

Explaining the concept of self-care in Iranian pregnant women: A qualitative study

Abstract

Self-care is one of the most appropriate approaches to achieving successful pregnancy outcomes. This study aimed to explain the concept of self-care in low-risk pregnancies based on the experiences of pregnant mothers and health care providers. The present study was qualitative research of contractual content analysis. Purposeful sampling with maximum Variation was done among pregnant women under the care of Tehran University of Medical Sciences health centers in 2020. In-depth and semi-structured individual interviews were used to collect data, which was saturated after 14 interviews with pregnant women and health care providers. Data analysis was done using the approach of Zhang and Wildmouth (2009).

The content analysis of the interviews led to the extraction of three main categories of comprehensive care, barriers, and facilitators of self-care, as well as eleven sub-categories for the concept of self-care in pregnancy. According to the results of this study, to improve self-care behaviors in pregnant women, it is necessary to pay attention to the facilitators of self-care, remove barriers by the health system, and establish effective communication between health care providers and pregnant mothers.

Keywords: *Pregnancy, Self-care, Pregnant women, Iran, Qualitative research*

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Introduction

Although pregnancy is a physiological process, it is associated with potential risks to the health and survival of mother and baby(1). During this period, pregnant women will experience various complex physical and psychological changes(2). As a result of these changes, the health care needs of pregnant women increase. Antenatal care is widely used; this care aims to maintain the mother's health and give birth to a healthy baby, but the evidence for its effectiveness is unclear. On the other hand, although the content and adequacy of antenatal care have been linked to the outcome of a healthy pregnancy; however, simply referring to a health care provider does not guarantee the desired results for pregnancy(3). In recent years, the concept of self-care has been introduced in the philosophy of primary health care(Can et al., 2019). Self-care "is defined as the capacity of individuals, people and communities to maintain health and cope with illness and disability with or without the support of a health care provider(4). Self-care activities include all health decisions and actions that people take with the aim of improving their own and family health or restoring health, treating and preventing diseaseMohamed (5). Self-care during pregnancy as part of women's daily activities through which they can improve pregnancy outcomes and prevent abnormal births And other problems during pregnancy and childbirth(6, 7).These activities can help maintain maternal and fetal health and prevent complications and mortality during pregnancy, childbirth, and postpartum(2). Studies have shown that self-care and participation of pregnant women is an essential principle in the treatment of many diseases and complications of this period, such as diabetes, hypertension, and preterm labor(8-10). Despite the importance of self-care in pregnant women, studies show that

comprehensive research has not been done to clarify the concept of self-care, considering the complexity of this concept and the increased needs during pregnancy(1). While effective control and management of the negative consequences of the lack of self-care in pregnant women is required identification of this concept. So, this study aimed to clarify the dimensions of this concept and the factors affecting self-care in Low-risk pregnant women.

Method:

This study was qualitative research with a conventional content analysis approach conducted between January 2019 and May 2020 in Tehran, the capital of Iran. The study population included pregnant women referring to health centers affiliated with the Tehran University of Medical Sciences. University-affiliated health centers are the best place that pregnant women with different characteristics to go for prenatal care. Purposeful sampling was performed with maximum Variation in terms of maternal age, gestational age, parity, maternal occupation and education, economic and social status, Husband's job, and education. The inclusion criteria were literacy, the ability to speak Persian, no known cognitive impairments or mental and physical illness, and the ability to take care of oneself. The exclusion criteria were unwillingness to participate in the study. Data was collected through individual interviews and note-taking. Interviews were conducted by telephone after receiving the ethics code from the Tehran University of Medical Sciences ethics committee.

