Psychosocial Progression Through Normal Pregnancy

A Model for Sonographer–Patient Interaction

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Social, cognitive, and psychologic aspects of normal pregnancy are discussed verbally and in a model format. The major anxieties arising from pregnancy, typical activities, and maternal–fetal attachment typical of each trimester are discussed. Ways in which sonographers can support pregnant patients during an ultrasound examination and further questions related to the development of optimum interaction strategies are explored. Key words: pregnancy, maternal–fetal attachment.

Recent literature indicates increasing scientific recognition that psychosocial as well as physical prenatal factors may be etiologic determinants of pregnancy pathology and developmental sequelae in the fetus.[1–7] Some authors[1,8] have suggested that recognition of pregnancy maladaptation by health professionals could lead to intervention strategies designed to promote maternal–fetal attachment or to decrease maternal anxiety, but there is no clear, concise, and clinically useful description of "normal" prenatal behavior patterns in women. This article summarizes some of the existing literature and presents a visual model that may be of benefit to sonographers in communications and interactions with pregnant patients. It is hoped that sonographers can use some of the existing knowledge better to understand and support patients in normal pregnancies during an ultrasound examination.

The literature discusses the psychologic, cognitive, and social aspects of normal pregnancy. Coleman[9] described the basic feelings and sources of anxiety during pregnancy. Rubin[10] summarized the pregnancy process as five psychosocial tasks to be completed by the mother. Schereshefsky[11] extensively analyzed personality and social factors associated with first pregnancy adaptation. Nadelson[12] discussed cultural myths and influences on contemporary pregnancy. Rich[8] presented a model of support, and Rich,[8] Turner,[13] and Carter-Jessop[14] suggested intervention strategies during pregnancy, including education, individual and group support, and behavioral activities, such as feeling parts of the fetus and rubbing its back. Reading,[15,16] Janus,[17] Kohn,[18] Milne,[19] and others have begun investigating the therapeutic potential of ultrasound imaging in reducing maternal anxiety or impacting maternal–fetal attachment during pregnancy. These authors have neither summarized the psychosocial process by trimester nor presented their information in a model format, which is a useful technique for teaching and utilization of material.

The approach of the sonographer working with pregnant patients at any stage of pregnancy should ideally include, but not necessarily be limited to:

- Prior maternal knowledge and approval of the presence or nonessential personnel, with the number of such personnel kept to a minimum
- An intent to share with the parents, either during an examination or shortly thereafter, the information derived
- An offer of choice about viewing the fetus
- An offer of choice about learning the sex of the fetus, if such information becomes available.[20]

The suggestions for sonographer–patient interactions in this article are based on the assumption that the patient has been offered a choice prior to the examination about viewing the screen and about learning the sex of the fetus if information is available. The sonographer should offer a choice and respect the patient's decision. Suggestions that involve pointing out the fetus to the patient should be adopted only if the patient chooses to see the screen.

The model (Fig. 1) indicates the conditions with which the mother enters pregnancy, variables such as age, parity, socioeconomic status, culture, previous mothering experience, and family support systems. These variables will impact on adaptation during pregnancy. Major sources of anxiety during pregnancy are also listed. Activities typical of each trimester of pregnancy are within a triangular section of the model. The

