

The Impact of Hyperemesis Gravidarum on Maternal Role Assumption

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Objectives: To describe what it is like to have hyperemesis gravidarum and explore its impact on the assumption of the maternal role during the perinatal period.

Design: Qualitative descriptive design.

Participants: Eight women who had been diagnosed with hyperemesis gravidarum were recruited through private prenatal clinics using a snowball technique. Participants were interviewed about their experiences with hyperemesis gravidarum in their homes or other suitable sites selected by them.

Main Outcome Measures: Transcribed interviews were analyzed using grounded theory methodology. A core category and subcategories were determined.

Results: Hyperemesis gravidarum is a disorder that alters the usual response to pregnancy and birth. Participants in this study described it as so debilitating that they had little concern for anything else, including the fetus. After symptoms subsided, the participants reported that they were able to regain control over their lives and made an effort to make up for lost time in becoming attached to the baby.

Conclusion: Women suffering from hyperemesis gravidarum may not benefit from the usual prenatal education efforts. Additional support following delivery may be needed as the woman attaches to her infant and learns to provide care. *JOGNN*, 34, 172-179; 2005. DOI: 10.1177/0884217504273673

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Hyperemesis gravidarum (HG), defined as severe nausea and vomiting during pregnancy, is experienced by 1 to 10 per 1,000 pregnant women (Fairweather, 1968; Snell, Haughey, Buck, & Marecki, 1998). Beginning before the 20th week of pregnancy, HG results in a weight loss of at least 5% and can cause dehydration, electrolyte imbalance, ketosis, and organ damage. Complications are not confined to the mother. Decreases in fetal weight and even fetal death can occur (Snell et al., 1998).

Even though both medical and nursing literature are replete with information on the possible etiology and treatment of HG, there is little published information concerning the toll HG takes on the daily lives of those women who experience severe nausea and vomiting for much of their pregnancy. An understanding of the impact of HG on a woman's self-concept, attitude about pregnancy, and her assumption of the maternal role is needed for the provision of optimal nursing care.

Review of Literature

The underlying cause of HG is unknown, but both physiological and psychological etiologies have been proposed. Physiological theories on the cause of HG include high circulating levels of estrogen or human chorionic gonadotropin (Depue, Bernstein, Koss, Judd, & Henderson, 1987), transient maternal hyperthyroidism (Tareen, Baseer, Jaffry, & Shafiq, 1995), vitamin B deficiency, and even allergic reaction (Hod, Orvieto, Kaplan, Friedman, & Ovadia, 1994). Theories related to mental health include sit-

uational stress (Long, Simon, & Tucher, 1986), lack of emotional support from husband and parents (Wolkind & Zajicek, 1978), depression (Uddenberg, Nilsson, & Almgren, 1971), and personality pathology (Lub-Moss & Eurelings-Bontekoe, 1997). In a comparison study of psychological traits of women with and without HG, Simpson et al. (2001) concluded that the condition is not psychosomatic but a complex interaction of biological, psychological, and sociocultural factors.

Although the etiology and treatment of HG have been widely researched, only three qualitative studies have examined the impact of HG on a woman's life. O'Brien, Evans, and White-McDonald (2002); O'Brien and Naber (1992); and O'Brien, Relyea, and Lidstone (1997) all found that HG affected a women's ability to perform her usual routine. Specific changes reported by women in the studies included difficulty maintaining family and social relationships, inability to complete housekeeping activities, especially cooking, and a need for assistance with caring for their other children. Most of the women gave up their employment outside the home for some amount of time.

All of the above-cited studies found that the women experienced a strong physical and emotional response to HG. Embarrassment at vomiting in public places, frustration that the nausea and vomiting did not end when the doctor predicted that it would, and a change in role from healthy person to sick person were consistent themes. Fear of vomiting in a public place resulted in very limited social outings, with feelings of loneliness and loss of control. The overall discomfort and decrease in appetite associated with HG contributed to the women's reports of frustration, fatigue, guilt, and concern for their unborn child. Most women did not experience hunger and forced themselves to eat out of concern for their fetus.

The findings of these three qualitative studies confirm that HG does in fact have a significant impact on the daily lives of the women who experience it. Alterations in lifestyle, performance of activities of daily living, social activity, relationships with family and friends, and self-perception all seemed to be negatively affected by HG. Although these studies provide much information about the day-to-day life of women with HG, the studies were fairly structured and did not allow participants the opportunity to address all topics related to HG. Many questions about the lasting effect of HG remain concerning self-perception, alterations in relationships, future reproductive choices, and changes in nutritional intake.

