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Understanding mothers' perceptions of pregnancy anxiety: a qualitative study

Katayoun Arfaie[1], Fateme Nahidi[2], Masoumeh Simbar[3]

[1] Ph.D. of Reproductive Health, Department of Nursing and Midwifery, Semnan Branch, Islamic Azad University, Semnan, Iran
[2] Ph.D., Assistant Professor, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran
[3] PhD, Professor, School of Nursing and Midwifery, Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Science, Tehran, Iran

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Abstract

Background and Objective: Anxiety in pregnancy has severe complications for a mother and her developing baby. Despite this fact, few studies have been done about antenatal anxiety and its risk factors, so this research aimed to explore components and dimensions of this kind of anxiety.

Methods: This qualitative study was conducted in Tehran city from May 2016 to December 2017. The participants were twenty-eight pregnant women who referred to health care services. In order to collect data, purposive sampling and face-to-face semi-structured in-depth interviews were used. Data were analyzed simultaneously with data collection using qualitative content analysis with a conventional approach.

Results: Mothers from different social backgrounds, educational levels and ethnicities, aged 18-41 years old participated in this study and after analysis, mothers' perceptions of anxiety-provoking factors were classified into nine domains: including lack of information and planning, mothers' loss of well-being, conflict with spouse, sociocultural issues, financial problems, parental challenges, healthcare related, fetal health and lack of support.

Conclusion: With respect to what was found in this study, it seems that identification and screening of vulnerable mothers would be a dramatic help for the timely prevention and control of this mental health disorder and its complications.

Keywords: Pregnancy anxiety; Antenatal anxiety, Maternal anxiety, Parenting anxiety

1. Introduction

More than 90% of women experience at least one pregnancy during their lifetime (1). A woman encounters widespread physical and psychological changes during pregnancy; pregnancy is also an individual experience that elicits a range of responses from very positive to negative. The wide range of responses is due to the complexity of the process. Laderman (2) believed that pregnancy is a paradigm shift from a woman without a child to a woman with a child, this shift involves a reassessment of one's self–beliefs, self-regard, values, priorities, relationships with others, and problem solving skills. Owing to a large number of factors present during pregnancy, many women consider some aspects of pregnancy stressful, to which they respond with anxiety (3). The frequency and intensity of anxiety reaction will depend on a woman's perception of this stressor and her ability to cope with anxiety (4).

Several studies have been performed on the causes of anxiety in pregnancy and considering their results, we can refer to sociocultural issues, religious beliefs, psychological and physical problems arising from pregnancy, individual characteristics of the pregnant woman and supporting systems of society as the main causes of anxiety (5). However, what has attracted the attention of researchers, particularly maternal health specialists, is that anxiety,

Corresponding author:
Dr. Katayoun Arfaie, Department of Nursing and Midwifery, Semnan Branch, Islamic Azad University, Semnan, Iran. Tel: +98.9359557064, Email: K.arfaie@yahoo.com
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whatever its cause or degree, provoked in pregnancy has numerous complications that threaten mothers and fetus' health and affects their present and future quality of life (6). A Shahosseini (7) study showed that, anxious mothers are at the risk of intensive cardiovascular diseases, bacterial vaginosis and sever nausea and vomiting. Preeclampsia, preterm rupture of membranes, intrauterine growth retardation (IUGR) preterm labor, neonate's anemia, low birth weight and increasing risk of fetal death are more common in these mothers (8). Another study demonstrated that maternal anxiety changes fetal movements and Apgar score from 1 to 5 minutes and prolongs labor, and it may lead to smaller head circumference of their infants compared to the control group (7, 9). It has been demonstrated that changes in maternal hypothalamic-pituitary-adrenal (HPA) axis activity and in fetus over exposure to glucocorticoids are potential risk factors of these adverse outcomes (10). Today, Cesarean section is more often reported in anxious mothers (7). In general, anxious women have low self-esteem, are easily excited, weep more, have a lower tolerance and weaker social interactions (11).

