Normalizing the Changes Experienced During Each Trimester of Pregnancy

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ABSTRACT

In this column, the various physical changes that may occur during each trimester of pregnancy are introduced in an activity that involves participants in childbirth education classes or in a waiting room of a prenatal care clinic. This lesson is intended to educate and reassure women of the normalcy of the changes they may experience throughout a pregnancy.

Journal of Perinatal Education, 17(1), 39–43, doi: 10.1624/105812408X266287

Keywords: childbirth education, teaching strategies, changes during pregnancy

INTRODUCTION

In the United States, an estimated 6 million women become pregnant annually (Finer & Henshaw, 2006). Almost 50% of these pregnancies are unplanned, with nearly two thirds of them resulting in live births, one fifth ending in abortion, and the remainder ending in miscarriages (Henshaw, 1998; Martin et al., 2005).

Lamaze classes are a perfect setting to discuss the normal physical changes that women experience during a healthy pregnancy. Some of the changes that take place may surprise women because they do not expect to encounter certain events during pregnancy or during a particular trimester (e.g., believing that nausea or vomiting only takes place in the morning and only during the first trimester). As the Lamaze International (2007) *Philosophy of Pregnancy* states, “Pregnancy is a normal, natural life event” (paragraph 1), and Lamaze instructors play a vital role in helping women feel reassured that these changes are normal for them. Instructors also have the ability to explain why certain changes

occur during pregnancy, while emphasizing how women’s bodies are perfectly designed to nourish and nurture their babies through pregnancy. A study by Berman (2006) found that the majority of pregnant women in the study were interested in receiving information on discomforts, emotional changes, physical changes, and expectations and beliefs during the pregnancy. Kavanaugh and Hershberger (2005) found that expectant parents misread symptoms of pregnancy complications, which may have contributed to a pregnancy loss or neonatal death. Assisting pregnant women and their partners in

To view Lamaze International’s philosophies of pregnancy, birth, and parenting, log on to the Lamaze Web site (www.lamaze.org).

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identifying what physical changes can be considered normal and what experiences need to be addressed by a health-care provider is imperative to the well-being of the expectant parent(s) and their baby.

GOAL

This lesson is intended to increase participants' knowledge of normal physical changes that may be experienced during each trimester of pregnancy. It is designed to be used as a companion piece to a more information-based presentation on pregnancy and childbirth.

OBJECTIVES

After completing this activity, participants will be able to

1. identify the number of trimesters a woman experiences during a pregnancy;
2. state three physical changes that can occur during the first trimester;
3. convey three physical changes that are more likely to occur during the second trimester;
4. verbalize three physical changes that can occur during the third trimester; and
5. describe why the nine physical changes mentioned above can occur during a specific trimester.

TARGET AUDIENCE

This lesson plan is intended for pregnant women and their partners enrolled in childbirth education classes; however, this activity can take place in the waiting area of a prenatal clinic in order to educate women unable to attend childbirth education classes.

MATERIALS AND RESOURCES

The following materials are needed for this lesson: forty-five colored, 5-by-8-inch index cards of three different colors (10 of one color, 21 of another color, and 14 of the third color); masking tape; and copies of this article's Table ("Internal and External Physical Changes During Pregnancy" handout).

TIMING

This activity can be facilitated in 45–60 minutes, depending on the amount of time available during one class session or time allotted in the waiting room of a prenatal clinic.

INSTRUCTOR PREPARATION

Write each physical change listed in this article's Table on separate, 5-by-8-inch, colored index cards. For easy identification, use a uniquely colored index card for each trimester. Ten index cards of the same color are needed for the changes occurring during the first trimester. Twenty-one index cards of the same color are needed for the changes occurring during the second trimester, and 14 index cards of the same color are needed for the changes occurring during the third trimester. Number each index card on the reverse side (on the top right corner), according to the trimester (i.e., "1", "2," or "3"). Also, list the explanation for each change on the reverse side of each index card. It would be advantageous to laminate the index cards for future use.

Three volunteers are needed for this activity (one to represent each trimester). In classes with men, encourage the men to volunteer, especially because they will never have the opportunity to physically experience a pregnancy. The three volunteers will be asked to stand in front of the room.

Explain to the volunteers that they will be expected to attach the index cards on parts of their body (which may include the genital area and the buttocks) and that they may participate if they feel comfortable in doing so. No participant should actually attach an index card on a volunteer; the volunteer should be given the card after it is read and place it on her or his own body, accordingly.