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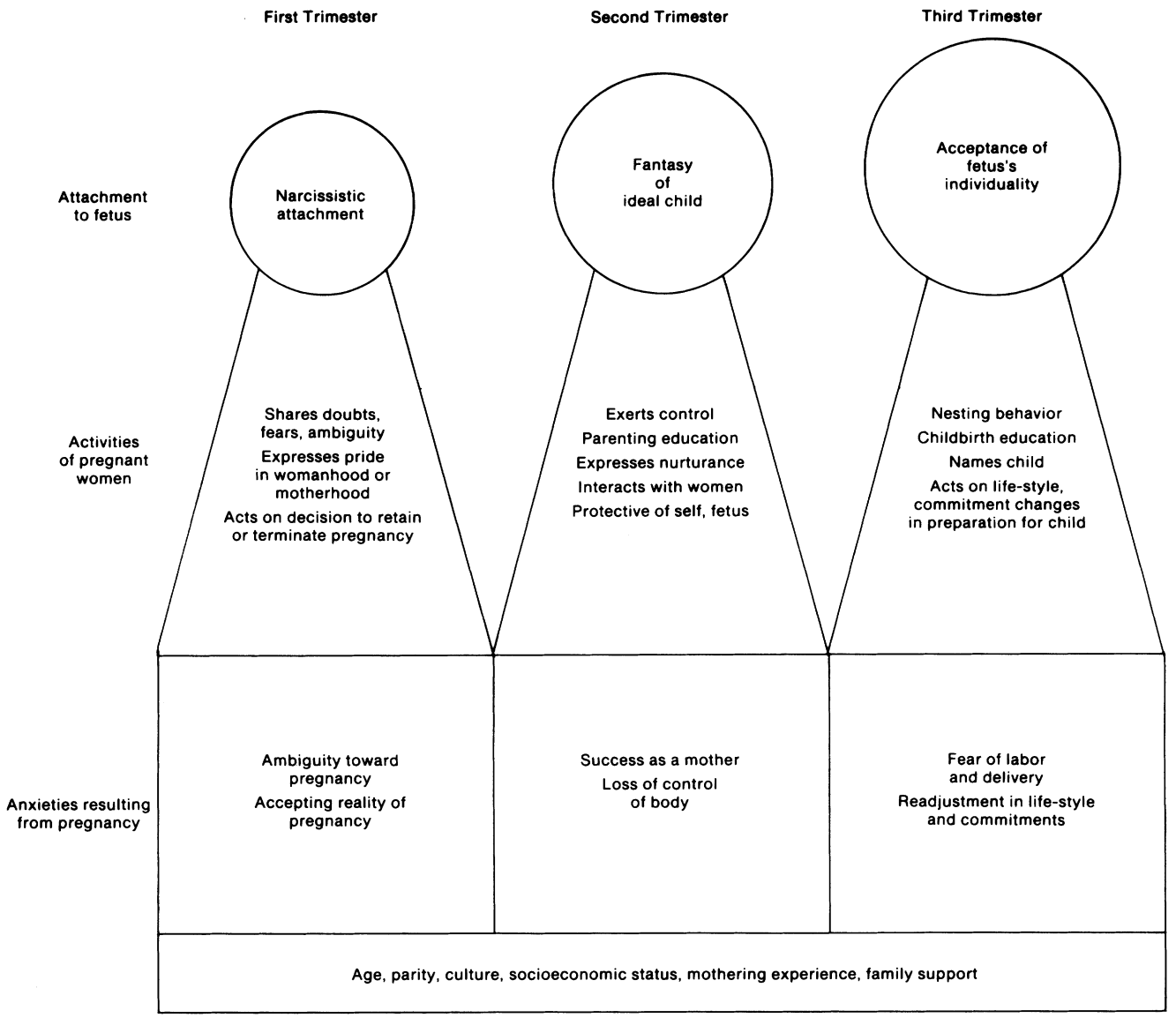

FIG. 1. Variables, activities, and anxiety associated with pregnancy.

anxiety section forms the base of the model, as the activities express the paths for resolution of the underlying anxieties. The apex of the activities section points to a series of circles indicating maternal–fetal attachment. Attachment is the goal achieved through supportive activities. Anxieties, activities, and attachment by trimester are discussed.

During the first trimester of pregnancy, anxiety is related to acceptance of the reality of pregnancy and ambiguity toward the pregnancy. Teenagers have a particularly difficult time accepting the reality of pregnancy because their sense of their own womanhood is not fully developed. Older patients generally are capable of accepting the reality of pregnancy, but may deny their own ambiguity toward the pregnancy. Most women initially feel ambiguous toward a diagnosed pregnancy, even under optimal conditions in which the pregnancy was planned and actively sought. Pregnancy entails a major commitment and life change for women and is therefore greeted with both positive and negative expectations. Psychologically healthy women accept, express, and share doubts, fears, and ambiguity related to pregnancy with support persons. These women resolve their ambiguity by making a decision either to retain or terminate the pregnancy, and then act upon that decision. Wearing maternity clothes before they are needed or buying maternity clothes are activities in which women may express resolution of the ambiguity. Continuing to wear tight clothes well into the second trimester may be an expression of

failure to accept the reality of pregnancy or failure to resolve the ambiguity inherent in early pregnancy. Conversations expressing disbelief, excitement, disappointment, and worries are typical during the first trimester.

The sonographer working with pregnant patients can encourage these patients to accept the reality of the pregnancy and openly to explore their own feelings concerning the pregnancy. The ultrasound image, when it is seen by and explained to the patient, is powerful evidence of the reality of pregnancy. Verbally connecting the image on the screen to the patient's body (i.e., "the head is right here, on this side of your stomach") further emphasizes the reality of the pregnancy and the patient's need to resolve conflicts relating to pregnancy. The sonographer needs to be a supportive and nonjudgmental listener to any expression of positive or negative aspects of the pregnancy. It is important not to express a particular point of view and discourage the patient's own conversation. Ambiguity is quite normal, and the more openly it is expressed, the more quickly and readily it can be resolved.