Unfortunately, despite a high prevalence and wide range of adverse effects of anxiety disorders in women at reproductive ages, especially in the pregnancy period (12, 13), this problem as a disruptive factor affecting mothers' mental health has been neglected, and scant information is available in this respect (14). Another problem is that, the majority of available resources concerning pregnancy anxiety are quantitative and are intended to test the methods that may reduce the anxiety level and its complications in pregnancy, but the real provoking factors and its dimensions have been neglected in most of them (15) and to date, no study has been conducted in Iran in this regard. Therefore, this study was conducted to explore components and dimensions of pregnancy anxiety.

2. Material and Methods

2.1. Design and selection criteria

The current study was conducted with 28 anxious mothers referring to healthcare centers in Tehran city during 2017, using a qualitative approach (conventional content analysis). This method was selected to describe the experiences of the subjects and to explain their emotional reactions (16). Researchers had no bias in selecting the pregnant women so participants were mothers from different ethnic, racial and socio-economic groups. Inclusion criteria in this study were: having spouse and singleton pregnancy, and exclusion criteria was mothers who had experienced any kind of mood disorders in themselves or their blood relatives, lack of burdensome incidents during the past 6 months, lack of chronic diseases such as cardiac diseases, thyroid, diabetes and adrenal disease, and their current pregnancy was not classified as high-risk gestation.

2.2. Data collection and interviewers

Data were collected through individual in-depth semi-structured interviews with 28 women who were selected using purposive sampling. In order to include the participants in the study, the Spiel Berger state-trait anxiety inventory was used and anxious mothers whose scores were in the range of 20-80 entered the study. The interviews were conducted in a quiet environment and each lasted 20 to 45 minutes or 30 minutes on average. At first, the researcher introduced herself and explained the goals of the study to the mothers; the interviews began with a general question, "How do you feel about your pregnancy? " Then gradually progressed to specific negative experiences about pregnancy based on the interview guide. Each interview was digitally recorded. At the end of each interview, every participant was asked to express anything left untold.

2.3. Data analysis

The data were analyzed by a conventional content analysis approach, and processed using the Graneheim and Lundman method (17), as follows: 1– After each interview, the recorded information was listened to very carefully within the shortest possible time, and afterward, the interviews were transcribed verbatim and then data analysis was begun. 2 – Text was divided into meaning units that were condensed. 3 – The condensed meaning units were abstracted and labeled with codes. 4 – Codes were sorted into categories based on comparisons regarding their similarities and differences. 5 – Themes were formulated as the expression of the latent content of the text.. Extracted codes were managed through software MAXQDA10, for the organization of text data. Finally, the Lincoln and Guba (18) method was used for assessing credibility, dependability, conformability, and transferability of data.

2.4. Ethical consideration

This study was approved by the ethics committee of Shaheed Beheshti University of Medical Sciences, Iran (Ref: SBMU.PHNM.1394.227). Participation in the study was voluntary and based on informed consent. The place and time of the interviews were selected by the mother. Participants were informed that information collected was confidential and they were also informed of their right to withdraw from participation any time without liability.

2.5. Conformability and data transferability

To verify conformability, the views of participants and researchers were rechecked. In addition, for further verification of the extracted content, a number of interviews were coded and returned to the participants to identify the extent of achievement of the predetermined objectives through the participants' reviews. In the same way, dependability of findings was examined by coworkers' reviews (Ph.D. students of reproductive health and clinical psychology) and the members of our research team. In order to ensure conformability, the researcher attempted not to include her assumptions in the process of data collection and data analysis. Data transferability was accommodated through the review of findings by five pregnant women who did not participate in the process of research. Data transferability was checked through a complete description of the characteristics of participants, method of data collection and analysis, and providing examples of interviews to allow others to conduct similar studies.

