بسم الله الرحمن الرحيم

وقل اعملوا فسيرى الله عملكم ورسوله والمؤمنون

صدق الله العظيم

كلية الهادي الجامعة

قسم التمريض

مادة تمريض الام والطفل ٍ

Name of subject : maternal and neonatal health nursing

Lecturer : Dr.Abdaladeem Yousif Jasem

Time of lecture : 50 minutes

Targeted group : nursing students – 3rd stage

General objective : understand nursing care during pregnancy and labor

Role of nurses in maternal and neonatal departments and units

Maternal and newborn nursing care

Dr.ABDALADEEM YOUSIF

objectives

At the end of this course the students will be able to:

Identify the goals & philosophy of Maternal •

& Child Health nursing

Objectives

1.To have healthy children

2,To promote the health of the children bearing woman and her family from the time before children are born until they reach adulthood

3.Prenatal care and guidance are essential to

health of the woman and fetus and to emotional preparation of the family for child rearing

4.Family needs to continued health supervision and support when children grow

It is nursing practice focusing on childbearing and childrearing families

But the scope of nursing practice is not two separated entitles but one maternal and child health

The primary goal of maternal and child health nursing care can be stated simply as the promotion and maintenance of optimal family health to ensure cycles of optimal childbearing and childrearing

Maternal and Newborn Nursing Practices include

1.Preconception health care

2.Care of women during three trimesters of pregnancy and the puerperium (the 6 weeks after childbirth, sometimes termed the fourth trimester of pregnancy)

3. Care of children during the perinatal period (6 weeks before conception to 6 weeks after birth) 4 Care of children from birth through adolescence 5 Care in settings as varied as the birthing room, the pediatric intensive care unit, and the home

Maternal and Newborn Nursing Settings

Maternal and Newborn Nursing is always family centered because

•Care in all setting

•The level of family functioning impacts the health status of individuals positively or negatively

If family level of functioning is low the emotional, physical and

social health and potential of individuals in family can be adverse affected.

Reference

•Pillitteri A., Maternal & Child Health Nursing 3rd ed., Lippincott, 1999

Ahealthy family establishes an environment conductive to growth and health promoting behaviors that sustain family members during crises

Health of individuals and the abilities to function strongly influence the health of family members and overall family functioning

Family centered approach enables the nurse to better understanding and individuals and in turn provide holistic

care

The goal maternal – neonatal nursing is to provide comprehensive family centered care to the pregnant patient and fetus or neonate during the antepartum ,intrapartum and postpartum period.

-Antepartum period : the period from conception to the onset of labor

-Intrapartum period: the period from the onset of contractions that cause cervical dilatation the first 1-4 hours after delivery of the neonate and the placenta. -Postpartum period: (also of known as puerperium) the 6 week period after delivery of the neonate and placenta which end when the reproductive organs return to the no pregnant states

Guidelines for intrapartum care of healthy women

Natural childbirth involves little or no human intervention; -Normal birth excludes elective induction before 41 weeks, spinal analgesia, general anesthetic, forceps or vacuum assistance, caesarean section, routine episiotomy, fetal malpresentation and continuous electronic fetal monitoring for low-risk birth;

-Normal labour is spontaneous in onset at 37-42 weeks and results in a normal delivery, can include analgesia and routine oxytocic for the third stage;

-Normal delivery refers only to the vaginal delivery of the infant and may include interventions such as induction, augmentation, electronic fetal monitoring, and regional analgesia.

The family

Definition

Two or more people who live in same household share a common emotional bond andcollection of individuals related by marriage, adoption, partnership

Family concept

The concept of family health perform the recognition that the well-being of an individual even in his physical, organic part is profoundly affected by the primary social group which is the family. (WHO)

Family manifested both wellness and illness behaviors, wellness behaviors may decrease during period of raise stress, assessing

families this be helpful in establishing the and extent of illness, wellness behaviors

toward healthy empowering a family to move behaviors perform certain interrelated

social tasks

Family-centered maternity care

Definition

A system for the delivery of safe, high quality health care psychosocial needs of the patient, adapted to the physical and born offspring the patient's entire family and the newly

or is a philosophical approach to prenatal care and birth,

providing care to the pregnant woman in the context of her family.

Family centered maternity care may be carried out in any birth setting: home birth, birth center birth, hospital birth or emergent birth. -

Family-centered maternity care respects the family as a unit, the mind-body-spirit of the family, and provides evidencebased care accordingly.

Descriptions of family centered maternity care program.

