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**NURSING**

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**PHS 212**

1. Cyclic changes in the breasts:

 Normal breasts development is a vital part of a woman’s reproduction. Breast development happens in certain stages during a woman’s life; first before birth, again at puberty and later during the child bearing years. Changes also happen to the breasts during menstrual cycle and when a woman reaches menopause. The breasts begin to form while the unborn baby is still growing in the mother’s uterus. Breasts changes continues to happen over a woman’s life. The first thing to develop are the lobes or the small subdivision of breast tissue. Mammary glands develop next and develop next and consist of 15 to 24 lobes. The rate at which breasts develop is different for each young woman.

* Stage 1: Preteen, only the tip of the nipple is raised.
* Stage 2: Buds appear, and breast and nipple are raised. The dark area of skin around the nipple or areola gets larger.
* Stage 3: Breasts are slightly larger, with glandular breast tissue present.
* Stage 4: The areola and nipple raised and form a second mound above the rest of the breast
* Stage 5: Mature adult breast. The breast becomes rounded and the nipple is raised.

Each month, women go through changes in hormones that make up the normal menstrual cycle. The hormone estrogen is produced by the ovaries in the first half the menstrual cycle. It stimulates the growth of milk ducts in the breasts. The increasing level of estrogen leads to ovulation halfway through the cycle. The hormone progesterone takes over in the second half of the cycle. It stimulates the formation of the milk glands. These hormones are believed to be responsible for the cyclical changes that many women feel in their breasts just before menstruation. These include swelling, soreness and pain.

1. Cyclic changes in the cervix:

Mucosa of uterine cervix does not undergo cyclic desquamation as the body of uterus. Regular changes in cervical mucus under influence:

* Estrogens (ovulation) mucus thinner and more alkaline promotion of survival and transport of sperm, spinnbarkeit at ovulation.
* Progesterone (after ovulation during pregnancy) mucus thick, tenacious, cellular.
1. Menstrual cycle

 The menstrual cycle can be described by the ovarian or uterine cycle. The ovarian cycle describes the changes that occur in the follicles the ovary whereas the uterine cycles describes changes in the endometrial lining of the uterus. Both cycles are divided into three phases. The ovarian cycle consists of the follicular phase, and the luteal phase, whereas the uterine cycle consists of menstruation, proliferative phase and secretory phase. The researchers found that average cycle length was 29.3 days. only 13% of the cycles were 28 days quite a departure from the old idea that most cycles are exactly four weeks.

Ovarian cycle

Follicular phase; the follicular phase is the first part of the ovarian cycle. During this phase, the ovarian follicles mature and get ready to release an egg. The latter part of this phase of the uterine. Through the influence of a rise in follicle stimulating hormone (FSH) during the first days of the cycle, a few ovarian follicles are stimulated. The follicle that reaches maturity is called a tertiary or graafin follicle and it contains the ovum.

Ovulation

This is the second phase of the ovarian cycle in which a mature egg is released from the ovarian follicles into the oviduct. During the follicular phase, estradiol suppresses release of luteinizing hormone (LH) from anterior pituitary gland. When the egg has nearly matured, levels of estradiol reach a threshold above which this effect is reversed and estrogen stimulates the production of a large amount of LH. This process, known as the LH surge, starts around day 12 of the average cycle and may last 48 hours.

Luteal phase

The luteal phase is the final phase of the ovarian cycle and it corresponds to the phase of the uterine cycle. During the luteal phase. The pituitary hormones FSH and LH cause the remaining parts of the dominant follicle to transform into the corpus luteum which produces progesterone. The increased progesterone un the adrenals start to induce the production of estrogen. The hormones produced by the corpus luteum also suppresses production of FSH and LH that the corpus luteum needs to maintain itself.

Uterine cycle

The uterine cycle has three phases

Menstruation: menstruation (also called menstrual bleeding, menses, catamenia or a period) is the first phase of the uterine cycle. The flow of menses normally serves as a sign that a woman has not become pregnant. (however this cannot be taken as certainty, as a number of factors can cause bleeding during pregnancy; some factors are specific to early pregnancy and some can cause heavy flow).

Proliferative phase

The proliferative phase is the second phase of the uterine cycle when estrogen causes the lining of the uterus to grow or proliferate, during this time. The estrogen also stimulates crypts in the cervix to produce cervical mucus which causes vaginal discharge regardless of arousal and can be tracked by women practicing fertility awareness.

Secretory phase

The secretory phase is the final phase of the uterine cycle and it correspond to the luteal phase of the ovarian cycle. During the secretory phase, the corpus luteum produces progesterone, which plays a vital role in making the endometrium receptive to implantation of the blastocyst and supportive of the early pregnancy, by increasing blood flow and uterine secretions and reducing the contractility of the smooth muscle in the uterus; it also has the side effect of raising the woman’s basl body temperature.