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**Matric number: 18/mhs02/151**

**Department: nursing science**

**Course code: PHS 212**

**Cyclic changes in the**

**Breast**: Each month, women go through changes in the hormones that make up the normal menstrual cycle. The hormone estrogen is produced by the ovaries in the first half of 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. Next, 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, pain, and soreness.

During menstruation, many women also have changes in breast texture. Their breasts may feel very lumpy. This is because the glands in the breast are enlarging to get ready for a possible pregnancy. If pregnancy does not happen, the breasts go back to normal size. Once menstruation starts, the cycle begins again.

**Cervix**: cervical mucus appears to have an important function in the process of human reproduction. In response to stimulation by estrogen, cervical glands produce increasing amounts of a characteristic mucoid secretion.At the peak of this secretory activity, prior to ovulation, these glands produce copious amounts of a thin, isotonic mucus which is easily penetrated by the sperm. 5 , 7, 15, 16 Progesterone, on the other hand, is known to bring about both quantitative and qualitative alterations in the cervical secretion. During the luteal phase of the menstrual cycle, cervical mucus has been shown to become scanty in amount, as well as viscous and cellular. During the progestational phase also, such properties as spinnbarkeit and crystallization of the cervical mucus, which characterize estrogen stimulation, are markedly reduced or absent and consequently sperm migration is inhibited. Since endogenous progesterone causes an inhibition of sperm migration through cervical mucus, exogenously administered progestins, as prescribed for oral contraception, might be expected to have a similar effect.

**Menstruation cycle**

Menstruation occurs on a **monthly cycle** throughout female reproductive life. **Menarche** (the first menstrual cycle) normally occurs between the ages of 11 and 15 and the menopause between the ages of 45 and 55. The normal duration of a single cycle is **21-35 days.**

During a normal menstrual cycle, the lining of a woman's uterus sheds. This cycle is part of a woman's reproductive system and prepares the body for a possible pregnancy. It is also called a period, menses or cycle. A menstrual cycle is considered to begin on the first day of a period. The average cycle is 28 days long.

The steps in the menstrual cycle are triggered by the rise and fall of chemicals in the body called hormones. The pituitary gland in the brain and the ovaries in the female reproductive tract manufacture and release certain hormones at certain times during the menstrual cycle that cause the organs of the reproductive tract to respond in certain ways. The specific events that occur during the menstrual cycle can be described as follows:

* **The menses phase:**This phase, which typically lasts from day one to day five, is the time when the lining of the uterus is actually shed out through the vagina if pregnancy has not occurred. Most women bleed for three to five days, but a period lasting only two days to as many as seven days is still considered normal.
* **The follicular phase:** This phase typically takes place from days six to 14. During this time, the level of the hormone estrogen rises, which causes the lining of the uterus (called the endometrium) to grow and thicken. In addition, another hormone—follicle-stimulating hormone—causes follicles in the ovaries to grow. During days 10 to 14, one of the developing follicles will form a fully mature egg (ovum).
* [**Ovulation**](https://my.clevelandclinic.org/health/articles/11585-pregnancy-ovulation-conception--getting-pregnant)**:** This phase occurs roughly at about day 14 in a 28-day menstrual cycle. A sudden increase in another hormone—luteinizing hormone—causes the ovary to release its egg. This event is called ovulation.
* **The luteal phase:** This phase lasts from about day 15 to day 28. After the egg is released from the ovary it begins to travel through the fallopian tubes to the uterus. The level of the hormone progesterone rises to help prepare the uterine lining for pregnancy. If the egg becomes fertilized by a sperm and attaches itself to the uterine wall, the woman becomes pregnant. If pregnancy does not occur, estrogen and progesterone levels drop and the thickened lining of the uterus is shed during the menstrual period.