Attachment during the first trimester is primarily narcissistic in nature. The stronger the woman's self-respect, the stronger the attachment to the pregnancy, which is part of her body. Women initially attach to the pregnancy because it is a part of themselves. They do not perceive the fetus as a separate person at this point. Expressions of pride in their womanhood or impending motherhood are positively related to attachment. Connecting the ultrasound image to the patient's body may encourage initial attachment.

During the second trimester of pregnancy, many mothers begin to perceive the fetus as a separate individual. Along with this perception, anxiety arises related to the woman's ability to mother. Preoccupation with the woman's own mothering experience is common during this period. Shereshefsky[11] found that interaction with other women, particularly other mothers, is important during this stage. Shereshefsky[11] and Rich[8] described cases in which women had moved to new locations and did not have woman friends. Despite supportive spouses, anxiety arose. Interactions with female sonographers related to the sonographer's mothering experience may be sought by patients in the early second trimester. Parenting classes are often sought and helpful at this stage. The mother often expresses or "tries out" her mothering skills on others and is nurturing and supportive of close associates. At the same time, the pregnant patient becomes very protective of herself and the fetus. Patients may have many questions about ultrasound and the safety of the procedure. The continuing development of the pregnancy creates a sense of loss of control of the body. Anxiety related to this loss of control may be expressed through efforts to control the environment or others. Rearranging furniture, changing diets, or beginning exercise programs are external efforts to control. The desire to control and the increasing sense of protectiveness toward the fetus lead many women to incorporate advice regarding change in diet or smoking habits.

Attachment to the fetus may grow rapidly during the second trimester. The mother is generally feeling well, the sickness of early pregnancy has subsided and the heaviness of later pregnancy has not begun. The mother may perceive the fetus as a separate individual; this perception is often tinged with fantasies of the ideal child. The mother may picture the child moving, the visualization and fantasies increasing the attachment of the mother to the fetus. The sonographer can encourage attachment by pointing out movement of the fetus and sharing the patient's sense of excitement and wonder. It may be inappropriate to visualize or discuss the sex of the fetus at this stage unless it is certain that the information will heighten rather than detract from the patient's fantasies.

During the third trimester, major anxiety is related to fear of labor and delivery. Needs to readjust lifestyles or relationships with others in preparation for the child may generate anxiety as well, depending upon the nature and magnitude of the changes necessary. The mother actively begins to readjust, decreasing involvement with others to allow time for involvement with the new child. If the mother is in a nonsupportive home environment and has not already done so, she may move at this stage. Nursery preparation, "nesting," is undertaken and professional commitments may be lessened. Childbirth education classes are often undertaken and alleviate some of the anxiety related to labor and delivery. The sonographer may be helpful in reducing anxiety by providing information about childbirth classes and/or about normal labor and delivery. The sonographer should be careful not to frighten the patient by careless use of terminology (i.e., "breech," "the placenta is not *right*," "checking for intrauterine growth *retardation*," etc.).[21] The sonographer should be alert to nonverbal signs of anxiety during a normal examination and attempt to clarify misconceptions about the examination.

Attachment to the fetus continues to grow but at a less rapid rate than in the second trimester. The "ideal child" is by now kicking quite hard, weighting its mother, and keeping her awake at night. The mother's perception of the fetus contains positive and negative elements and hence the child may be increasingly perceived as a separate individual with unique personal

characteristics. The perception of separateness aids the mother later in developing an optimal mothering relationship. Because the mother increasingly perceives and accepts the child's individuality, discussions of gender are more appropriate at this stage than earlier in the pregnancy. The baby's name is usually chosen at this point. Typical conversations with pregnant patients at this point may relate to the individual characteristics of the fetus (i.e., "this one kicks more than my last," "it moves around with loud noises"). Often during the third trimester examination, the sonographer may have the opportunity to point out specific aspects of fetal anatomy—the feet, hands, fingers, or profile. The sonographer also may teach the mother to feel specific fetal anatomy on her abdomen. Carter-Jessop[14] suggested that this technique may enhance the mother's sense of relationship to the fetus.

SUMMARY

The normal psychologic progression of pregnancy is discussed in this article, but many questions remain unanswered, including the effects of developmental lags or delays in resolving the anxieties arising from the pregnancy and the effect of ultrasound imagery in enhancing or impeding the normal process. The applicability (if any) of these studies to abnormal pregnancies and the effect of ultrasound and role of sonographers during abnormal pregnancies should be systematically studied.

Sonographers' interactions with pregnant patients are as varied as the individuals involved, but patterns related to the major anxieties arising from normal pregnancy are predictable. Attention to these patterns may enhance the sonographer's ability to understand and relate to pregnant woman patients. The model presented may also serve as a base for further study and development of optimum interaction and intervention techniques in normal pregnancy.

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