Maternal Role Assumption

Mercer's Maternal Role Attainment Theory served as a framework in understanding the impact of HG on assumption of the maternal role. Mercer's work is an extension of the work of Rubin (1967a, 1967b), who

studied and developed earlier maternal role theories. According to Mercer (1981), the stages of maternal role attainment include the "anticipatory stage," "formal or role-taking stage," "informal or role-making stage," and the "personal or role-identity stage" (pp. 73-77). The anticipatory stage includes the social and psychological adjustments that take place during pregnancy as a woman prepares emotionally for motherhood. During this stage, the woman seeks information and begins to visualize herself in the maternal role. Attachment to the fetus and the beginning of an emotional bond occurs at this stage. In the formal stage following delivery, the woman becomes acquainted with her infant and begins to learn and take on her new role as mother. The last two stages, informal and personal, require learning infant cues, mastering infant care tasks, and accepting the role of mother. Maternal role identity takes place as the woman internalizes and views herself as a competent mother (Mercer, 1981, 1986, 1995).

Purpose

The purpose of this study was to investigate the perceptions of women who had been diagnosed and treated for HG and to better understand its impact on their lives and their assumption of the maternal role.

Method

The grounded theory method described by Glaser and Strauss (1967) was used. This qualitative inductive approach is especially useful to nurses in finding out how people deal with illness and its impact on their lives. Grounded theory is an exploratory method that does not begin with existing theory or predefined concepts. Rather, the method leads to discovery of data categories that when linked together form theory. Data are collected most often through the interview process and transcribed for analysis, as was done in this study. Steps of data analysis are carefully carried out to ensure a plausible theory as the outcome. These steps include "open coding" or placing concepts into categories, "axial coding" or linking the categories in a logical way, and "selective coding" or determining the central or core category (Glaser, 1978; Strauss & Corbin, 1990). "Memoing" or keeping notes during the research process serves the purpose of recording preexisting assumptions, methodologic decisions, and speculations about the data (Glaser, 1978). Data collection and analysis are carried out simultaneously, allowing constant comparison. As findings emerge, participants may be asked to validate the investigator's theory.

Participants

Women who were diagnosed with HG, and who were treated for excessive vomiting either in the hospital or at

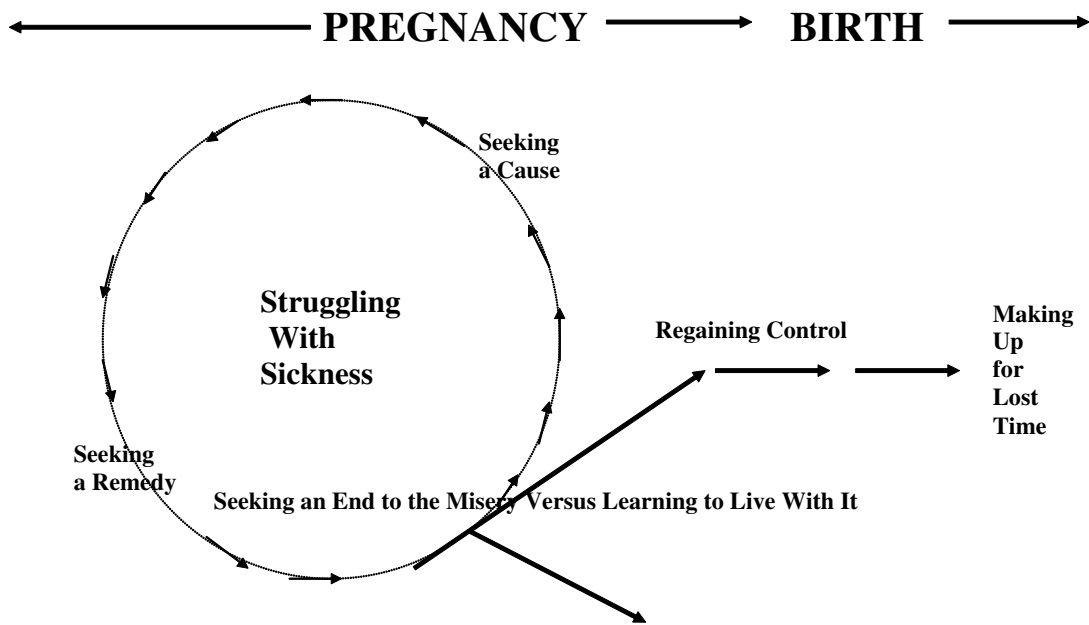


FIGURE 1

home, were considered as study candidates. Potential participants were recruited through prenatal care clinics and private practice offices. Snowball sampling also occurred as study participants referred others who were also diagnosed with HG.