Families are defined broadly to include birth, blended, kinship, and foster and adoptive families. satisfying obstetrical experience for the family.

Husbands are invited to prenatal visits, and are involved in intensive preparation the baby,

The utilization of the postpartum period for an intensive training in parenthood, -

For labor and delivery. -

Active participation in labor, delivery, and postpartum course are encouraged. –A rooming-in.

This program focuses on children's safety and needs within the context of their families and communities and builds on families' strengths to achieve optimal outcomes.

Preconception health

refers to the health of women and men during their reproductive years, which are the years they can have a child. It focuses on taking steps now to protect the health of a baby they might have sometime in the future.

Preconception care is the provision of biomedical, behavioral and social health interventions to women and couples before conception occurs (WHO, 2012) .

It aims to

Improving their health status, -

Reducing behaviors and individual and environmental factors that contribute to poor maternal and child health outcomes. Its ultimate aim is to improve maternal and child health, in both the

short and long term and to improve pregnancy outcomes and women's health in general through prevention of disease and management of risk factors that affect pregnancy outcome and the health of future generations

preconception health care lead to :

healthy women

healthy babies

healthy families and men

-components of preconception care

Genetics

Screen for infectious diseases, treat, immunize,counsel

Environmental toxins

Medical assessment

Assess complications in previous pregnancies

Lifestyle changes

- Test :
- Define maternal and neonatal nursing ?
- Classify components of preconception care ?

Anatomy and physiology of female reproductive system

Learning objectives:

1. Describe anatomy and physiology pertinent to reproductive and sexual health.

2. Formulate nursing diagnoses related to reproductive and sexual

3. Plan nursing care related to anatomic and physiologic readiness for childbearing or sexual health, such as helping adolescents discuss concerns in these areas.

4. Implement nursing care related to reproductive and sexual health, such as educating middle school children about menstruation.

5. Evaluate expected outcomes for achievement and effectiveness of care health.

Content of the Literature:

1. Reproductive Development

2. Anatomy and Physiology of the Reproductive System

3. The Female Reproductive System

4. The Male Reproductive System

5. Nursing Process Overview for the Promotion of Reproductive and Sexual Health

Reproductive Development

Reproductive development and change begin at the moment of conception and continue throughout life.

Intrauterine Development

The sex of an individual is determined at the moment of conception by the chromosome information supplied by the particular ovum and sperm that joined to create the new life.

A gonad is a body organ that produces the cells necessary for reproduction (the ovary in females, the testis in males). At approximately week 5 of intrauterine life, primitive gonadal tissue is already formed. In both sexes, two undifferentiated ducts, the mesonephric (wolffian) and paramesonephric (müllerian) ducts, are present. By week 7 or 8, in chromosomal males, this early gonadal tissue differentiates into primitive testes and begins formation of testosterone. Under the influence of testosterone, the mesonephric duct begins to develop into the

male reproductive organs, and the paramesonephric duct regresses. If testosterone is not present by week 10, the gonadal tissue differentiates into ovaries, and the paramesonephric duct develops into female reproductive organs. All of the oocytes (cells that will develop into eggs throughout the woman's mature years) are already formed in ovaries at this stage

At about week 12, the external genitals develop. In males, under the influence of testosterone, penile tissue elongates and the urogenital fold on the ventral surface of the penis closes to form the urethra; in females, with no testosterone present, the urogenital fold remains open to form the labia minora; what would be formed as scrotal tissue in the male become the labia majora in the female. If, for some reason, testosterone secretion is halted in utero, a chromosomal male could be born with female-appearing genitalia.

Pubertal Development

Puberty is the stage of life at which secondary sex changes begin. These changes are stimulated when the hypothalamus synthesizes and releases gonadotropin-releasing hormone (GnRH), which in turn triggers the anterior pituitary to begin the release of follicle-stimulating hormone (FSH) and luteinizing hormone (LH). FSH and LH initiate the production of androgen and estrogen, which in turn initiate secondary sex characteristics, the visible signs of maturity. Girls are beginning dramatic development and maturation of reproductive organs at earlier ages than ever before (9 to 12 years). The phenomenon of why puberty occurs is even less well understood in boys

