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A Qualitative Study Exploring the Impact of Infertility on Iranian Women's Sexual Health

Zahra Daneshfar (PhD)[1,2], Shahideh Jahanian Sadatmahalleh (PhD)[3*], Fazlollah Ahmadi (PhD)[4], Giti Ozgoli (PhD)[5,6]

[1] PhD in Reproductive Health, Department of Reproductive Health and Midwifery, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran
[2] PhD in Reproductive Health, Ramsar Campus, Mazandaran University of Medical Sciences, Ramsar, Iran
[3] Associate Professor, Department of Reproductive Health and Midwifery, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran
[4] Professor, Department of Nursing, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran
[5] Associate Professor, Midwifery and Reproductive Health Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran
[6] Department of Midwifery and Reproductive Health, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran

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ABSTRACT

Background & aim: Infertility has serious implications on psychological and social well-being as well as the sexual life. Considering that sexual health is an essential element of human health, the present study was performed to explore the experiences of Iranian infertile women regarding their sexual health.

Methods: This qualitative study was conducted using conventional content analysis (Lundman and Graneheim's approach) in Tehran, Iran from November to March 2018. Twenty infertile women (aged 25-42 years old with various reasons for infertility), who were selected purposefully, participated in this study. The data were collected through in-depth semi-structured interviews All interviews were tape-recorded and transcribed verbatim. Guba and Lincoln's criteria including credibility, transferability, confirmability, and dependability were applied to achieve trustworthiness.

Results: Three themes emerged from the data analysis including 1) Impact of the process of diagnosis and treatment on women's sexuality 2) Psychological, behavioral, interpersonal and economic factors influencing sexual health, and 3) cultural and religious norms affecting sexual life.

Conclusion: Infertile women's sexual health is influenced by the process of diagnosis and treatment; psychological reactions to infertility, economic, personal, and cultural-belief system.

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Introduction

Infertility is known a common health problem, which is defined as failure to become pregnant after regular unprotected sexual intercourse for one year. Almost 10% of population, 13% of women, 10% of men, and 15% of couples of reproductive ages experience infertility worldwide (1). It is associated with severe psychological problems for infertile couples, influences their interpersonal, social, and sexual life, and can cause mental imbalance, separation, and divorce (2). Infertility can impair the quality of marital relationships, reduce self-esteem, and ultimately lead to depression, anxiety, or a sense of guilt (3).

Good sexual health is important for individuals and society (4). Sexual health has a positive and reinforcing effect on a person; it provides a sense of pleasure and improves self-confidence and individual relationships. The World Health Organization (WHO) defines sexual health as "…A state of physical, emotional, mental and social well-being about sexuality; it is not merely the

* *Corresponding author*; Shahideh Jahanian Sadatmahalleh, Associate Professor, Department of Reproductive Health and Midwifery, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran. Tel: 02182884826; Email: shahideh.jahanian@modares.ac.ir

absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences without coercion, discrimination, and violence. For good sexual health, the sexual rights of all persons must be respected, protected, and fulfilled" (5).

Sexual and reproductive health is an essential right for all women. Infertile women due to their sexual and reproductive status are vulnerable (4). Given that pregnancy is the result of sexual intercourse, when pregnancy does not occur, sex becomes an unreasonable act in the minds of many individuals, who gradually become discouraged and their desire to have sex is reduced. Since sexual pleasure is more a product of the mind than of the body, one can expect that a sexual relationship is influenced by the infertility consequences, such as a feeling of depression, which affect the person's ability to enjoy the sexual activity (6).

On the other hand, physical-emotional involvement and sometimes various medical tests for infertile women are painful and unpleasant and in some cases, negatively affect the infertile couple's sexual relationship (6).

Many quantitative studies in Iran have examined the consequences of infertility (7). There are few qualitative studies which have been conducted on the various aspects of infertility (8). According to the review of studies and the limited number of qualitative studies conducted in the field of sexual health of infertile women, the present study was implemented to explore the experiences of Iranian infertile women regarding their sexual health.