Eight women between the ages of 19 and 35 participated in the study. Five of the women were primigravidas, 1 woman was a gravida 3, and the others were gravida 2. Six of the women were hospitalized for dehydration. Only 1 of the women reported complications at delivery, and her infant was born prematurely. Two women were treated at home for dehydration.

Data Gathering

Following written consent, participants were asked to complete a short demographic form containing information about the number of pregnancies, ages of any other children, onset of HG, and treatment such as hospitalization or care at home. After completing the demographic form, participants were interviewed about their experiences with HG. The investigator began the interview by asking, “What was it like to have HG?” Participants were encouraged to talk about any aspect of the experience they desired. After transcription and analysis of the first interview, participants were asked more direct questions about their experiences to compare their stories. Interviews were audio-taped and transcribed verbatim for analysis.

Data Reduction and Analysis

The transcribed interviews were read aloud by the investigators to generate concepts in the process known as “open coding.” Data collection and analysis were con-

ducted simultaneously. Categories were determined from the concepts that were generated from the data, and “axial coding” was used to link the categories together. Constant comparative analysis was used to identify a “central or core category” and subcategories. Other categories and their linkages to the core category were outlined and diagrammed for clarity. Data saturation was apparent during the seventh interview, and the eighth interview did not reveal additional information but provided more support for the emerging theory.

Human Subjects Protection

The study proposal was reviewed and approved by a nursing research committee and the college research review board. An explanation of the study was provided and written consent of the participants was obtained prior to data collection. Participants were informed that they could withdraw from the study at any time without penalty. The women’s names were not used on demographic forms, tapes, or transcribed interviews, but these forms were assigned a number for later referencing. Fictitious names were assigned to the transcripts to protect the privacy of participants, and these names were used during analysis and reporting of the findings.

Results

The core category was Struggling With Sickness, followed by Regaining Control, and Making Up for Lost Time. Subcategories of Struggling With Sickness included Seeking a Cause, Seeking a Remedy, and Seeking an End to Misery Versus Learning to Live With It. These concepts are displayed in Figure 1. All of the participants in this

study claimed that their daily existence was negatively impacted by constant nausea and frequent vomiting, preventing them from social interaction and carrying out the simplest of activities. The daily struggle with sickness included a process of seeking a cause for the vomiting and seeking a remedy. All 8 of the participants reported that remedies did not work. The constant nausea and vomiting forced the women to consider ways to end the misery. Although more than half of the participants thought about ending the pregnancy, all of the women found a way to live with the discomfort. As symptoms began to subside, the women reported that they had more control over their lives, and they began to think more about the infant and look forward to motherhood.

Struggling with nausea and unpredictable vomiting led to isolation.

Struggling With Sickness

The participants described HG as a sickness that is “horrible,” “miserable,” and “frightening.” “It is like being tortured,” Gail reported. Fran described it as like being “metabolically imbalanced . . . like electrons in your body just cannot calm down.” Carol explained, “It’s a daily basis kinda thing. I was pretty much throwing up day and night and nothing would stop it.” Ellie said that she actually had a “sick routine” because it was an everyday event. “It took everything I had to pry myself off the couch,” she stated. “I thought something was bad, bad wrong,” Alice explained. According to Beth, “It was awful. I don’t wish this off on anybody. I actually thought I was gonna die.” Diane explained, “It’s different from having a virus . . . the nausea is basically all the time. At one point in my pregnancy, I thought . . . How in the world am I going to make it?”

The struggle with feeling nauseated and unpredictable vomiting led to isolation for most of the women. Carol said she stayed up in her bedroom most of the time. She reported that she couldn’t deal with being around other people. None of the participants enjoyed shopping or preparing the nursery. “Riding in the car would nauseate me,” Ellie said. She wouldn’t go out for fear she might vomit in public. Alice didn’t go anywhere except to the doctor’s office and always carried a wastebasket with her when she did, “just in case.”

Although Beth, Diane, and Fran said that they forced themselves to go to work, they avoided meals and breaks with coworkers. Beth explained that she had to go to work and often threw up at work but didn’t miss any days. Diane said that she missed 2 or 3 days and often

Hyperemesis gravidarum robs a woman of the pleasures of pregnancy and interferes with the stages of maternal role attainment.

called to tell coworkers that she would be late. “If I could just make it until about 10:00 am,” she explained, “it would clear up a little bit but I would still be nauseated.” Fran, who worked in a hospital setting, said she knew where every private bathroom was and planned her work routine so that she could make it there to throw up.