Role of Androgen

Androgenic hormones are the hormones responsible for muscular development, physical growth, and the increase in sebaceous gland secretions that causes typical acne in both boys and girls. In males, androgenic hormones are produced by the adrenal cortex and the testes; in females, by the adrenal cortex and the ovaries. The level of the primary androgenic hormone, testosterone, is low in

males until puberty (approximately age 12 to 14 years). At that time, testosterone levels rise to influence the further development of the testes, scrotum, penis, prostate, and seminal vesicles; the appearance of male pubic, axillary, and facial hair; laryngeal enlargement and its accompanying voice change; maturation of spermatozoa; and closure of growth in long bones. In girls, testosterone influences enlargement of the labia majora and clitoris and formation of axillary and pubic hair. This development of pubic and axillary hair because of androgen stimulation is termed adrenarche

Role of Estrogen

When triggered at puberty by FSH, ovarian follicles in females begin to excrete a high level of the hormone estrogen. This hormone is actually not one substance but three compounds (estrone [E1], estradiol [E2], and estriol [E3]). It can be considered a single substance, however, in terms of action. The increase in estrogen levels in the female at puberty influences the development of the uterus, fallopian tubes, and vagina; typical female fat distribution and hair patterns; breast development; and an end to growth because it closes the epiphyses of long bones. The beginning of breast development is termed thelarche.

Secondary Sex Characteristics in Girls:

1. Growth spurt
2. Increase in the transverse diameter of the pelvis

development

4. Growth of pubic hair
5. Onset of menstruation
6. Growth of axillary hair
7. Vaginal secretions

Secondary Sex Characteristics in Boys:

1. Increase in weight
2. Growth of testes
3. Growth of face, axillary, and pubic hair
4. Voice changes
5. Penile growth
6. Increase in height
7. Spermatogenesis (production of sperm)

Reproductive System

Human reproduction is a complex and fascinating process .The male and female reproductive system functioning together produce a new life.

Female Reproductive System

External Genitalia:

1. Vulva

The female external reproductive organs consist of the mons pubic, which is covered with pubic hair; two folds of tissue, called the labia majora and labia minora , which surround a space called vestibule

. Mons Pubis

The mons pubis is formed at the upper margin of the symphysis pubis and is shaped like an inverted triangle. It is located over the two pubic bones of the pelvic. This structure is composed of fatty tissue lying beneath the skin and from puberty on, is covered with varying amount of hair. The mons pubis surrounds delicate tissue and protects it from injury.

3. Labia Majora and Labia Minora

The labia majora : are two folds of fatty tissue that form the lateral boundaries of the vulva. They are covered with coarse skin and pubic hair on the outer aspect and are smooth and moist on the inner aspect , where the openings of numerous small glands are found.

The labia minora :are soft folds of skin that are rich in sebaceous glands. The labia minora are moist and are composed of erectile tissue containing loose connective tissue , blood vessels, and involuntary muscles. The functions of the labia minora are to lubricant and waterproof the vulvar skin and to provide bactericidal secretion that help prevent infections.

4. Clitoris

The clitoris is a small, sensitive structure that, like the penis, is composed of erectile tissue, nerves, and blood vessels; it is covered at the tip with very sensitive tissue. It exists primarily for female sexual enjoyment

Vaginal Vestibule

The vaginal vestibule is a boat shaped depression enclosed by the labia minora and is visible when the labia minora are separated. The vestibule contains the vaginal opening (introitus) , which is located between the external and internal genitalia. The vestibule contains the openings of five structures that drain into it the ureteral meatus, skene’s ducts, and the ducts from Bartholin;s glands that are located on each side of the vagina. The vestibule ends with the formation of the fourchette.

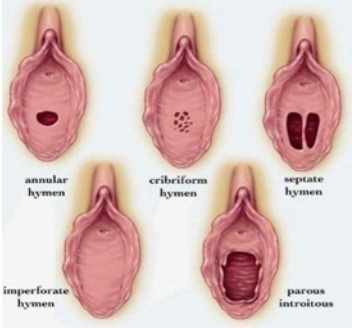
6. Urethra

The opening to the urethra is just below the clitoris. Although it is not related to sex or reproduction, it is included in the vulva. The urethra is actually used for the passage of urine. The urethra is connected to the bladder. In females the urethra is 1.5 inches long, compared to males whose urethra is 8 inches long.