The first author (MA) made contact before the interview to explain the objectives of the study, as well as to determine the appropriate day and time for the conversation. Written and informed consent was obtained from the mothers for participation in the study. At the beginning of the interview,

mothers were asked to talk about their activities to keep themselves and their unborn babies healthy. Some questions were: What do you do to take care of your health and the fetus? What are the obstacles to doing this? What factors can improve your self-care behaviors? The interview continued with additional questions, including what do you mean? Or please explain more? Participants were asked to focus more on their experiences. At the end of each interview, participants were asked to permit for the next possible interview. The first three interviews were pre-test and did not enter the principal analysis. The average duration of the discussion was 41.6 ± 6.51 minutes. Participants were reassured that they could leave the study at any time as the interviews were recorded with their permission. Data was saturated after 14 interviews with pregnant mothers and health care providers. Then, recorded interviews were converted to text.

For the accuracy of the data, four criteria include credibility, dependability, conformability, and transferability (Polite and Beck, 2008). To increase validity, data was controlled by participants. In addition, we spent enough time collecting and analyzing data and used various data collection sources, including pregnant mothers and Health Caregivers. To the reliability, we used the review by the research colleagues who they familiar with the analysis of qualitative research and had no role in this research. The researchers (FV) and (ZB) also coded several interviews simultaneously to ensure the accuracy of the research process. Data accuracy was guaranteed by bracketing the researcher's opinions to avoid bias. In addition, the researcher tried to provide transferability by fully explaining the study context and research stages. Also, the sampling of this study was purposeful, which helped transferability. The content analysis was performed based on the method proposed by Zhang-Wildmouth (2009) in seven steps, including:

- Preparing data: in this step, the interviews were handwritten and typed.
- Decision-making on the unit of study: Each interview was considered a unit of analysis. Before coding, the researcher read each interview's text several times. Then the semantic units were determined and coded.
- Classification, at this stage, categories and sub-categories were designed. First, the codes were grouped into subgroups based on their similarity, and then sub-categories formed Categories based on their relevance. Categories were extracted inductively from data.
- Coding test in a piece of text: For this purpose, the researcher coded a sample of text, and members of the research team checked the coding stability. Discrepancies in the rules related to coding or

classification of codes were resolved through discussion between the research team.

- Extending the coding process to the entire text: After the agreement of the research team members on coding stability, a reproducible process was achieved, and the coding process was extended to the whole text.
- Conclusion From the classified data: at this step, the identified types of codes and their characteristics were considered, and the relationships between classes were identified(11).

This study used Max QDA software (v.10) to manage qualitative data.

Results:

The findings of this study were the result of interviews with fourteen participants, including eleven pregnant mothers and three health care providers (midwives). Some demographic characteristics of the participants are summarized in Table 1. To explain the concept of self-care in pregnant women, three main categories were extracted: comprehensive care, barriers, and facilitators of care. Also, eleven sub-categories were extracted. Categories and sub-categories are extracted from the qualitative data shown in Table 2.

Comprehensive care

The first main category was comprehensive care, which included physical care, sexual care, psychological care, and spiritual care.

Physical care

One of the physical care that all participants mentioned was paying attention to nutrition and food diversity, having more meals, and paying attention to nutritional prohibitions.

"I intend to add habits to my diet, such as eating nutritious foods, increasing meals, food diversity, and eating more fruits and vegetables than before" (Participant 4).

Another example of self-care in pregnant women was increased sleep and rest.

One participant said:

"I attempt to sleep early and get up at 11 a.m.; I rest for an hour at noon; I sleep a lot more than before" (Participant 4).

Planning to become pregnant was one of the self-care items that most pregnant women in the study performed through tests, thyroid checks, and dental visits. *"Because I had infertility, I had already started basic health tests such as a thyroid test and a dental checkup"* (Participant 7).

Performing a medical visit immediately after pregnancy diagnosis and prenatal care as recommended by a gynecologist and health center was another self-care behavior in pregnant women.

"I also had a health record at the health center; after I found out I was pregnant, I went to the doctor and did the necessary tests" (Participant 5).

Most participants avoided radiation and harmful chemicals during pregnancy, so many avoided dental procedures for fear of radiation. Said one participant:

"I got a problem in the second month; my tooth broke, and have been allowed to go to the dentist in the fourth month but did not go because of the radiation in dental radiography" (Participant 1).