3. Results

3.1. General findings

In this study, twenty-eight pregnant women with a history of anxiety, who met the inclusion criteria, were eligible for interviews. The age range of the participants was 18-41 years; they were in different trimesters of pregnancy. Table 1 shows other demographic characteristics of the participants. The results of the process of data analysis were presented by analyzing all interviews. Finally, in this study, after summarizing data, 120 codes, 23 categories and 9 themes were extracted (Table 2).

Table 1. Demographic variables of participants

Participant no.	Ethnicity	Gestational age (week)	Age (year)	Education	Occupation	Length of marriage (year)	Number of pregnancies
1	Pars	18	35	High school	Housewife	2	4
2	Turk	24	24	Midwifery student	Student	3	1
3	Pars	36	25	Diploma	Housewife	8	1
4	Pars	16	24	Nursing student	Student	10	1
5	Pars	22	24	Bachelor degree	Housewife	12	1
6	Pars	35	22	High school	Housewife	4	2
7	Turk	6	24	Diploma	Housewife	5	1
8	Pars	34	22	Bachelor degree	Housewife	18	1
9	Pars	26	29	PhD	Faculty member	22	1
10	Pars	8	35	Bachelor degree	Employee	15	2
11	Lor	16	23	Bachelor degree	Housewife-Translator	4	1
12	Pars	38	28	Master degree	Employee	4	2
13	Pars	28	27	Bachelor degree	Teacher	7	1
14	Masani	9	29	Master degree	Engineer	9	1
15	Turk	23	32	Master degree	Employee	10	2
16	Pars	26	22	Diploma	worker	4	1
17	Turk	38	19	High school	Housewife	1	1
18	Lor	33	24	Primary school	Housewife	3	4
19	Baloch	20	25	High school	Housewife	5	1
20	Turkman	26	23	Diploma	Housewife	2	2
21	Pars	38	26	Diploma	Housewife	4	1
22	Turk	33	20	Bachelor degree	Employee	5	2
23	Turk	20	22	Primary school	Housewife	4	2
24	Kord	26	37	Diploma	Housewife	15	4
25	Pars	20	25	Illiterate	Housewife	4	1
26	Blooch	18	41	Primary school	Housewife	25	5
27	Pars	36	24	Bachelor degree	Teacher	5	2
28	Pars	30	30	Diploma	Housewife	5	2

Table 2. Pregnancy anxiety themes, Categories and Codes

Themes	Categories	Codes
Lack of information and planning	Lack of planning for pregnancy	4
	Lack of awareness of pregnancy process	5
Mothers' loss of well-being	Fear of Cesarean -section	5
	Fear of Cesarean -section complication	7
	Fear of vaginal delivery	10
	Fear of vaginal delivery complication	6
	Physical complication of pregnancy Fear of	6
	Psychological complication of pregnancy Fear of	7
Conflict with spouse	Fear of losing attractive appearance	4
	Unfavorable sex in pregnancy	5
Sociocultural Issues	Undue interference of relatives in decision making	4
	The sex of the child	6
	Pregnancy interference with the social role	4
Financial problems	Financial responsibilities of raising a child	2
	Low income	2
Parental challenges	Bad education	3
	Inadequacy as a mother	11
Health care related	Concerns about hospital service and personnel	6
	Failure to accept a doctor	5
Fetal health	Fetal abnormality	5
	Fetal damage and loss	5
Lack of support	Lack of husband support	7
	Lack of relatives support	3

3.2. Lack of information and planning

Lack of enough knowledge and couples' planning for pregnancy was one of the main themes in this study and we can see this problem in several interviews. A 29 year-old woman talked about Lack of awareness of the pregnancy process "*when I referred to the clinic, no one gave a reasonable response, and my doctor didn't explain to me. I surfed the internet to see what was going on. Well, what does it mean?"* (P_2), and a 24-year-old woman said regarding unplanned pregnancy. "*I wished to be pregnant; but I did not expect it so soon, that's why I didn't believe it and I was not ready. When I noticed, I was shocked and excited" (P_5).*

