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Adolescent pregnant women's perception of health practices: A qualitative study

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Abstract

Aim: To explore adolescent pregnant women's perception of health practices.

Design: A qualitative study.

Method: Fifteen pregnant women in Tehran (capital of Iran) were selected based on purposive sampling to participate in semi-structured, in-depth interviews. The content of interviews was recorded and transcribed and then analysed using conventional content analysis.

Results: The first theme extracted was health practice with main categories of balanced rest/activity pattern, observance of an appropriate diet, sensitivity to personal health, observance of an appropriate pattern of social interactions, religious and spiritual orientations, recreational and leisure time activities, and stress management; second theme was perceived benefits with main categories of a sense of physical health improvement, a sense of mental health improvement, positive attitudes towards the effect of nutrition on pregnancy and childbirth health; and third theme was effective factors with main categories of facilitators of health practices and inhibitors of health practices.

Conclusions: Most pregnant adolescents' perception of health practices is at a satisfactory level; however, some inhibitors of health practice were explored in this study. These should be improved by adopting appropriate approaches in health policies.

No Patient or Public Contribution.

KEYWORDS
adolescent pregnant women, health practices, midwifery, nursing, qualitative study

1 | INTRODUCTION

Every year, 21 million girls between the ages of 15 and 19 years and 2.5 million girls under the age of 16 years give birth in the world (World Health Organization, 2018). Despite the efforts made by governmental and non-governmental organizations, adolescent pregnancies and childbirths are still high. Since adolescence is a distinct and unique stage of development in a woman's life, pregnancy at these ages has been linked with increased complications for both

mother and neonate (Amjad et al., 2019). Adolescents (10–19 years old) are exposed to gender- and reproduction-related health risks (World Health Organization, 2018).

Adolescent pregnancy is a national and international problem that places a great burden not only on adolescent mothers and their infants but also on society. Approximately, 11% of all births in the world occur among adolescent women and although most of them occur in low and middle-income countries, adolescent pregnancy is not exclusive to those regions (Macedo et al., 2020). Despite the efforts made by governmental and non-governmental organizations, adolescent pregnancies and childbirths are still high (World Health Orghanization, 2017).

Adolescent pregnancy has turned into a global concern because of the high rate of unsafe abortion and insufficient prenatal care and social support. Poverty and low educational attainment are considered the universal risk factors for adolescent pregnancy (Mathewos & Mekuria, 2018). Dropout, low educational attainment, rural residence and poor socio-economic status are markers for poor pregnancy outcomes in adolescent mothers (Amjad et al., 2019). About 10%–12% of girls aged 10–19 are married, of which 2.5% have children and this value is expected to increase in the future because of the new population control policies that encourage women to have three children up to the age of 30 (Eydipour et al., 2022).

The unwanted and early pregnancies in adolescence can be a breeding ground for unsafe abortions or serious maternal and neonatal outcomes. Adverse maternal outcomes are miscarriage, preterm delivery, maternal anaemia, post-partum depression, gestational hypertension, eclampsia and pre-eclampsia and maternal death. Major neonatal adverse outcomes also include low birth weight, death at birth, stillbirth and postnatal death (Amjad et al., 2019; Macedo et al., 2020). A recent study on the consequences of adolescent pregnancy in Iran indicates the high rate of adverse outcomes of pregnancy and childbirth in this segment of society (Khazaei et al., 2022).

The health practices of mothers can affect pregnancy outcomes. While pregnancy and childbirth are biological events, health practices and cultural perceptions shaped the experiences of these events (Withers et al., 2018). Health practices in pregnancy include non-addiction, proper care, proper diet, adequate rest and sleep, participation in adaptation exercises, avoiding smoking and alcohol drinking, not having risky sexual behaviours, and training in pregnancy and childbirth. There are many factors associated with health practices and self-care during pregnancy, such as socio-economic status, educational attainment, social support and training (Arioz & Gozuyesil, 2022). In fact, health practices in pregnancy can be defined as measures that affect the progress and outcomes of pregnancy and include maternal and foetal health (Arioz & Gozuyesil, 2022).