Give a piece of masking tape to each participant to affix a loop of tape on the reverse side of each index card. The participants will hand each change to the volunteer (specific to the trimester under discussion) to place on her or his own body (masking tape was found to be more efficient for adhering to clothing). Before class, make copies of the "Internal and External Physical Changes During Pregnancy" handout, which will be distributed to class participants at the end of the activity.

PROCEDURE

Depending on the size of the class, distribute one or two index cards (from different trimesters) to each participant at the beginning of the lesson. This allows everyone to actively participate in the activity and helps keep everyone engaged. Inform the class that they will receive a copy of the physical changes at the end of the activity. Everyone can then focus on the lesson and listen to any additional information provided instead of writing down every physical change.

Assisting pregnant women and their partners in identifying what physical changes can be considered normal and what experiences need to be addressed by a health-care provider is imperative to the well-being of the expectant parent(s) and their baby.

TABLE

Handout: Internal and External Physical Changes During Pregnancy

First Trimester Changes (Weeks 1–12)		Explanation for Change
1.1	Missed period	Hormones secreted by the blastocyst (after burrowing into the endometrial lining) take control of the menstrual cycle
1.2	Nausea and vomiting	Due to rapidly increasing levels of the hormone, human chorionic gonadotropin (hCG); nausea tends to peak around the same time as levels of hCG
1.3	Sensitivity to odors	Due to high levels of the hormone estrogen
1.4	Fatigue	Occurs due to higher levels of the hormone progesterone, in order for the body to focus its energy on sustaining the pregnancy
1.5	Breast enlargement	Due to increased levels of estrogen, the mammary glands begin to enlarge in preparation for breastfeeding
1.6	Breast tenderness	The enlargement of the mammary glands causes the breasts to become tender
1.7	Darkening of the areola	The pigmented areas around each breast's nipple darken due to increased levels of progesterone and estrogen (this is believed to help the newborn find the breast at birth)
1.8	Areola increases in size	Due to increased hormone levels (and believed to help the newborn find the breast at birth)
1.9	Mood swings	Partly due to surges in hormones; characterized by change in emotional stability and irritability
1.10	Expanding uterus (womb)	The placenta produces progesterone, which relaxes the muscles of the uterus so they can stretch as the pregnancy progresses
Second Trimester Changes (Weeks 13–27)		Explanation for Change
2.1	Slower digestion	High levels of progesterone slow down the contractions of the esophagus and intestine, thus slowing down digestion
2.2	Constipation	Due to a slower digestion
2.3	Hemorrhoids	Due to constipation
2.4	Heartburn	The placenta produces progesterone, which relaxes the valve that separates the esophagus from the stomach, allowing gastric acids to seep back up, causing an unpleasant burning sensation
2.5	Backaches	Due to the expanding uterus affecting posture
2.6	Pinching of sciatic nerve	Nerve in the hip/buttock area gets pinched because of pressure exerted on it by the expanding uterus
2.7	Facial skin changes	Dark patches appear on the face due to hormonal changes
2.8	Increased frequency in urination	Due to increased blood flow to the kidneys and pressure from the weight of the pregnancy on the bladder
2.9	Edema	Swelling of the ankles, hands, and face, due to fluid retention
2.10	Expanding uterus	Due to progesterone, which, in turn, relaxes the muscles of the uterus so they can stretch as the pregnancy progresses
2.11	Abdominal enlargement	Due to the progression of the pregnancy, the uterus expands into the abdominal cavity
2.12	Increase in blood volume	Due to the need for extra blood flow to the uterus
2.13	Heart growth	Due to the body needing to supply more blood for the growing fetus and placenta
2.14	Quickening	Feeling fetal movements for the first time
2.15	Stretch marks	Due to the expanding abdomen, breasts, legs, buttocks
2.16	Sweating	Due to hormonal changes, increased effort on physical activities due to the expanding uterus, and the fetus beginning to radiate body heat
2.17	Difficulty in sleeping	Due to fetal movements or frequent urination at night
2.18	Leukorrhea	Higher levels of estrogen increase blood flow to the vagina, which, in turn, increases the release of a white-colored, odorless vaginal discharge (sign of a healthy vagina)
2.19	Hair growth	Due to hormone stimulation of hair follicles on the head, arms, legs, and face
2.20	Dry, itchy skin	Particularly on the abdomen as the skin continues to grow and stretch due to the expanding uterus
2.21	“Linea nigra”	A dark line running from the pubic bone up the center of the abdomen to the ribs, which is caused by the increase in hormones