HG robs women of the pleasures of pregnancy, such as looking forward to the baby’s birth, shopping, and preparing the nursery. The study participants reported that they were not able to participate in the things that most mothers-to-be look forward to. Carol had delivered twice previously and was experiencing HG for the first time with her third pregnancy. She stated, “I didn’t seem right . . . I had really enjoyed my pregnancies before, and it seemed like this one had a black cloud over it ’cause it hadn’t been any fun.” Ellie who was expecting her first child described her baby shower:

Uh, I remember the night we brought everything home. My mom has a van, so it was probably four vanloads of things. We have a big family. And I remember my husband going through everything we got. I just remember laying on the couch just watching him going through it as if it was Christmas for him. But I really didn’t care, you know, even at that point that much about what I had gotten, ’cause I felt so horrible. I didn’t even want them to have a baby shower ’cause I felt so bad, and I knew I wouldn’t last through the whole thing, but they insisted so I did go ahead.

Finally, HG impacts the woman’s relationships with others. Beth stated that people didn’t believe how sick she was. In fact, she said, “One of my managers got onto me for throwing up so much.” Alice stated:

My life was falling apart. Constantly throwing up doesn’t make for a good marriage. You figure that if you smell something, just anything could start it off. I couldn’t cook for my husband. . . . I could not drive alone, so either my mother or my mother-in-law would take me places . . . and if you’re an independent person, that becomes difficult to have to depend on somebody else to come and get you.

Diane said that her mother did not believe that she could not control her vomiting, and Fran claimed that her husband did not believe that she had no control over her nausea at first. Other participants reported that friends and

family didn't understand why they continued to be so sick.

Seeking a Cause

Diane indicated that hormone levels might be the cause of her misery. "I don't think it was in my head. I really don't. Some of us just stay sick," she stated. Beth acknowledged that she "stayed pretty stressed out and anxious," and Gail said that she was worried about becoming a parent. Both women believed that stress might have contributed to having HG. Both Alice and Carol read lots of material in search of a reason for their nausea and vomiting. Carol stated that she wasn't sick with her other children, because she was working at that time. "I think I had less time to concentrate on how sick I felt, and this time I was completely at home." Ultimately, all of the women compared themselves to friends and family members who didn't experience HG with pregnancy and in some instances blamed themselves for their dilemma. Fran stated, "Nobody that I know of has had this until me . . . I even asked the doctor if this was nerve related . . . if it's in my head I want to see a psychiatrist."

Seeking a Remedy

The women tried various remedies to deal with the overwhelming nausea and vomiting, but most reported that nothing helped. Beth said she followed all the advice of family and friends to no avail. "I tried saltine crackers before getting out of bed . . . I threw up twice as much as I ate. Then a woman told me peanut butter was good . . . I haven't eaten peanut butter or crackers since." Both Fran and Diane claimed that lemon in tea and in water was helpful, whereas Carol relied on peppermint chewing gum. Medical interventions such as Phenergan, Zofran, and Reglan infusion helped Beth, Fran, and Gail, but Diane and Hannah resorted to "toughing it out." Regardless, most of the participants reported that they had little or no control over HG and that time alone was the only solution.

Seeking an End to the Misery Versus Learning to Live With It

HG can be life threatening, and in some cases, termination of pregnancy is the only effective treatment. Although none of the participants underwent termination of pregnancy, most of the women stated that they actually considered it. Fran explained,

It was very depressing. You almost thought the pregnancy wasn't worth going through because it was a sacrifice. It was miserable. It was my last hospitalization and I said if it doesn't stop . . . I want . . . I'm terminating the pregnancy.

Alice admitted that she had thoughts of ending the pregnancy too, "I wasn't sure I wanted to go through with

this. I was really hoping it would go away. . . . I didn't care, you know, just make this sickness go away." Beth said, "There were times that I wanted the pregnancy to be over with. Every time I went to the doctor I would ask, 'Can I be induced? Can't you just get the baby out of me?'" Diane claimed that she cried, and although she would never have resorted to termination, she too wanted an end to her misery. Carol also found herself thinking, "I want this to be over with." Death was mentioned by several of the participants. Beth feared that she was "gonna die," and Alice also saw death as a possible remedy. She said, "I would have chosen death if it had been offered. I was that sick."