Considering the high risk of adolescent pregnancy and its maternal and neonatal complications (Amjad et al., 2019; Macedo et al., 2020) and the positive effects of health practices on promoting health and reducing adverse maternal and neonatal outcomes (Arioz & Gozuyesil, 2022), it is necessary to raise adolescent pregnant women's understanding and awareness of health practices in order to improve such practices during the pregnancy period. In this regard, nurses and midwives are ideal caregivers to provide adolescent health services and have the capacity and opportunity to diffuse sexual and reproductive health information to adolescents and their parents in communities, schools, public health settings and acute care centres (American College of Nurse-Midwives, 2021; Santa-Maria et al., 2017). Qualitative studies are useful options for assessing individual and in-depth concepts such as health practices (Baheiraei et al., 2012). This study hence aimed to explore adolescent pregnant women's perception of health practices.

1.1 | Research question

What are the perceptions of adolescent pregnant women about health practice?

2 | METHODS

2.1 | Study design and participants

This article was extracted from the qualitative part of mixed-method research based on a sequential explanatory design, whose protocol has already been published (Hadian et al., 2019). The study timeline was from August 2019 to January 2020. Participants in the qualitative part consisted of extreme cases (Creswell, 2014), that is, those who gained 10% of the upper and lower limits of the overall health practices score in the quantitative part were selected (Hadian et al., 2021). The COREQ checklist was used for reporting the results of this study.

2.2 | Eligibility criteria

Inclusion criteria were age between 10 and 19 years, living with spouse and not having known diseases such as diabetes, hypertension, heart, thyroid or kidney diseases based on health records or woman statements.

Exclusion criteria were multiple pregnancy, obstetric complications such as bleeding or haemorrhage and placenta previa and the occurrence of stressful events in the last 6 months such as the death of a close relatives. Eligibility criteria in this study were based on the quantitative part (Hadian et al., 2021) of mixed-method research.

2.3 | Sampling

Based on the purposive sampling method, the adolescent pregnant women who were among the extreme cases in the quantitative part of the study (Hadian et al., 2021) that were able to share their own experiences with health practices were selected as the sample. After briefing the eligible women on the research objectives and

procedures, written informed consent was obtained from those who are willing to participate in the study. All interviews were conducted in health centres chosen by the participant. Sampling continued until data saturation (the point in the research process when no new information is discovered in data analysis). This occurred in this study after the 11th interview. Finally, 15 adolescent pregnant women of different ages, educational attainments and socio-economic statuses were selected as the sample. Table 1 shows the demographic characteristics of the participants.

2.4 | Data collection method

T.H., one of the authors and PhD students of midwifery, conducted the interview. The data were collected using face-to-face, semi-structured, in-depth interviews with open questions. Before the beginning of the qualitative part, the questions of the interview guide were developed based on the findings of the quantitative part, and the determining factors. The research team checked the ways to obtain valid data and how to focus on research questions. The interviews started with predetermined questions and some in-depth and exploratory questions, such as 'what do you mean?', 'why?', 'would you please explain more?' and 'would you clarify what you mean with an example?' were also asked during the interviews based on the answers provided by the participants to understand the depth of their understanding of the subject. The interview guide questions were as follows: 1—What do you do to promote the health of yourself and your child?, 2—What are the factors facilitating or inhibiting you to do these things?, 3—Who and how supported you during your pregnancy? and 4—What are the effects of what you do for the health of yourself and your child on your pregnancy?

During the interviews, the interviewer recorded non-verbal data, such as tone of voice, facial expressions and the participant's conditions, in a special form, indicating the time and place of the interview. In this study, the interviews were conducted in any real and natural environment the participants desired. Each interview lasted from 20 to 80 min, and all interviews were done over a period of 6 months.

TABLE 1 Demographic characteristics of participants ($n = 15$).

Variables	Number (percentage)
Age (year)	
Under 17	4 (26.4)
Between 17 and 19	11 (73.3)
Parity	
Gravid 1	13 (86.7)
Gravid 2	2 (13.3)
Gestational age (Week)	
36	8 (53.3)
37	4 (26.7)
38	3 (20)
Educational attainment	
High school diploma or lower	9 (60)
High school diploma	6 (40)
Sufficiency of monthly income for living expenses	
It is quite sufficient	67 (21.2)
It is relatively sufficient	219 (69.3)
It is not sufficient at all	30 (9.5)

2.5 | Data analysis

Based on the recommended stages of Graneheim and Lundman, conventional content analysis was employed in this study for data analysis. In addition to explicit content, this method allows to the extraction of the implicit content and abstract concepts of interviews (Graneheim & Lundman, 2004). Data analysis began by reading the entire text repeatedly to gain a complete understanding of them. Then texts were read word by word to extract the codes. First of all, objective words that appeared to contain the main concepts were identified. The author took notes of the initial analysis until preconditions for the emergence of codes were provided. During this process, the code tags representing more than one main idea were identified and directly extracted. The codes were then categorized based on their differences or relationships. In an ideal situation, there should be 10–15 categories to include a large number of codes. Table 2 provides an example of content analysis, coding and categorization.