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TABLE
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Third Trimester Changes (Weeks 28–40)		Explanation for Change
3.1	Heart turns on its side	Takes place in order to make room for expanding uterus, which pushes other organs up as well
3.2	Varicose veins	Swollen/bluish veins that may bulge near the surface of the skin, usually behind the legs. As the uterus grows, it puts pressure on the large vein on the right side of the body, which, in turn, increases pressure on the veins in the legs, making the veins swell from the extra pressure to return the blood from the extremities to the heart (as they work against gravity)
3.3	Heartburn	The growing fetus crowds the abdominal cavity, pushing the stomach acids back up into the esophagus
3.4	Hemorrhoids	Due to constipation
3.5	Leg cramps	Believed to be due to lack of calcium in the body
3.6	Shortness of breath	Due to the expanding uterus pushing up against the diaphragm
3.7	Braxton-Hicks contractions	Usually painless uterine contractions that help the uterus prepare for birth
3.8	Increased frequency in urination	Due to increased blood flow to the kidneys and pressure from the weight of the pregnancy on the bladder
3.9	Stretch marks	Due to the expanding abdomen, breasts, thighs, and buttocks
3.10	Dry, itchy skin	Particularly on the abdomen as the skin continues to grow and stretch due to the expanding uterus
3.11	Naval protrusion (bellybutton sticking out)	Due to the expanding abdominal cavity
3.12	Colostrum	Yellow, watery fluid produced by the mammary glands. Colostrum contains large amounts of antibodies that help protect the mucous membranes in the throat, lungs, and intestines of the infant. White blood cells are also present in large numbers and begin protecting the infant from harmful bacteria and viruses. Beneficial bacteria are also established in the digestive tract of an infant when colostrum is ingested.
3.13	Estrogen	A pregnant woman will have more estrogen in her body during the 9 months of pregnancy than a woman who never gets pregnant will have in her entire lifetime.
3.14	Progesterone	By the end of the pregnancy, levels of this hormone will increase seven times its normal levels during pregnancy.

Each participant will then have the opportunity to state out loud what change she or he is holding, depending on the trimester under discussion. The whole class should be given the opportunity to brainstorm why that physical change can occur during a healthy pregnancy. After all ideas have been exhausted (which should not take more than a minute), ask the participant to state the explanation given on the reverse side of the index card. For example, the reason why pregnant women might experience heartburn around the second trimester (even though it can occur in any and all trimesters) is because the placenta produces the hormone progesterone, which relaxes the valve that separates the esophagus from the stomach, allowing gastric acids to seep back up, causing an unpleasant burning sensation.

At this time, the index card should be handed to the appropriate volunteer to place on the part of

her or his body that change transpires from. For example, if the index card reads, “Nausea/Vomiting,” the volunteer can tape the card to her or his chin. The class can also help decide where certain cards should be placed on the body. For instance, “Fatigue” can be placed on the forehead, as well as on the chest, depending on how participants identify with the feeling and from where it may personally resonate.

Have each participant with an index card of the first trimester take her or his turn. After the first trimester index cards have been taped to the volunteer and each change has been discussed, move on to the second trimester and then the third. At the end of the activity, have each volunteer turn around slowly so everyone present can acknowledge the numerous and varied physical changes that can occur during a pregnancy. It will quickly become clear to the class that physical changes occur not only in the uterus, but all over the body.

ASSESSMENT TECHNIQUES

For participants in a childbirth education class, the group can be asked to (1) identify how many trimesters there are during a pregnancy; (2) recall three physical changes that can occur during the first trimester; (3) state three physical changes that can occur during the second trimester; (4) verbalize three physical changes that can occur during the third trimester; and (5) describe why the nine physical changes addressed in the above questions can occur during a specific trimester. To improve learning, the participants can be asked if they have experienced any of these changes and what remedies they found helpful in dealing with the changes.

CONCLUSION

This activity is not intended to take the place of a health-care provider. However, the knowledge gained may help increase participants' understanding of the normal physical changes that can occur during a pregnancy. Such a wonderful experience as being pregnant needs to be taken seriously to help improve the chances of a healthy pregnancy, labor, and birth. At the end of this lesson, instructors can continue to encourage early and adequate prenatal care and an open dialogue with a qualified health-care provider about any or all of the physical changes that can be experienced during a pregnancy. This activity can help empower women to learn what to expect throughout this or a future pregnancy.

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