3.3. Mothers' loss of well-being

It is clear that, antenatal anxiety, as a common form of psychiatric illness, is a reflection of stress response, which occurs when personal well-being is threatened, so we can see these concerns in mothers' stories about pregnancy and delivery. A 24 year-old mother said in this regard, *"I felt sick, I was bored, and my husband didn't understand me and didn't believe that I had changed so suddenly. I was always worried and sad, and I had nightmares about my health"* (P_7), and a 29 year-old woman said about fear of giving birth, "*this issue engaged my mind from the very beginning. Now I think that labor and delivery are terrible, and I can't bear it (p_4)".* Another 24 year-old woman, who was a nursing student, told us, about fear of cesarean section: *"I have observed cesarean section and the layers that were being sectioned. I was scared and told myself 'in vaginal childbirth, the mother does not experience this'. However, I cannot make any decisions, and I will accept whatever my doctor suggests* (P_6)".

3.4. Conflict with spouse

From mothers' views, in this study, Conflict with spouse meant inappropriate sex and loss of attractiveness for him that finally led to unfavorable emotional communication. A 24-year-old woman said in this regard, "*I feel uneasy about intercourse because my husband gets annoyed. Sexual relationship is very important for my husband, I don't want him to have any problems regarding sex* (P_{18})" and a 22-year-old mother said, "*my fitness is very important for my husband, so what can I do for the body changes that come after delivery??* (P_{16})".

3.5. Sociocultural issue

Today, it is proven that Socio-cultural conditions affect all aspects of an individual's life. This issue in our study included dimensions such as quality of decision-making, interpretation of the social role of women and gender

preferences, for example a 22-year-old woman said about gender preference for male progeny, "*you don't believe it that my husband frequently says he wants to have a son and when I went to sonographer I asked myself what if it is a girl! What shall I do, because he only chooses boys' names*," (P_{16}). Moreover, a 35-year-old mother said regarding Lack of independence in decision making, "*In my first pregnancy, I wanted to go to a good hospital but my mother-in-law interfered and made my husband save money?"* (P_{12}).

3.6. Financial problems

Regarding the results of the current study, it should be noted that anxiety arising from economic problems are related to concerns about family income with respect to the child's future and the child-bearing expenses. A 25-year-old woman said in this regard, "what will happen in the future*? How will we prepare for the baby's needs and childbirth money?* (P_8) A 35-year-old woman stated in this respect, "*You know, my main problem is money. When I have financial problems I cannot think of other important things* (P_{12}) *".*

3.7. Parental challenges

Mothers believed that being a parent means to be capable of sufficiently performing maternal roles, if her achievement of this capability is in doubt, she will experience anxiety and concern**.** A 28-year-old mother told us about this problem, "*my first child is 8 years old, and she is a spoiled child. She isn't what I wanted"* (P_{13}*)* and a 32-year-old woman said, "*I was not ready for my second pregnancy. But I can bring it up better and be a good mother"* (P_{24}).

3.8. Health care related

Mothers in this study thought that healthcare services are considered optimal when they are accessible, and the hospital benefits from the necessary facilities and equipment, and there are experienced and responsible, medical doctors and maternity staff. A 28-year-old mother told us in this regard, "*your doctor's personality is very important. For my first childbirth, I was in a good hospital and they provided good services, and the doctor was caring up to the last moment. The nurses asked my doctor to leave, but she said she would not leave until her patients were treated. They were all taking care of me until I recovered completely, but in this pregnancy, I worry about doctors, staff and good service* (P_{13})*."*

3.9. Fetal health

Fear of an unhealthy fetus was another anxiety-provoking factor in this study and we can see these worries in mothers' comments clearly. A 24-year-old woman who was very anxious said, "*I am very emotional and very dependent on this baby* (P_6)*. We just pray that it is born healthy and doesn't become deficient. I don't know what I will do if it is born abnormally* " About losing the fetus*,* a 26-year-old mother said *"I'm always scared that my baby will die or something bad will happen at the time of labor and delivery" (P_5).*