2.6 | Accuracy of findings

To ensure the accuracy of findings, they were evaluated in terms of validity, reliability, transferability and verifiability. To ensure the validity of the findings, in-depth interviews were conducted at different times and places, and participants were selected from among those with different ages, educational attainments and socio-economic statuses. Three participants were asked to review the coded texts in order to confirm the accuracy of the interpretations and make the necessary corrections. To ensure the reliability of the findings, the research stages were presented in detail in 'Methodology' along with the initial codes derived from the interpretation of participants' experiences, examples of the code extraction process and part of the interview transcription. To ensure the transferability of the findings, the research procedure was described in detail to allow other researchers to explore the research path. Finally, to ensure the verifiability of the findings, the authors tried to document all stages of the research in a way that other researchers could follow the data.

3 | RESULTS

After 15 interviews with adolescent pregnant women selected from the upper and lower limits of overall health practice scores, a total

TABLE 2 An example of the process of extracting themes and main categories from codes and subcategories.

Codes	Subcategory	Main category	Theme
Paying attention to sleep, especially night sleep	Having enough sleep and rest	A balanced rest/activity pattern	Health practice
Giving enough importance to sleep			
Going to bed early at night and waking up early in the morning			
Paying attention to sleep on time			
Having enough rest			
Exercise and physical activity	Doing favourite and suitable exercises		
Morning walk			
Home exercise suitable for the pregnancy period			
Morning exercise			
Regular daily walks as an exercise suitable for the pregnancy period			
Walking as a favourite exercise			
Paying attention to exercise and walking, half an hour a day			
Tendency to walking with spouse			

of 475 initial codes in three themes, 12 main categories and 45 subcategories were extracted by two authors (Table 3). Three extracted themes included: (a) health practices; (b) perceived benefits; and (c) effective factors.

3.1 | Health practices

Health practice had seven main categories as follows:

3.1.1 | A balanced rest/activity pattern

This main category indicates the attention of some adolescent pregnant women to the importance of daily activities and adequate rest. The subcategories were adequate work/rest and doing favourite exercises. Many of the participants tried to establish a balance between their daily activities and rest as an optimal health practice.

> I also care about my sleep, especially night sleep. Some say that what the difference between daytime sleep and nighttime sleep is. But I think they are very different from each other; I feel more peace at night than during the day.
>
> (Participant 3, from upper limit)

> I love walking and I go whenever I can. However, I cannot go walking regularly because I have a small child.
>
> (Participant 9, from upper limit)

3.1.2 | Observance of an appropriate diet

Observing an appropriate diet reveals the importance of different dimensions of nutrition for adolescent pregnant women. The subcategories were proper cooking of foods, proper preparation and storage of foods, balanced consumption of all food groups and meals, and proper eating habits.

> We usually buy on a weekly basis. When buying, I pay attention to the expiration date and ingredients of food items.
>
> (Participant 7, from lower limit)

> I try to include a variety of foods in my diet. I also eat more foods like fish, I eat less fattening foods like rice and sweets, and I try to eat a lot of fruits and vegetables. I do not eat a lot of sweets and chocolate. I also try to cut down on salt in my diet.
>
> (Participant 10, from upper limit)

3.1.3 | Sensitivity to personal health

This main category indicates that some adolescent pregnant women were committed to their personal health; they regularly monitored their physical health, followed medical recommendations and prescriptions and observed personal hygiene practices to maintain and promote their personal health. The subcategories included observance of personal hygiene, regular monitoring of physical health, observance of medical recommendations and prescriptions and avoidance of harmful factors.

TABLE 3 Themes, main categories and subcategories.