Most participants were aware of the dangers of smoking and exposure to secondhand smoke.

"I do not stay where there is cigarette smoke because it is very harmful during pregnancy" (Participant 9).

Most of the pregnant mothers in this study were aware of not using drugs or herbs and avoided self-medication.

One of our relatives said that he made herbal tea for his daughter, who was pregnant and had a cold, and it was very effective, but I did not eat at all (participant 5).

One of the important aspects of care for pregnant mothers was oral hygiene. Some participants paid special attention to oral health.

"I brushed my teeth regularly and even more than before, so I think my tooth was less damaged" (Participant 1).

Other participants underwent oral hygiene and dental visits before becoming pregnant. One of the participants said:

"Because of a minor problem with my teeth, I underwent a complete dental checkup before pregnancy and made them" (Participant 6).

Interviews with pregnant women showed that they were often unaware of the importance of exercise and walking. They were lax in exercising and walking, and doing domestic activities were considered a sport.

"I didn't have a sport in pregnancy, but I had domestic activity" (Participant 5).

Participants in this study were often aware of the importance of vaccination. Some of them went to the clinic just to get vaccinated, even though they were cared for in a private office.

One of the participants said:

"I went to the health center for the flu vaccine" (Participant 5).

Many mothers do not care for underlying pregnancy-related diseases, such as anemia, diabetes, thyroid problems, etc. It seems that there is a need for more attention and care. One health care provider said:

"I think pregnant mothers are less focused on their underlying illnesses. For example, a mother with a history of low hemoglobin thinks it is simple anemia or refuses to take iron pills" (Participant 11).

Paying attention to pregnancy risk factors was also considered a self-care activity.

"I think danger symptoms are the most important thing that should receive attention as a type of self-care" (Participant 14).

Sexual care

Many participants in this study reported a decrease in the frequency of sexual intercourse due to the couple's fear of harming the fetus.

"We took care of the sexual relationship. My husband was terrified because he heard that it was not good, so we reduced it to every other day or one day per week" (Participant 5).

Most participants changed their sexual position to care for the fetus and used pregnancy positions during sexual intercourse.

"We were careful not to put pressure on the child, and We did more the lateral position" (participant 5).

Most participants in this study maintained genital hygiene to prevent sexually transmitted infections.

"I always clean the genital area with a cleansing gel, particularly to prevent infection during sexual relationship" (Participant 2).

Psychological care

Most of the participants in this study took care of their mental and emotional peace in times of stress and anxiety. The lack of controversy between the couples for a relaxed environment was one of the mothers' cares during pregnancy.

"I told my husband donot argue with me; that is, there is no argument in our house at all" (Participant 1).

Some participants expressed thinking about pleasant memories and distracting the mind from anything; that is bothering the pregnant mother. One health care provider said:

"I think a pregnant mother should reinforce positive thoughts and avoid annoying thoughts" (Participant 11).

In case of persistent and severe anxiety problems, It is essential to consult a psychologist. One of the health care providers said in this regard:

"Some of them are very temporary and go away, but those which are not temporary, such as anxiety problems, we refer them to a psychiatrist" (Participant 11).

Spiritual care

Paying attention to spirituality and connection with God was the care that some pregnant mothers observed to increase their spiritual peace.

"The spiritual connection with God creates a comforting sense to me; I no longer take some sensitivities seriously" (Participant 7).

One of the health care providers said:

"In childbirth preparation training classes, we recommend reading the Qur'an (the holy book of Muslims) and communicating with God, because it gives them a sense of comfort that is necessary" (Participant 14).

Barriers to self-care

The second major category was barriers to self-care in pregnant women, sub-categories of which included economic barriers, socio-cultural barriers, barriers related to the health system, and specific conditions of the coronavirus epidemic.