Eventually, the women in the study reported that they learned to deal with HG on a daily basis. Carol said, "I kinda resigned myself at 4 or 5 months that this (the nausea and vomiting) is gonna be the whole pregnancy. I had always heard it should go away by 3 months and if it doesn't, then you're stuck with it." Gail reported that she just learned to live with it.

I kept expecting it to stop any moment. If I was at work, I would . . . I had this override button I guess . . . but after work I would vomit every day when I got home. I would just drag myself through the day.

Diane stated, "I got to a point . . . at least halfway through . . . I got used to throwing up. Yeah it was like well, if you throw up, you just throw up . . . this is just going to happen. There's no use in this, so get over it and go on, and I did." Hannah gave her husband credit for helping her through the pregnancy. "If it hadn't been for him, I'm not sure what I would have done," she stated.

Regaining Control

All of the participants expressed loss of control. It was not until the nausea subsided that they began to think about the infant and delivery. Fran began to regain control after treatment with the Reglan pump and a prescribed bland diet. It was the middle of the last trimester when she felt better. Fran said, "We started getting excited, getting the room ready, and everything. We thought everything was gonna be ok." Even though Fran did experience bouts of nausea and vomiting during labor, she sensed that the worst was over, and she was in control. Beth stated, "I threw up having him and then that was it. I haven't thrown up since." Alice said she was sick before delivery and even vomited several times in the postpartum

When the sickness subsided, thoughts turned toward the infant for the first time.

period. Although she claims that everything was wonderful after that point, she said she would never get pregnant again.

Carol declared that she was more in control during the day, because HG was worse at night in her case. Gail said she began feeling more in control in the last few weeks of pregnancy because she wasn't sick all of the time. "I was so thrilled it was gone at delivery," she exclaimed. Ellie, who began regaining control over her illness at 8 months said, "I felt like I had overcome . . . and I knew I hadn't completely overcome because I had gotten that far . . . then I began to worry about the delivery."

Diane and Alice didn't regain control until after delivery. Both women experienced vomiting throughout labor and delivery. Diane has decided to never get pregnant again because of her experience with HG. She said:

I vomited through the whole thing, and after delivery I looked at my nurse and said "Please give me some IV Reglan." . . . I slept for an hour or so and when I woke I never had any more nausea. That pretty much did me in though.

Making Up for Lost Time

Most of the women expressed moments of concern for their baby but admitted that they were more concerned about how they felt. Attachment to the infant didn't seem to occur until after symptoms subsided. It was then that the women seemed to work toward making up for lost time. As she talked about her delivery, Ellie said, "I had overcome the sickness but now it seemed that as soon as I overcame the sickness here I was laying in the bed delivering and I hadn't had much time to think about it because I had worried about myself the whole time." After delivery, Ellie explained,

I cried . . . she was here . . . she actually survived. After that, I didn't want anybody to mess with her. I felt very protective. Right after I had her, I didn't even want to go to sleep. I wanted to be right there with her, I wanted to be holding her. I can remember my husband saying, "Wait, it's my turn."

Fran said,

You wonder, is my baby gonna be ok. You know, did it have any heart defects or any brain defects, from the medicine. I just trusted my doctor. Then, when I first saw her . . . well, I was absolutely in love, I just cried, she was wonderful.

Alice expressed her feelings:

I didn't bond with that child until after delivery. It was the first time I felt like that I could even associate with

the child in anyway. . . . I was conscious of what was going on [during pregnancy] . . . when I had an ultrasound. I had numerous ultrasounds . . . I didn't care. You know, just make the sickness go away, just get this over with.

As Alice began to feel better, she expressed remorse. "I felt guilty about not feeling right about her [the baby] during pregnancy," she stated. Alice described how she felt at the time of delivery:

I didn't feel motherly, I don't know if other women do. Maybe you have to have that baby out and looking at it to feel motherly, but I didn't at all. Like I said, I was conscious of it and I tried to do everything that I thought I should be doing. But I didn't feel motherly at delivery. Maybe other people don't either. You get in your head that that is what you should be doing and that's what other people think, and that's what you should be doing.

At home and feeling much better, Alice said that she sat up at night and just held her baby. She explained, "I had had such a wild pregnancy I developed this schedule of sleeping during the day, being awake at night, so it worked out perfectly with a newborn. He [her husband] would go to bed and I would sit up in the living room and rock her and . . . she was such a good baby."

