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ASSIGNMENT TITLE: PREGNANCY

Assignment

**Elucidate the Physiological adaptations of the female to pregnancy**

Maternal physiological changes in pregnancy are the adaptations during pregnancy that a woman's body undergoes to accommodate the growing embryo or foetus. These physiologic changes are entirely normal, and include behavioural (brain), cardiovascular (heart and blood vessel), hematologic (blood), metabolic, renal (kidney), posture, and respiratory (breathing) changes. Increases in blood sugar, breathing, and cardiac output are all expected changes that allow a pregnant woman's body to facilitate the proper growth and development of the embryo or foetus during the pregnancy. The pregnant woman and the placenta also produce many other hormones that have a broad range of effects during the pregnancy.

**Changes in the uterus, cervix and vagina**

The uterus

After conception, the uterus provides a nutritive and protective environment in which the foetus will grow and develop. It increases from the size of a small pear in its non-pregnant state to accommodate a full-term baby at 40 weeks of gestation. The tissues from which the uterus is made continue to grow for the first 20 weeks, and it increases in weight from about 50 to 1,000 (grams). After this time, it doesn’t get any heavier, but it stretches to accommodate the growing baby, placenta and amniotic fluid. By the time the pregnancy has reached full term, the uterus will have increased to about five times its normal size.

The cervix

The cervix remains 2.5 cm long throughout pregnancy. In late pregnancy, softening of the cervix occurs in response to increasing painless contractions of its muscular walls.

The vagina

The vagina also becomes more elastic towards the end of pregnancy. These changes enable it to dilate during the second stage of labour, as the baby passes down the birth canal.

**Pregnancy-related changes in posture and joints**

A pregnant woman’s entire posture changes as the baby gets bigger. Her abdomen transforms from flat or concave (dished) to very convex (bulging outwards), increasing the curvature of her back. The weight of the foetus, the enlarged uterus, the placenta and the amniotic fluid (the bag of waters surrounding the baby), together with the increasing curvature of her back, puts a large strain on the woman’s bones and muscles. As a result, many pregnant women get back pain. Too much standing in one place or leaning forward can cause back pain, and so can hard physical work. Most kinds of back pain are normal in pregnancy, but it can also be a warning sign of a kidney infection.

**Changes in body weight during pregnancy**

Continuing weight increase in pregnancy is considered to be one favourable indication of maternal adaptation and foetal growth. However, routine weighing of the mother during pregnancy is not now thought to be necessary, because it does not correlate well with pregnancy outcomes. For example, there can be a slight loss of weight during early pregnancy if the woman experiences much nausea and vomiting (often called ‘morning sickness’)

**Changes in the cardiovascular system**

The **cardiovascular system** consists of the heart, the blood vessels (veins and arteries), and the blood that circulates around the body. It is the transport system that supplies oxygen and nutritive substances absorbed from the gastrointestinal tract to all the cells, tissues and organs of the body, enabling them to generate the energy they need to perform their functions. It also returns carbon dioxide, the waste product of respiration, to the lungs, where it is breathed out. The chemical processes that go on in the body generate many waste products, which the blood transports to the kidneys and liver, where they are removed. Other functions of the cardiovascular system include the regulation of body temperature, and the circulation and delivery of hormones and other agents that regulate body functions. There are several significant changes in this complex system during pregnancy.

**Respiratory changes**

During pregnancy, the amount of air moved in and out of the lungs increases by nearly 50% due to two factors: each breath contains a larger volume of air and the rate of breathing (breaths per minute) increases slightly.

During pregnancy, many women find they get short of breath (cannot breathe as deeply as usual). This is because the growing baby crowds the mother’s lungs and she has less room to breathe. But if a woman is also weak and tired, or if she is short of breathe all of the time, she should be checked for signs of sickness, heart problems, anaemia or poor diet.

**Changes in the breasts**

In early pregnancy, the breasts may feel full or tingle, and they increase in size as pregnancy progresses. The areola around the nipples (the circle of pigmented skin) darkens and the diameter increases. The Montgomery’s glands (the tiny bumps in the areola) enlarge and tend to protrude (stick out more). The surface blood vessels of the breast may become visible due to increased circulation, and this may give a bluish tint to the breasts.

By the 16th week (during the second trimester), the breasts begin to produce colostrum. This is the precursor of breast milk. It is a yellowish secretion from the nipples, which thickens as pregnancy progresses. It is extremely high in protein and contains antibodies (special proteins produced by the mother’s immune system) that help to protect the new born baby from infection. Near the end of pregnancy, the nipples may produce enough colostrum to make wet patches on the woman’s clothes. Reassure her that this is normal and a good sign. After the baby is born, colostrum is produced for about the first three days, before the proper milk begins to flow.