Hymen

The hymen is a thin, elastic, mucous membrane that partially covers the vagina in young females. Does not seem to have a specific physiological

function or purpose. Many shapes are possible. Normal variations of the hymen range from thin and stretchy to thick and somewhat rigid; or it may also be completely absent



. Perineum

The perineum is the short stretch of skin starting at the bottom of the vulva and extending to the anus. It is a diamond shaped area between the symphysis pubis and the coccyx. This area forms the floor of the pelvis and contains the external sex organs and the anal opening. The perineum in some women may tear during the birth of an infant and this is apparently natural. Some physicians may cut the perineum preemptively on the grounds that the "tearing" may be more harmful than a precise cut by a scalpel. If a physician decides the cut is necessary, they will perform it. The cut is called an episiotomy

Vagina

The vagina is a curved tube leading from the uterus to the external opening at the vestibule. It lies between the urinary bladder and the rectum. Because it meets at a right angle with the cervix, the interior wall is about 2.5cm(1inch) shorter than posterior wall, which varies from 7-10cm (approximately 2.8 to 4 inches).it consist of muscle and

connective tissue and is lined with epithelial tissue , which contains folds called rugae. These folds allow the vagina to stretch considerably during childbirth. The epithelial cells lining the vagina show cyclic changes related to estrogens, progestins, and androgens. Doderlein's bacilli, which are normally present in the vagina, act on glycogen from the epithelial cells to produce lactic acid. This maintains the acidity of the vagina and is the reason that the vagina is resistant to most infection .a change in the PH of the vagina , which can be caused by frequent douching , antimicrobial therapy, or deodorant tampons, can increase the vagina's susceptibility to invading pathogens

Questions :

1.describe types of hymen

2. what is the function of vagina ?

Normal Pregnancy

Lecture Objectives: At the end of this lecture the students will be able to:

1. Describe the growth and development of a fetus by gestation week.

2. Identify the signs and symptoms of pregnancy

3. Discuss the normal physiological changes during pregnancy.

4. Enumerate the most common minor discomforts during pregnancy and maternal education for each discomfort.

5. Recognize normal psychological and developmental adaptation to pregnancy.

6. Interpret the danger signs that occur with pregnancy.

7. Explain the nursing role in prenatal care.

8. Formulate nursing diagnoses related to the psychological and physiologic changes of pregnancy.

Lecture contents:

1. Development and physiology of fetus
2. Physiological Changes in Pregnancy.
3. Signs and symptoms of pregnancy.
4. Trimesters of Pregnancy.
5. Psychological Changes in Pregnancy.
6. Prenatal Care.

Development and physiology of fetus

Pregnancy is the process and series of changes that take place in a woman's organs and tissues as a result of a developing fetus. In just 38 weeks, a fertilized egg (ovum) matures from a single cell to a fully developed fetus ready to be born. Fetal growth and development are typically divided into three periods: pre-embryonic (first 2 weeks, beginning with fertilization), embryonic (weeks 3 through 8), and fetal (from week 8 through birth).

At the end of the fourth week of gestation, the human embryo is a group of rapidly growing cells but does not yet resemble a human being.

- Length: 0.75–1 cm
- Weight: 400 mg
- The spinal cord is formed and fused at the midpoint.
- Lateral wings that will form the body are folded forward to fuse at the midline.
- The head folds forward and becomes prominent, representing about one-third of the entire structure.
- The back is bent so that the head almost touches the tip of the tail.
- The rudimentary heart appears as a prominent bulge on the anterior surface.
- Arms and legs are budlike structures.
- Rudimentary eyes, ears, and nose are discernible.

End of 8th Gestational Week

- Length: 2.5 cm (1 in)
- Weight: 20 g
- Organogenesis is complete.
- The heart, with a septum and valves, is beating rhythmically.
- Facial features are definitely discernible.
- Arms and legs have developed.

- External genitalia are forming, but sex is not yet distinguishable by simple observation.
- The primitive tail is regressing.
- The abdomen bulges forward because the fetal intestine is growing so rapidly.
- An ultrasound shows a gestational sac, diagnostic of pregnancy.

End of 12th Gestational Week (First Trimester)

- Length: 7–8 cm
- Weight: 45 g
- Nail beds are forming on fingers and toes.
- Spontaneous movements are possible, although they are usually too faint to be felt by the mother.
- Some reflexes, such as the Babinski reflex, are present.
- Bone ossification centers begin to form.
- Tooth buds are present.
- Sex is distinguishable by outward appearance.
- Urine secretion begins but may not yet be evident in amniotic fluid.
- The heartbeat is audible through Doppler technology

End of 16th Gestational Week

- Length: 10–17 cm
- Weight: 55–120 g
- Fetal heart sounds are audible by an ordinary stethoscope.

- Lanugo is well formed.
- Liver and pancreas are functioning.
- Fetus actively swallows amniotic fluid, demonstrating an intact but uncoordinated swallowing reflex; urine is present in amniotic fluid.
- Sex can be determined by ultrasound.