Economic barriers

"There are a lot of pregnant mothers who cannot even do a series of tests and self-care due to economic problems" (Participant 8).

Socio-cultural barriers

Another barrier to caring for many pregnant women was cultural barriers.

"There are some cultures where the mother has a severe toothache and should pull instead of filling her tooth. I saw a similar case and even told her husband that he said this is our custom" (Participant 8).

"Some people do not take care of themselves in many fields and have financial and cultural problems. For example, their husband says that my mother did not go to the doctor with multiple pregnancies." (participant 11).

Barriers related to the health system

One of the barriers to the health system was the lack of a specific program for self-care and Insufficient training for pregnant women in health centers. Interviews with midwives showed no special self-care manual for pregnant women in health centers.

"Well, we do not have a self-care manual for pregnant women" (Participant 8).

"My friend said that you shouldn't sleep on your back from the fifth month of pregnancy. I did not know, and the midwife did not say it; perhaps they considered it insignificant" (participant 7).

Another barrier related to the health team was the poor communication between doctors, midwives, and pregnant mothers. One of the participants said:

"In general, doctors are all the same. For example, my sister would go to the doctor and say I have these symptoms, but the doctor would not tell him about her problem" (participant 4).

Also, some health care providers mentioned a lack of facilities and incomplete services to expectant mothers in health centers.

One of them said:

"Pregnant mothers visit less to the center because we're limited to providing a series of services, and they make pessimistic about the health center" (Participant 11).

Self-care facilitators

The third major category was self-care facilitators. Its sub-categories included social support, effective use of social networks, maternal characteristics, and positive functioning of the health system.

Social support

Interviews with pregnant women showed that mothers need the full support of their husbands to carry out their caring activities.

"A spouse can be very emotionally effective. I'm like that, and I feel much better with my spouse" (Participant 6).

Most participants believe that accepting maternally responsible requires the support of families, especially in the first trimester of pregnancy.

"During the first trimester, I needed someone to cook for me because it was frustrating and confusing" (Participant 7).

Many expectant mothers stated that friends, colleagues, and relatives supported them during pregnancy.

"Fortunately, my co-workers helped me be very observant, they did not put too much pressure on me, they gave me the least work" (participant 7).

Health workers can help pregnant mothers care for themselves, especially by educating and raising mothers' awareness.

"We can also help with the training we give them to become more sensitive and take more care of themselves" (Participant 11).

One of the pregnant mothers also said:

"Well, health care providers can also educate about what we do not know" (Participant 12).

Effective use of social networks

Obtaining valuable and comprehensive information from the Internet and social networks was one of the facilitators of self-care in pregnant women.

"My first pregnancy was mostly experimental, but now, I use cyberspace more" (Participant 9).

Most participants stated that they have different applications and pages for obtaining information and receive helpful information.

"I have two applications, one for fertilization; it gives mother and child information weekly. There are also pages about pregnancy where we ask questions and get the answer it" (participant 5).

Maternal characteristics

Some characteristics of mothers such as education, health literacy, and maternal information helped solve pregnancy problems and facilitate self-care. One of the participants said:

"I am an educated person, and I knew a lot of things beforehand. I may know something that no one else knows" (Participant 7).

Mothers' experiences of previous pregnancies were another factor influencing self-care in their current pregnancies.

"In my first pregnancy, my belly didn't even have stretch marks because I used to grease my belly with olive oil, so I did that in this pregnancy too, or if I hadn't given birth in my first pregnancy, I might not be so insistent now. that my delivery will be normal" (Participant 4).

The Positive performance of the health system

One of the effective factors was an effective relationship between health care providers and pregnant mothers.

"My midwife is constantly alert and reminds me of caring time. These are very helpful because it raises my spirits and makes me more responsible" (Participant 9).

Some mothers said that the information and calm of the doctor and the health care provider would make them calm and energized.

“Some doctors scare people, and they are stressed, but fortunately, my doctor was a calm person” (Participant 7).