Materials and Methods

This qualitative study was conducted by conventional content analysis. Content analysis is the process of understanding, interpreting, and conceptualizing the inner meanings of qualitative data. Conventional qualitative content analysis is a process that involves coding categories of data that are derived directly and inductively from raw data (9). In the present study, conventional content analysis was used because there was limited data on the sexual health of infertile women in the Iranian context.

This qualitative research was implemented in the Gynecology Clinic of Arash Hospital in Tehran, Iran, in 2018. The participants were recruited from infertile women attending to this center who were willing to participate.

An interview was performed if the participants were willing to participate in the research. The approximate duration of the interviews was 30-60 minutes.

The inclusion criteria were as follows: speaking Persian, female infertility confirmed by a physician, no history of mental disorder or physical disability, or dysfunction, and belonging to various demographic backgrounds.

Data were collected through face-to-face, semi-structured, in-depth interviews. Participants were asked the following questions:

Could you please talk about your sexual life during infertility? How infertility did affect your sexual function?

During interviews, they were asked to talk about their sexual relationship and the impact of infertility on their sexual life. Afterward, the next questions were asked based on the participants' answers. Data collection continued until data saturation and no new data emerged. Data saturation was obtained after 17 interviews, but three more interviews were conducted to obtain more certainty.

The interview room was one of the hospital counseling rooms that provided a quiet and private environment during the interview. All the interviews were tape-recorded and transcribed verbatim. Lundman and Graneheim's approach (10) was used for the qualitative content analysis. This approach focuses on analyzing the explicit or overt content of a text as well as interpreting the "latent content" of texts that can be interpreted or interpolated from the text, but not explicitly stated in it. According to the steps mentioned by Graneheim and Lundman, data analysis began during data collection. The interviews were typed word by word. In order to achieve overall data perception, the transcribed interviews were read several times by the researcher before starting the encoding. A content analysis approach was applied to derive codes, categories, sub-themes, and themes from the data. Meaning units as sentences or paragraphs were identified, then they were abstracted and labeled with codes; then, the codes were sorted into sub-categories and

categories based on their similarities and differences. Finally, the themes were extracted.

Moreover, Guba and Lincoln's criteria including credibility, transferability, confirmability, and dependability were applied for the rigor of the data collection (11). Credibility was confirmed by peer and member checking. Two expert supervisors conducted peer checking. For member checking, four participants were asked to review the interviews and the findings. Maximum variation sampling increased the transferability of data. For confirmability, two individuals familiar with qualitative methods of content analysis checked codes and themes. Multiple data collection methods (field notes and individual interviews) were applied to increase the dependability of the data.

The Ethics Committee of Tarbiat Modares University approved the study (IR.TMU.REC.1396.659). All participants were informed about the purpose of the study and the right to withdraw from the study whenever they wanted. They were assured about their data confidentiality. Informed written consent was obtained from the participants prior to the interviews.

Results

A total of 20 infertile women participated in this study. Fourteen participants were housewives, and the rest were employed. In addition, 18 women had infertility primary and two had secondary infertility. The characteristics of the participants were shown in Table 1.

Three main themes and subthemes emerged from the data analysis was displayed in Table 2.

1. Impact of the process of diagnosis and treatment on women's sexuality

Most participants reported that their enjoyment of sexual activity was reduced due to infertility and its problems:

"My husband gives me comfort in the bedroom, but I do not enjoy the relationship just like the last year" (33 years old, infertility for 10 years).

Another participant similarly said:

"Sometimes, I cannot enjoy the sexual activity, but I do not know why. I say to myself; the only reason can be due to mental disturbances" (31 years old, infertility for 4 years).

Several infertile women also experienced a decreased number of sexual intercourses:

"The number of our intercourses has decreased, earlier it was every night or two to three times a week. But now it's maximum twice a month" (36 years old, infertility for 11 years).

