of birth control methods available to a couple for the prevention of unwanted pregnancies, but these methods can be classified into six types, which are - Natural methods (traditional methods), barrier methods (use of condoms are included in it), Intra-Uterine devices (IUDs), Oral contraceptives, Injectable (also include implants) and finally the Surgical Methods. The couple can use any method whichever they feel suitable, but for some methods, the couple may require a prescription from a doctor.

Welling's., (2005) stated that there is a wide variety of contraceptive methods available and continued research is being performed to improve and develop new contraceptive methods.

1. **The Oral Contraceptive Pills**

The oral contraceptive pill is the most commonly reported method of contraception used by Australian women. The Australian women make use of this method since it's readily available and effective for them.

The oral Contraceptive pill is in a little tablet form, and it's usually taken once a day. Since there are few different types, choosing the right one is very necessary for you. The combined pill contains estrogen and progestin and mini pill contains only one hormone, a progestin.

The pill is highly effective when used correctly; permits sexual spontaneity and doesn't interrupt sex; some pills may even reduce heavy and painful periods and/or may have a positive effect on acne.

2. **Condom**

This is for both male and female, (diaphragm and **cervical cap). It's is** a rubber sheath like balloon.

Male condoms are rolled onto an erect penis or worn and act as a physical barrier, preventing sexual fluids from . It collects and prevents sperm from entering the vagina during sex. The female condom is placed into the vagina right before sex or coitus.

Condom is the only form of contraception that protects against most STIs as well as preventing pregnancy. This method of

contraception can be used on demand, because it is hormone free and can easily be carried with you since it's portable.

3. **Spermicide**: This is a chemical substance in form of foaming tablet, cream, jelly, suppository that are deposited into the vagina before coitus. These destroy the potency of the sperm and render it inactive.

4. **Intrauterine Device (IUD)**

It's a small sized, T-shaped device made from material containing progesterone hormone or plastic and copper and is fitted inside a woman's uterus by a trained healthcare provider. It's a long-acting and reversible method of contraception, which can stay in place for three to 10 years, depending on the type used.

Some IUDs contain hormones that are gradually released to prevent pregnancy. The IUD can also be an effective emergency contraception if fitted by a healthcare professional within five days (120 hours) of having unprotected sex.

It's noted that IUDs containing coppers are 99% effective and the ones containing hormones are 99.8% effective. So it's highly effective.

It's possible to have irregular bleeding and spotting in the first six months of application.

5.Contraceptive Ring

There's a flexible plastic ring constantly releasing hormones that is placed in the vagina of the woman. This can last for three weeks, and then a week off is taken before another one is inserted in. The ring functions to release oestrogen and progestogen. It's similar to the combined oral Pill method since it constitute same hormones.

This method can be championed by self without any aid. This method has just few side effects, allows control of your periods and allows fertility to return quickly when the ring is displaced from the vagina.

6. Sterilisation

This process is championed by completely taking away the body's ability to reproduce through open or minimal invasion surgery. It is a permanent method of contraception, suitable for people who are sure they never want children or do not want any more children. Sterilisation is available for both women and men and is performed in a hospital with general anaesthesia.

7. The Contraceptive Injection

The injection contains a synthetic version of the hormone progestogen. It is given into a woman's buttock or the upper

arm, and over the next 12 weeks the hormone is slowly released into your bloodstream.

The injection lasts for up to three months; is very effective; permits sexual spontaneity and doesn't interrupt sex, but may cause disrupted periods or irregular bleeding.

8. **The Contraceptive Implant**

In this method, a small, flexible rod is placed under the skin in a woman's upper arm, releasing a form of the hormone progesterone. The hormone stops the ovary releasing the egg and thickens the cervical mucus making it difficult for sperm to enter the womb. The implant requires a small procedure using local anaesthetic to fit and remove the rod and needs to be replaced after three years.