Discussion

According to the results of this study, the concept of self-care in pregnant women revolves around the three axes of comprehensive care, barriers, and facilitators of care. Pregnant women performed a wide range of physical, sexual, psychological, and spiritual health behaviors to maintain and improve their health and that of the fetus. The results of this study were consistent with the study of Amani - Ahmad (2018) that; the majority of pregnant women did personal care such as dental care, breast, and skincare, proper diet as well as rest, activity, vaccinations, attention to danger signs and drug abuse in the second and third trimesters of pregnancy(5). Contrary to our results in the study of Gomora et al. (2015), some pregnant mothers did not follow the necessary measures such as HIV testing, taking prescribed drugs, avoiding alcohol, and treating sexually transmitted diseases(2). This is indicating the need to increase mothers' awareness to participate in pre-pregnancy care. One of the most important aspects of a pregnant mother's life is proper nutrition. Nutrition is an important determining factor for a healthy and successful pregnancy, which has a major impact on the outcome of pregnancy (12). The results of the present study showed that the first aspect of self-care that most pregnant women mentioned was nutritional changes. They changed their diet to frequent and low-dose diets. They also mentioned increasing the consumption of vegetables and fruits. Consistent with the results of the present study, Laura E. Forbes et al. (2018) reported similar changes in diet during pregnancy That, the most common reasons cited for reducing or eliminating certain foods or food groups were infant health, worry, aversion, and nausea(13). The study of Amani - Ahmad (2018) showed that two-thirds of pregnant women had avoided substance abuse and drug use without a doctor's prescription(5). The results of this research were consistent with our findings; pregnant women avoided taking any medication without a doctor's prescription and herbal medicines and tea. In our study, most pregnant women planned to become pregnant and underwent prenatal testing and regular prenatal care to maintain their health and that of the baby. Consistent with these findings, Panamas et al. (2012) reported that most pregnant mothers planned their current pregnancy and childbearing(14). The findings of our study were consistent with the study of Kadham et al. (2015) that 68.7% of pregnant women attended routine antenatal care(4). Contrary to our findings in the study of Lertsakor (2010), the gestational age of Thai adolescent mothers at the beginning of prenatal care was between 10 and 24 weeks; due to a lack of

planning, they started seeking prenatal care later than needed(15). Exercise is an important factor in the health of women of reproductive age, the results of many studies show the relationship between exercise and improved pregnancy outcomes(16). Therefore, exercise is currently recommended in all low-risk pregnancies(17). In our study, although most pregnant women were aware of the benefits of exercise and physical activity during pregnancy, their level of physical activity was low so that many pregnant mothers only mentioned short walks and home and work activities as exercise. Consistent with our study, some other researchers also reported a decrease in the amount and intensity of exercise during pregnancy(18). Most pregnant women reported a dental checkup and increased brushing frequency before pregnancy. There is consensus that oral hygiene is an integral part of preventive health care for pregnant women(19). In this regard, Christensen et al. (2003) write, "Pregnancy status seems to be 'stimulating' concerning oral self-care practices, so that many pregnant women, despite no signs of gum disease, improve their oral hygiene habits during pregnancy"(20). However, in the present study, some pregnant women avoided dental services during pregnancy due to fear of radiation. In a survey by Chaco et al. (2013), many women did not see a dentist because of the high cost of dental care unless they suffered from severe toothache. Chaco attributed this to their lack of information about the impact of unhealthy teeth on general health and its adverse effects on pregnancy(21). In our study, pregnant women often described changes in sexual behavior as a decrease in the frequency of sexual intercourse due to fear of harm to the fetus and the use of pregnancy-specific positions and genital hygiene. Gaizka et al. (2015) reported that 93% of couples reduced sex during pregnancy and cited concern about their baby's health as the main reason for abstaining from sexual intercourse. They also abandon the supine position and used the lateral position(22). The participants expressed a wide range of measures to achieve peace of mind and stress management in the present study. These findings were consistent with the results of other studies. In the study by Hajian et al. (2018) Seeking Social support was an important part of the health behaviors of overweight pregnant women(23). Economic problems and the high cost of some services was a barrier to self-care in expectant women. In line with our study, The study of Isabel et al. (2013) also showed that in women with lower economic and social status, the rate of unplanned pregnancies, smoking, and inactive smoking were higher, and sleep and physical activity were shorter (24). Cultural factors also were one of the barriers to self-care during pregnancy. In the Amani-Ahmed (2018) study, less than one-third of Egyptian pregnant mothers reported a pregnancy risk signal because they considered pregnancy a natural event due to cultural issues(5). The incomplete provision of services in