Theme	Main category	Subcategory
Health practices	A balanced rest/activity pattern	Adequate work/rest
		Doing favourite exercises
	Observance of an appropriate diet	Proper cooking of foods
		Proper preparation and storage of foods
		Balanced consumption of all food groups and meals
		Proper eating habits
	Sensitivity to personal health	Observance of personal hygiene
		Regular monitoring of physical health
		Observance of medical recommendations and prescriptions
		Avoidance of harmful factors
	Observance of an appropriate pattern of social interactions	Intimate relationships with family members and relatives
		Altruism and participation in public services
	Religious and spiritual orientations	Observance of religious rites and duties
		Enhancement of religious attitudes and beliefs
		Self-construction and self-knowledge
		Optimism and positivity
	Recreational and leisure time activities	The use of media
		Listening to music and mournful songs
		Reading and painting
		Travel and ecotourism
		Gardening
	Stress management	Coping with problems
		Relaxation and refreshment of moments
Perceived benefits	A sense of physical health improvement	A sense of sleep quality improvement
		A sense of increased physical energy and strength
	A sense of mental health improvement	Increased satisfaction and self-confidence
		A sense of vitality
		De-tensioning and calming
		Mood improvement
	Positive attitudes towards the effect of nutrition on pregnancy and childbirth health	Understanding the effect of nutrition in foetal health
		Understanding the effect of nutrition on reducing pregnancy problems
		Comfortable and fear-free delivery
Effective factors	Facilitators of health practices	Individual interest and motivation
		Predetermined pregnancy
		Satisfaction with the foetus' gender
		Sensitivity to health threats
		Effects of media and public education
		Encouraging or motivating environments
		Influence of family atmosphere and support
	Inhibitors of health practices	Unawareness
		Shortage of time and business
		Effects of unwanted pregnancy
		Effects of dissatisfaction with foetal gender
		Financial problems
		Family and social pressures

I brush my teeth and even floss them every night.
(Participant 3, from upper limit)

As soon as I realized I was pregnant, I started prenatal care. I also did tests and I started taking folic acid. In addition, because I have gestational diabetes, I follow a special diet. I also attended prenatal classes; I also had regular dental checkups before I got pregnant.
(Participant 1, from upper limit)

3.1.4 | An appropriate pattern of social interactions

This main category indicates the participants' awareness of and attention to social interactions and interpersonal relationships. The subcategories were intimate relationships with family members and relatives and altruism and participation in public services.

I try not to be alone at home too much, so I go to meet my parents and family.
(Participant 7, from lower limit)

A few of my friends and I sometimes do charitable activities; for example, we have a charitable fund to lend money to anyone who has financial problems.
(Participant 11, from upper limit)

3.1.5 | Religious and spiritual orientations

This main category indicates that spirituality was an important part of the participants' lives. The subcategories were the observance of religious rites and duties, enhancement of religious attitudes and beliefs, self-construction and self-knowledge, and optimism and positivity.

To be honest, I think the human soul is much more important than the body, I pray more during my pregnancy because it establishes a connection between me and God.
(Participant 7, from lower limit)

I am also a person who always tries to see the positive aspects of anything, rather than the negative aspects. I try to think about my behavioral and moral problems and gradually eliminate them.
(Participant 11, from upper limit)

3.1.6 | Recreational and leisure time activities

This main category indicates the attention of adolescent pregnant women to proper recreational activities to promote their health status. The subcategories included the use of media, listening to music and mournful songs, reading and painting, travel and ecotourism and gardening.

Whenever I feel so bored that it can affect my child, I do something that makes me feel good; for example, I watch a movie or a series.
(Participant 6, from lower limit)

When I paint, I find peace of mind. I also read books on mental health and thinking. I also like solving Sudoku and I usually do this every day.
(Participant 11, from upper limit)

3.1.7 | Stress management

The analysis of participants' experiences showed that some of the participants employed a variety of solutions to control their stress in order to maintain and improve their health status. The subcategories were coping with problems and relaxation and refreshment of moments.

For the sake of the health of myself and my child, I try to accept many problems in my life, and even make up for problems and solve them.
(Participant 6, from lower limit)

I try to stay away from stress. Sometimes I watch comedies with my kids so that I can laugh a little and calm down.
(Participant 12, from upper limit)

3.2 | Perceived benefits

Perceived benefits had three main categories as follows:

3.3 | A sense of physical health

This main category indicates that optimal health practices can help adolescent pregnant women to have a sense of physical health. The subcategories included a sense of sleep quality improvement and a sense of increased physical energy and strength. The participants also believed that optimal health practices could improve their physical energy and strength.