FACTORS THAT AFFECTS COMPLIANCE FOR CONTRACEPTION

It ranges from:

a. Social factor: People interaction on this matter affects other people so much.
b. Cultural beliefs
c. Psychological factor: The mentality of people right from the olden days till date, their view also affects the Com of contraceptive devices in their areas.
d. Religious beliefs: Religiously, their faith affects the acceptance of family planning.

BENEFITS OF USING FAMILY PLANNING DEVICES

Mgbogu (2009) stated that family planning gives mothers knowledge of maternal and child health services which increases utilization and improved maternal outcome, prevention of diseases and complications.

Eshre (2005) stipulated that family planning contributes indirectly to children's health, development and survival by reducing the risk of maternal morbidity and mortality. And that, the benefits of family planning prevents a large number of pregnancies per woman.

Family planning contributes directly to the survival, health and development of children and other family members in many ways;

- Saving women's life: Avoid unwanted pregnancies and therefore reduce need for abortion.
- Helps to eliminate the four toos; too early, too close, too many and too late.
- It offers women more chance to live as much as God permits them.
- It enables couple to have the number of children they wish to have.
- It reduces the high death rate associated with closely spaced children.
- It reduces the rate of delinquency and robbery in our society and other social vices.
- It protects from sexually transmitted infections.

CONSEQUENCES OF NON COMPLIANCE

(Ibeabuchi, 2006) opined that uncontrolled population leads to many social and economic problems. The problems include unemployment, inadequate accommodation, inadequate health and educational facilities, delinquency, high crime rate, poor sanitation, overcrowding leading to high morbidity rate and mortality rate.

Family planning has been cited as essential to the achievement of Millennium Development Goals (MDG) and is an important indicator for tracking progress on improving maternal health (Bernstein & Edouard 2007) Family planning is one of four pillars with antenatal care, safe delivery, and postnatal care that introduced by the Safe Motherhood Initiative in 1987 to reduce maternal mortality in developing countries, where 99% of all maternal deaths occur (Ahmed et al., 2012)

Family planning allows individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births. Family planning has a direct impact on women's health and well-being as well as on the consequence of each pregnancy (WHO 2011). In developing countries about 818 million of sexually active women of reproductive age (15-49) want to avoid pregnancy and delay child bearing for at least two years or want to stop pregnancy and limit their family size. About 140 million of those women (17%) are not using any method of family planning, while 75 million (9%) are using less effective traditional methods. Non contraceptive users and

traditional users together (215 million women) are said to have an unmet need for modern contraception (Darroch et al., 2011).

In 2008, use of contraceptive methods prevented over 250 000 maternal deaths through reducing unintended pregnancies. This is equivalent to 40% of the 355 000 maternal deaths for the year. The number of maternal deaths would decrease by a further 30% in developing countries, if all women who wish to avoid pregnancy use an effective contraceptive method (Cleland et al., 2012).

Unmet needs is often described as a problem of access and interpreted as that women do not use contraceptives because they cannot find or afford them. While access is an issue, many other reasons have been cited by women for not using contraceptives, including lack of knowledge, cultural, personal, religious oppositions, health concerns, and fear of side effects. Therefore, just making contraceptives accessible does not guarantee that women will use them (Mills et al., 2010).

In many Asian countries sexuality related topics have greatly remained as a taboo (Adhikari & Tamang, 2009; Agampodi & Agampodi, 2008). Cultural, socioeconomic, and physical norms are identified prominent obstacles of young people for utilizing sexual and reproductive health services (Regmi et al., 2010)

Modern contraceptive methods which include male and female sterilization, intra uterine devices (IUDs), implants, injectable, pills, male and female condoms and spermicides are highly effective in preventing pregnancy, compared with traditional methods, such as withdrawal and periodic abstinence (Singh & Darroch, 2012). Globally, contraceptive use has risen, from 54% in 1990 to 63% in 2007 (World Health Organization, 2011).

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