government centers, and mothers' dissatisfaction with the quality of services provided in the health system, were obstacles to self-care for pregnant women. Similar to our study, Babaki et al. (2020) also showed that in comprehensive health care centers in Iran, the examination by a physician is short, communication is often weak, and training is insufficient(25). Based on the present study's findings, receiving support from the spouse, family, and health team was one of the facilitators of self-care in pregnancy. The study by Schwartz et al. (2011) showed that perceived social support of the family was statistically positively related to the health behaviors of pregnant adolescents(26). In addition, the study by Barbara et al. (2017) showed that strong relationships between pregnancy care providers and pregnant mothers lead to a reduction in maternal anxiety and more self-care behaviors during pregnancy(27).

The strength of our study was the comprehensive assessment of self-care activities in pregnant mothers to maintain and promote the health of themselves and the unborn baby. In contrast, other studies examined only some of these behaviors, such as dietary changes and physical activity. In addition, identifying barriers and facilitators of health behaviors based on the experiences of expectant mothers and the views of health care providers was one of the strengths of this research.

Table 1: Demographic characteristics of the interview participants

Row	Maternal age	Maternal education	Maternal occupation	Gestational age(weeks)	Gravida	Husband education	Husband's job	Interview duration	
1	26	Associate Degree	Employed	38	1		Employee	43	
2	22	Diploma	Employed	35	1		Driver	35	
3	34	Bachelor		36	1		Employee	38	
4	40	Bachelor	Employed	25	2		Employee	40	
5	25	Associate Degree	housewife	34	1		Employee	50	
6	38	High school	housewife	24	3		self-employment	48	
7	32	masters	Employed	37	1		self-employment	38	
8		Bachelor	Health worker(midwife)						35
9	35	Bachelor	Employed	29	2		Employee	52	
10	27	Diploma	housewife	11	1		self-employment	35	
11		Bachelor	Health worker(midwife)						35
12	29	High school	housewife	21	2		worker	42	
13	36	Bachelor	housewife	16	3		Employee	45	
14		Bachelor	Health worker(midwife)						30

Table 2: Categories and Sub-categories extracted from qualitative interviews

One of the limitations of our study was the use of their self-reporting to collect data, which may lead to bias because it may cause participants to hear what the researcher felt. In addition, this is a qualitative study that somewhat limits the generalization of results.

Conclusion

Understanding the different dimensions and aspects of self-care behaviors in pregnant women helps us to improve self-care behaviors and lifestyles of pregnant women by formulating policies and planning for necessary interventions. Also, midwives can enhance pregnant mothers' self-care behaviors through health education programs and effective communication. It is suggested that the results of this study be used as a guide for appropriate policymaking and planning to address barriers of self-care in pregnant mothers.

Ethical statement

Ethical approval was received from the ethics committee of Tehran University of Medical Sciences with code of ethics(TUMS.FNM.REC.1399.062).

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Conflict of interest

The authors of this article declare no conflict of interest.

Categories	Sub-categories
Comprehensive care	Physical care
	Sexual care
	Psychological care
	Spiritual care
Barriers to care	Economic barriers
	Socio-cultural barriers
	Barriers related to the health care system
Care facilitators	Social support
	Effective use of social networks
	Maternal characteristics
	The Positive performance of the health system

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