Beth said that she couldn't think about her baby before he was born:

Everybody asked me what I wanted it to be. I would say, "I just want it to come out healthy." . . . I didn't care. And I got a healthy and beautiful baby. I was just amazed. So glad he came out OK.

As if she was aware of him for the very first time, she explained:

He was perfect. You know he looked at me and I thought, "Oh my goodness, whose sweet baby is this?" . . . He is more than I could have ever asked for. It was finally worth it. He is so special.

Alice, Fran, and Ellie indicated that they felt a need to spend additional time with their babies, and in all three cases, the women reported feeling very protective. Alice held her baby constantly. Both Ellie and Fran felt possessive about their babies, discouraging other caretakers.

Discussion

Analysis of the interviews in this study indicates that there is a delay in the stages of maternal role attainment as described by Mercer (1981) in women suffering from HG. Women suffering from continual nausea isolate themselves from family and friends. The anticipatory

stage that begins during pregnancy is altered. The 8 participants stated that they were so overcome with HG that they were not as concerned for the fetus as they may have been otherwise. The women in this study were too ill to anticipate delivery, plan for the baby, or participate in social activities. As a result, the social and psychological adjustments to pregnancy were altered until HG subsided and the women had regained some control. The formal or role-taking stage may also be affected because the woman with HG has a need to make up for lost time. Most of the participants (7 out of 8) reported that they could not become emotionally attached to the fetus, and they made extra efforts to bond with the infant after delivery at a time when learning infant cues and developing infant care skills should take place.

Previous studies have shown that HG does have a negative impact on the daily lives of women who experience it. Results of this study support many of the findings of O'Brien et al. (2002). Having HG is a daily struggle, and during the struggle, women move through a process of trying to cope with symptoms. This ultimately leads to social and psychological isolation until symptoms abate. It is evident from both this research and previous studies that women experience negative feelings throughout this struggle including guilt, loneliness, shame, frustration, and worry. The theory generated from this study does not refute the theory of O'Brien and coworkers. It provides more information about how HG may also impact maternal infant attachment and a woman's role as a mother.

Because the participants were asked to describe how they felt about having HG, they were free to talk about any aspect of the experience they chose, not necessarily the impact on the maternal role. Grounded theory methodology strengthened this study because it provided the investigator the freedom to explore by direct questions, while focusing on the stories of people who have firsthand experiences.

A limitation of the study is that results are from a specific population. The participants were 8 White women living in the southeastern United States, whose ages varied from 19 to 35. The impact of HG on women in other cultures, specific age groups, or in other geographic areas could differ.

Implications for Nursing Practice

The findings of this study have implications for nurses in planning and providing care for women suffering from HG. Because the anticipatory stage is delayed, the usual prenatal education efforts may not be as effective for women with HG. This means that last-minute information or additional coaching may be needed as the woman moves through the intrapartum and postpartum periods.

Second, 3 of the women in this study said they felt guilty about not feeling attached to the infant. This impacts the woman's concept of herself as a mother and may lead to an alteration of the informal or role-taking stage. Letting the woman who is recovering from HG know that this feeling is not uncommon may be helpful. Finally, providing extra time and guidance after delivery may facilitate the informal stage as the mother attempts to make up for lost time in the process of forming an emotional bond with her infant.

Three of the participants in this study indicated that they felt overprotective of their infant. Although not a major finding, this feeling could lead to negative parenting behavior and have a serious impact on a child's future. This represents an alteration of the formal or role-making and the personal stages and may be prevented through early recognition, assistance, and referral if needed as the woman assumes the maternal role.

Understanding the effects of HG is important in planning nursing care for these women during pregnancy and following delivery.

Recommendations for Future Research

Replication of this study with more participants from varied cultural backgrounds, different age groups, and demographic locations is needed to either confirm or refute study findings in other populations. This exploratory study generated a theory and model that may be tested quantitatively in the future. Structured interviews or a survey of a larger sample may be done. In addition, research to determine if there is a demonstrative difference in achieving maternal tasks between mothers with HG and those experiencing a relatively normal pregnancy is recommended. Although there were only three participants who reported feelings of possessiveness and overprotective behavior, this finding warrants further exploration. Surveying the mother's attitude about the infant in the immediate postpartum period and again during early childhood may help determine how prevalent this is in women experiencing HG.

Conclusions

This study indicates that HG impacts the lives of women who suffer from it and affects the assumption of the maternal role by interfering with the stages of maternal role identity. Nurses may be able to facilitate the

process of maternal role assumption for women with HG by focusing on the needs of women both during the illness and again as they regain control and begin taking on the role of mother.

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