I care a lot about sports. I find that when I exercise, my physical strength increases. When I exercise, I get more energy.
(Participant 13, from upper limit)

3.4 | A sense of mental health

This main category shows that participants followed optimal health practices in order to improve their mental health, in addition to physical health. The subcategories were increased satisfaction and self-confidence, a sense of vitality, de-tensioning and calming and mood improvement.

> I feel satisfied and happy when I follow what my doctor advised and instructed me. I feel that reading books increase my self-confidence. For example, after reading a book titled "Pregnancy: Week by Week," I know what happens every week of pregnancy or what I should expect.
>
> (Participant 10, from upper limit)

> I also exercise, mostly waking. I have realized that exercise can give me a sense of freshness and vitality.
>
> (Participant 14, from lower limit)

3.5 | Positive attitudes towards the effect of nutrition on pregnancy and childbirth

This main category indicates that positive attitudes towards the effects of nutrition on pregnancy and childbirth lead to optimal health practices. The subcategories included understanding the effect of nutrition on fetal health, understanding the effect of nutrition on reducing pregnancy problems and comfortable and fear-free delivery.

> It is obvious that when I eat well, my infant will gain weight and will be under normal conditions.
>
> (Participant 7, from lower limit)

> When I exercise and repeat the movements I learned in class or walk, it allows me to have a normal and comfortable delivery.
>
> (Participant 3, from upper limit)

4 | Effective factors

Effective factors had two main categories as follows:

5 | Facilitators of health practices

This main category indicates that some individual or social factors facilitate the adoption of health practices. The subcategories included individual interest and motivation, planned pregnancy, satisfaction with the foetus' gender, sensitivity to health threats, effects of media and public education, encouraging or motivating environments and influence of family atmosphere and support.

> I was very happy when the ultrasound showed that my baby was male because my husband had no brother but several sisters and he really liked to have a son. It also affected the health of me and my baby and motivated me to follow a series of points.
>
> (Participant 7, from lower limit)

> There were prenatal classes at the health center, and I attended all the eight sessions. I learned a lot in these classes. They also introduced a few books and websites for more information.
>
> (Participant3, from upper limit)

> It is obvious that the husband's support is more important than anyone's, of course, if I tell the truth, my husband is not very good at showing his affection. He says that loving is not something to say, one should show his loves in action, not in words. My mother's support is also important, she cares for me a lot and she is always attentive to me, for example she always tell me go eat this or rest, or she will prepare food for me.
>
> (participant 4, from upper limit)

6 | Inhibitors of health practices

This main category indicates participants faced some factors that could prevent them from following optimal health practices. The subcategories were unawareness, shortage of time and business, effects of unwanted pregnancy, effects of dissatisfaction with fetal gender, financial problems, and family and social pressures.

> I do not have time to exercise at all. Well, when my kids are small, I'm busier and I don't have time to walk or exercise. When they sleep, I have to do my backlog, so I can't sleep or rest much. This tiredness due to my busy schedule makes it impossible for me to make time for exercise.
>
> (Participant 8, from lower limit)

> When I know that my husband has financial problems, I get bored and I can't think about the health of me and my child. Incidentally, I have dental problems, but the dentistry costs are so high that we can't afford them.
>
> (Participant 8, from lower limit)

7 | DISCUSSION

This study investigated the nature of health practices in adolescent pregnant women, their understanding of these health practices, and

the factors affecting their adoption. The extracted three themes were health practices, perceived benefits and effective factors classified into the following main categories: a balanced rest/activity pattern, observance of an appropriate diet, sensitivity to personal health, observance of an appropriate pattern of social interactions, religious and spiritual orientations, recreational and leisure time activities, stress management, a sense of physical health improvement, a sense of mental health improvement, positive attitudes towards the effect of nutrition on pregnancy and childbirth health, facilitators of health practices and inhibitors of health practices.