3.10. Lack of support

Reviews of literature have demonstrated that sufficient support of a pregnant woman, especially by her husband and relatives, is one of the main aspects of a safe pregnancy. A 29-year-old mother said to us in this regard*, "I think I rely on my husband a lot. I always think what if I am in labor and he is absent or doesn't arrive on time, and all these thoughts worry me, and I wish he would come along with me when having tests"*, and another told us, "*If my parents were near, they would treat me kindly and look after my nutrition*" (P_{19}).

4. Discussion

This study was the first qualitative study on pregnancy anxiety experience in Iranian women, so its results are more reliable and realistic. According to the findings, it can be concluded that anxiety during pregnancy is based on nine themes, the dimensions of which, were explored in this study.

4.1. Lack of information and planning

Rosario (19) believed that having information and knowledge about the pregnancy process is the first right of a pregnant woman, but the majority of mothers are worried about the vague upcoming circumstances. He also stated that many pregnant women react in this regard, with anger and disappointment. These findings were also definitely obvious in studies of Sereshti (20) and Madhavanprabhakaran (21). The next point is that planning is needed to become pregnant and it must happen when the couple are both involved in this decision, not when it is unwanted or without knowledge on how pregnancy occurs (18). Kang (10), in China, found these results too. Froozandeh (22) also wrote, based on the results of several studies, anxiety and depression during pregnancy in third world countries

are much more prevalent compared to that of developed countries, so it is clear that mothers' education in this area will be of great help in resolving their mental uncertainties.

4.2. Mothers' loss of well-being

Health-related well-being refers to the individual's mental evaluation of his/her current health status (23). It is obvious that during pregnancy, women undergo various biological, chemical, physiological, and anatomical changes, which modify their quality of life and well-being (22, 24). Madhavanprabhakaran (21) wrote that pregnancy changes, and fear of giving birth and its complications are a real challenge for women. Martini (25) Mwape (26) and Rosario (18) also obtained similar results and considered uncertainty about postpartum health as the most fundamental causes of stress and tension during pregnancy. Salari (4), and Nillson (27) also achieved these findings.

4.3. Conflict with spouse

Based on the findings of this study, many women thought that their marital relationship was affected by the loss of sexual attractiveness and changes in their appearance, and Froozandeh (22) therefore believed that couples need more intimacy during pregnancy. Rosario (18) also referred to the role of an imperfect sexual relationship and anxiety in pregnancy. Kang (10) in his study in China concluded the same results too. Mwape (26) stated that in many cases, marital relationship declines after delivery. This concern and sensitivity was mentioned by Huizink (3), Brockington (28), Salari (4) and Height (1). Deklava (29) wrote that younger and nulliparous women experience high levels of anxiety in this respect. Therefore, quality of a conjugal relationship is believed to be important for protecting mothers' mental health and pregnancy outcomes and it should be taken into account during pregnancy care.

4.4. Socio-cultural issues

In this study, Socio-cultural issues referred to customs and traditions that led to gender discrimination, interference in decision making and conflict of women's social role with maternal duties. Madhavanprabhakaran (21) wrote "socio-cultural variables, particularly social status of family, are effective in occurrence of anxiety" and found that young and poor educated women usually experience greater anxiety in this regard. Kang (10) mentioned that socio-cultural factors such as gender preference led to a high number of sex-selected abortions of female fetuses, contributing to an unequal male-to-female ratio. These results are consistent with Staneva (30) and other studies (1, 4, 14, 31) therefore, in designing an all action plan for mothers' health, attention should be paid to cultural and social issues.