End of 20th Gestational Week

- Length: 25 cm
- Weight: 223 g
- Spontaneous fetal movements can be sensed by the mother.
- The hair forms on the head, extending to include eyebrows.
- Meconium is present in the upper intestine.
- Brown fat, a special fat that will aid in temperature regulation at birth, begins to be formed behind the kidneys, sternum, and posterior neck.
- Vernix caseosa begins to form and cover the skin.
- Passive antibody transfer from mother to fetus begins.
- Definite sleeping and activity patterns are distinguishable (the fetus has developed biorhythms that will guide sleep/wake patterns throughout life).

End of 24th Gestational Week (Second Trimester)

- Length: 28–36 cm
- Weight: 550 g

- Meconium is present as far as the rectum.
- Active production of lung surfactant begins.
- Eyebrows and eyelashes become well defined.
- Eyelids, previously fused since the 12th week, now open.
- Pupils are capable of reacting to light.
- When fetuses reach 24 weeks, or 601 g, they have achieved a practical low-end age of viability (earliest age at which fetuses could survive if born at that time), if they are cared for after birth in a modern intensive care facility.
- Hearing can be demonstrated by response to sudden sound.

End of 28th Gestational Week

- Length: 35–38 cm
- Weight: 1200 g
- Lung alveoli begin to mature, and surfactant can be demonstrated in amniotic fluid.
- Testes begin to descend into the scrotal sac from the lower abdominal cavity.
- The blood vessels of the retina are formed but thin and extremely susceptible to damage from high oxygen concentrations (an important consideration when caring for preterm infants who need oxygen).

End of 32nd Gestational Week

- Length: 38–43 cm
- Weight: 1600 g

- Subcutaneous fat begins to be deposited (the former stringy, “little old man” appearance is lost).
- Fetus responds by movement to sounds outside the mother’s body.
- Iron stores, which provide iron for the time during which the neonate will ingest only milk after birth, are beginning to be developed.
- Fingernails grow to reach the end of fingertips.

End of 36th Gestational Week

- Length: 42–48 cm
- Weight: 1800–2700 g (5–6 lb)
- Body stores of glycogen, iron, carbohydrate, and calcium are deposited.
- Additional amounts of subcutaneous fat are deposited
- Sole of the foot has only one or two crisscross creases, compared with the full crisscross at term.
- Amount of lanugo begins to diminish.
- Most babies turn into a vertex (head down) presentation during this month.

End of 40th Gestational Week (Third Trimester)

- Length: 48–52 cm (crown to rump, 35–37 cm)
- Weight: 3000 g (7–7.5 lb) • Fetus kicks actively, hard enough to cause the mother considerable discomfort.

- Fetal hemoglobin begins its conversion to adult hemoglobin. The conversion is so rapid that, at birth, about 20% of hemoglobin will be adult in character.
- Vernix caseosa is fully formed.
- Fingernails extend over the fingertips.

Physiological Changes in Pregnancy

Physiologic changes that occur during pregnancy can be categorized as local (confined to the reproductive organs) or systemic (affecting the entire body). Both symptoms (subjective findings) and signs (objective findings) of the physiologic changes of pregnancy are used to diagnose and mark the progress of pregnancy.

Signs and symptoms of Pregnancy

Pregnancy may be assumed based on the presence of certain signs and symptoms Presumptive signs are subjective and recorded under the history of present illness Probable and positive signs of pregnancy are objective and recorded as physical assessment findings

Pregnancy tests

➢ Urine pregnancy test o Reacts with human chorionic gonadotropin (hCG)

o Performed on first voided urine sample of the day; positive results possible before the first day of a missed menstrual period.

➢ Serum pregnancy test o Useful in monitoring expected pattern of progression of hCG; detects hCG as early as 9 days post conception.

➢ Ultrasound

o Confirms presence of gestational sac, fetal pole, and fetal cardiac activity o Validates location of pregnancy (intrauterine versus ectopic).

Trimesters of Pregnancy

Normally, pregnancy average 40 weeks or 280 days

➢ 1st trimester conception until 13 weeks' gestation.

➢ 2nd trimester 14 weeks until 27 weeks' gestation.

➢ 3rd trimester 28 weeks until 40 weeks' gestation.

References :

1.maternal child nursing care , by Shannon E Perry, 6th edition

2.Maternal and child nursing care by Marcia L London 5th edition

Thank you