The literature review showed that researchers have employed qualitative approaches to examine women's understanding of health practices and their inhibitors and facilitators. Nevertheless, most of the few studies in this field have taken a retrospective approach to this subject (Khoramabadi et al., 2015; Sui et al., 2013). Individual interviews with pregnant women indicate that they are highly motivated to engage in health-related behaviours and are always looking for a way to ensure the health of themselves and the foetus and achieve the desired pregnancy outcomes (Jelsma et al., 2016). Pregnant women argue that the pregnancy period is an opportunity for growth and development and a time when they feel more responsible for the health of their children and family members. Therefore, they tend to change their health practice knowledge during this period if they are adequately supported (Arioz & Gozuyesil, 2022), even though they face challenges and barriers that are out of their control.

One of the main categories was 'a balanced rest/activity pattern', which was mentioned in another study (Baheiraei et al., 2012). Some adolescent pregnant women were aware of the importance of daily activity and adequate rest, and they tried to establish a balance between their daily activities and rest to improve their health status. Although maintaining or increasing physical activity is recommended by healthcare providers to women during pregnancy, sometimes it is difficult to convince them in their traditional belief that pregnancy is a condition that requires more rest and recovery (Mishra & Kishore, 2018).

Observance of an appropriate diet was another main category extracted in this study. Eating habits are among the most important aspects of a pregnant woman's lifestyle that can affect maternal health during pregnancy, childbirth and breastfeeding as also the development and growth of the foetus (Appiah et al., 2021). Adolescents often enter pregnancy with insufficient nutritional reserves. During pregnancy, the competition for energy and food nutrients occurs between the mother and her foetus. Therefore optimal nutrition for pregnant adolescents is a basic foundation of their health (Christian & Smith, 2018).

Another main category extracted in this study was sensitivity to personal health. The concept of personal responsibility for health means feeling responsible for your own well-being, taking care of your health, seeking help from healthcare providers when needed and learning about health (Chandana et al., 2020). The results of this study and another qualitative study (Baheiraei et al., 2012) indicate that adolescents consider health an individual duty and, in other words, they recognize the importance of prevention and prioritize it over treatment.

Another main category was the observance of an appropriate pattern of social interactions. This category shows that adolescent pregnant women are aware of the importance of social interactions and interpersonal relationships in the adoption of health practices. The establishment of positive and healthy relationships with others has a powerful influence on human health and perfection (Holt-Lunstad, 2018). Although this has been also reported by another qualitative study (Baheiraei et al., 2012), communication with family members and relatives should be seriously taken into account in this regard considering the features of Iranian culture (Baheiraei et al., 2012).

The study findings showed that religious and spiritual orientations made up a major aspect of participants' lifestyles. Spirituality is a common aspect of the lives of all human beings (Nowrozi et al., 2016). In this study, this category included subcategories such as observance of religious rites and duties, enhancement of religious attitudes and beliefs, self-construction and self-knowledge, and optimism and positivity. Spiritual and religious beliefs are associated with high satisfaction during pregnancy (Vitorino et al., 2018). Women during pregnancy prayed and performed more religious activities to ensure successful childbirth, prevent misfortunes and also reduce labour pain (Aziato et al., 2016).

Another main category was 'recreational and leisure time activities'. This category indicates the attention to adolescent pregnant women to appropriate recreational activities to achieve higher health status. Such categories have been also reported by previous studies (Baheiraei et al., 2012). Recreational physical activities can prevent some unwanted pregnancy consequences such as gestational diabetes and pre-eclampsia (Bø et al., 2018).

Stress management was another main category extracted in this study. All types of stress have been associated with some adverse pregnancy outcomes including preterm labour, low birth weight, pre-eclampsia and some neonatal morbidities (Barrett et al., 2018). Successful stress management during pregnancy has potential impacts on maternal health and pregnancy outcomes (Traylor et al., 2020). Similar to another qualitative study (Baheiraei et al., 2012), coping with problems and relaxation and refreshment of moments were two major techniques used by participants in this study to manage their stress.

A sense of physical and mental health was another main category extracted from the experiences of participants. These categories show that the adoption of optimal health practices helped participants to have a sense of physical and mental health. As stated by participants, optimal health practices such as regular exercise improved their physical conditions and the quality of sleep and also increased their physical energy and strength. Other similar studies have also shown that women of childbearing age reported a sense of physical, mental and emotional well-being when they adopt health practices. In fact, health-promoting behaviours could create a sense of freshness and vitality in them by reducing stress and reinforcing positive thoughts (Baheiraei et al., 2012; Tsakiridis et al., 2020).