4.5. Financial Problems

Froozandeh (22) believed that there is direct association between socioeconomic factors and pregnant women's mental health. Sadeghi (32), Prady (33) and Kang (10) also reported similar findings in their studies. However, Martini (25) and Laderman (2) did not find a significant correlation between economic factors and anxiety. Altogether, different variables lead to anxiety based on characteristics of any society, but certainly, lack of financial security to afford the present and future needs of the family and children significantly affects the occurrence of mood disorders (28).

4.6. Parental challenges

Parental adjustment, especially maternal adjustment, means having the required self-confidence to perform a competent parental behavior (34.) It is obvious that, if the woman did not find this capability and authority in herself, she would experience anxiety in many occasions (5, 31, 35). Furber (36), in his study, also referred to this point. Salari (4), Martini (26), and Ostberg (37) also have referred to stressful factors in pregnancy including worry about the child's education. But unfortunately, most mothers do not have enough knowledge and skills in this regard (38). Therefore, it is essential to consider this shortcoming to resolve this conflict in mothers.

4.7. Healthcare related

In our study, pregnant women worried about the quality of health care services. Babanazari (39) believed that, there was an evident relationship between pregnancy anxiety and a mother's attitude toward health care services. Certainly, medical services are dependent upon grounds such as the existing facilities, and respective staff and specialists. This issue was completely reflected in a definition of pregnancy anxiety provided by Hiuzink (3). These findings were also obtained by Sereshti (19) and other studies in this regard (19, 28, 36). Therefore, due to the role

of the quality of medical services in protecting the physical and mental health of mothers, attempts to promote maternal healthcare services, is essential.

4.8. Fetal health

Fear of fetal damage and loss, was another important theme in this study. This finding was consistent with studies carried out by other researchers (1, 4, 5, 26, 40). Huizink (3) found that, the sentiment "I'm afraid my baby is not completely healthy" was considered among the main causes of pregnancy anxiety in many mothers. Arfaie (41) concluded that, fear of fetal injury was one of the main causes for choosing cesarean section among a lot of mothers. Considering the study's findings in third-world countries, mothers' fear and anxiety about pregnancy complications especially about fetal well-being is much higher than that of developed countries (26), thus, as psychophysical care is an integral part of prenatal care, professionals and caregivers need to pay close attention to women's psychological status in this regard.

4.9. Lack of support

This theme was one of the most important provoking factors of mothers' anxiety in our study, which is consistent with Mwape (26), Martini (25), and Korukcu (42) studies. It is believed that, there is significant relation between disharmony in family relationship and anxiety (10). Several studies have found that people in lack of social support tend to suffer from mental illnesses more so than that of those with adequate social support. Pregnant women in absence of social support are apt to being pessimistic, and suffer from low self-esteem or self-worth (25, 26). It is obvious that a supportive role of the spouse stimulates a positive attitude towards pregnancy in the mother and helps her to cope with pregnancy more easily (6, 22, 28, 41).

4.10. Limitation of study

Among the limitations of this study, we can refer to lack of participation of mothers with high-risk pregnancies, who may keep dimensions of fear and anxiety from being manifest in all pregnancies.

5. Conclusions

Findings of the current study showed that, the most important maternity concerns in pregnancy are due to lack of adequate knowledge about conception and the childbirth process, as well as fear of harm to the mother and child's health. Socio-cultural factors and partner support and intimacy were noticeable too. Therefore, it seems that, education and giving necessary knowledge to mothers about each stage of pregnancy and factors affecting maternal and fetal health along with involving spouses and relatives to achieving better relationship and supporting pregnant women can play a vital role in controlling a mother's anxiety. It is clear that reassuring mothers about the quality of maternity care and safe delivery is one of the most important responsibilities of health authorities. At the same time, it is suggested that skilled caregivers provide better psychological care to vulnerable mothers, to reduce harmful consequences of pregnancy anxiety, effectively.

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Conflict of Interest:

There is no conflict of interest to be declared.

Authors' contributions:

All authors contributed to this project and article equally. All authors read and approved the final manuscript.

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