A healthy diet is one of the most important health practices (Cena & Calder, 2020). 'Positive attitudes toward the effect of nutrition on pregnancy and childbirth health' was another main category in this study. Most adolescent pregnant women stated that following a healthy diet can improve foetal health and increase birth weight. This category has been reported in another previous qualitative study (Baheiraei et al., 2012).

The study results showed that subcategories included individual interest and motivation, planned pregnancy, satisfaction with the foetus' gender, sensitivity to health threats, effects of media and public education, encouraging or motivating environments and influence of family atmosphere and support were among the individual-social factors affecting the adoption of health practice. Those constituted the main category of facilitators of health practices. In addition, the subcategories included unawareness, shortage of time and business, effects of unwanted pregnancy, effects of dissatisfaction with foetal gender, financial problems and family and social pressures were constituents of the main category of inhibitors of health practices. The findings of Sui et al. showed that most pregnant mothers were willing to adopt optimal health practices, such as preparing healthy meals and doing physical activities, but most of them stated that the adoption of such behaviours was out of their control (Sui et al., 2013). The main barriers mentioned by pregnant mothers in previous studies were individual factors, such as shortage of time (Baheiraei et al., 2013; Sui et al., 2013), having another child and being too busy, pregnancy complications, low awareness, and poor family support, mood swings and fatigue during pregnancy, and concerns about the effects of lifestyle changes on the infant (Sui et al., 2013), and factors related to the health system and healthcare providers. In most cases, prenatal care provided by midwives or gynaecologists is more focused on maternal complications or foetal growth parameters and does not include health practice recommendations such as lifestyle (Kunath et al., 2019). Some studies showed that from the point of pregnant women's view, health centre staff are so busy and sometimes have negligent behaviours that they do not ask anything about the lifestyle of pregnant women (Austad et al., 2017; Madula et al., 2018). Collaboration between midwives, nurses, nutritionists and psychologists can lead to improved quality of healthy lifestyle counselling (Alsaleh et al., 2019).

7.1 | Study implication

According to the findings of this study, most pregnant adolescents' perception of health practices is at a satisfactory level. Factors such as unwanted pregnancy, dissatisfaction with the gender of the foetus, lack of sufficient support from the husband and family and lack of knowledge about how to deal with some pregnancy complications were identified as barriers to health practices based on some adolescents' statements in this study. Therefore, it seems that holding contraceptive counselling sessions for newly married adolescents in order to prevention of unwanted pregnancy is of great importance. And organizing training courses by caregivers such as midwives and nurses for adolescent pregnant and their spouses to give them necessary information about complications of pregnancy and recall the important role of spouses in the emotional support of young mothers during pregnancy in order to provide optimal conditions for pregnancy and childbirth is recommended. Also, the categories extracted from this study can be studied in future biomedical studies.

7.2 | Strengths and limitations of study

Because it was thought that women's standard of living and social conditions might affect their experience, the participants were selected from among those living in both urban and suburban areas. This was an important strength of this study. One of the limitations of the study is the impossibility of random sampling, which is not common in qualitative studies. Also, since this qualitative study was conducted on a small sample of adolescent pregnant women living in urban and suburban areas, the results cannot be generalized to mothers aged over 20 years or those living in rural areas.

8 | CONCLUSIONS

Most pregnant adolescents' perception of health practices is at a satisfactory level; however, some inhibitors of health practice were explored in this study. These barriers can be further investigated in future biomedical studies and also, should be improved by adopting appropriate approaches in health policies.

AUTHOR CONTRIBUTIONS

MM, SM, SA, SM, SMAC, EM and TH contributed to the design of the article. MM and TH contributed to the implementation and analysis plan. SA and TH had written the first draft of this article and all authors have critically read the text and contributed with inputs and revisions and all authors read and approved the final article.

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CONFLICT OF INTEREST STATEMENT

The authors declare that they have no competing interests.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article. Further inquiries can be directed to the corresponding author.

ETHICAL APPROVAL

Written informed consent was obtained from each participant. Also, informed consent was obtained from legally authorized representatives/guardians for adolescents less than 16. This study has been approved by the Ethics Committee of the Tabriz University of Medical Sciences, Tabriz, Iran (code number: IR.TBZMED.REC.1397.670). All methods were performed in accordance with the Declaration of Helsinki.

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