Table 1. The characteristics of participants

Participant's characteristics	N
Age (years)	Range: 25-42
Education status	Elementary: 2 High School Diploma: 10 Associate: 1 graduate: 2 Postgraduate: 4 PhD: 1
Job	Housewife: 14 Employed: 6
Type of infertility	Primary: 18 Secondary: 2
Duration of infertility (years)	<5: 9 5-10: 9 >10: 14

Scheduling intercourse according to the treatment plan decreased sexual pleasure in most participants: "We should have timed intercourse every two nights; for us, this has caused the relationship not to be enjoyable" (28 years old, infertility for 6 years).

Some women stated that their husbands were not able to cope with the fact that they had to avoid intercourse according to the treatment plan: "It is hard for my husband to cope with this issue ،I always try to fulfill his sexual needs by other ways, yet he seems to be unsatisfied. For example, I realized that he was a bit nervous at night" (31 years old, infertility for 2 years).

Some participants said they were reluctant to have sexual intercourse and attributed this problem to the complications of infertility drugs: "I do not have any sexual desire since I use these injections. I have lost my sexual desire; as they weaken my body and make it numb, such that I have no sense of accepting my husband" (36 years old, infertility for 10 years).

However, few women mentioned that infertility had no effect on their sexual relationship or sexual life, even their sex life has become better: "Now, since the sexual relationship is without the use of contraception, it's more

enjoyable for both of us" (39 years old, infertility for 18 months).

Table 2. The main and subthemes in this study

Sub themes	Main themes
*The negative effect of infertility and its treatment on the cycle of sexual response *Providing each other's sexual needs in the state of infertility *The effect of the passage of time from the onset of infertility on the improvement of marital relations * Intimacy in marital relationship	Impact of the process of diagnosis and treatment on women's sexuality
*Negative psychological-behavioral consequences resulting from infertility *Financial consequences due to infertility and its diagnostic-therapeutic measures *Influences of relatives/friends *The couple's compatibility with each other in the process of infertility and its treatment	Psychological, behavioral, interpersonal and economic factors influencing sexual health
*Having a religious view of infertility *The type of attitude and point of view against infertility *Imagining the improvement of marital and social life with the presence of a child	Cultural and religious norms affecting sexual life

2. Psychological, behavioral, interpersonal and economic factors influencing sexual health

Issues such as fear of not having children in the future, fear of husband's remarriage, treatment outcome, and frustration can cause anxiety and worry in infertile women: "I think the biggest problem that has affected me is anxiety, negative thoughts, and stress about the infertility outcome. This constant anxiety makes me not enjoy of sexual life" (25 years old, infertility for 7 years).

They mentioned that due to infertility, they are alone and speak less in family/friends' gatherings: "I was a happy woman, I was talkative and joking, but now I talk a little. Also, my verbal flirting in the bedroom is greatly reduced" (25 years old, infertility for 7 years).

Some of the participants explained that they always think about having a child, and this damaged their lives: "The issue of infertility on the one hand and its mental preoccupation, when I think about my problem, I don't like anything anymore. Sometimes I don't even like myself. Some nights, I don't even want to go near my husband" (31 years old, infertility for 4 years).

Most of the participants talked about the negative impact of the high cost of treatment on their sexual life: "Most of the time, my husband says let's start again, I say the doctor says it costs so much, even in the bedroom, we think about the cost of treatment and this issue affects on the quality of our sexual relation" (36 years old, infertility for 11 years). Another participant said, "I'm a tenant. My husband says how much money! I'm upset" (36 years old, infertility for 10 years).

Many infertile women reported that their sexual activity was affected by tensions caused by the spouse's family: "Women must be emotionally good before they start a sexual relationship, but I am in tension from my husband's family" (28 years old, infertility for 6 years).

These women also stated that their husband blames them, so they are very upset about this: "He says other people are married two years earlier (than us), and now they have children, but you do not have. For example, your sister is younger, she has a child, but you do not have any child. With these words of my husband, I don't even want to approach him or hug him" (36 years old, infertility for 11 years).

Some participants reported that having a good friend has a positive impact on infertility status: "For example, I'm talking to you now, I feel

good. If there is one to talk to her, it would be very effective" (25 years old, infertility for 7 years).

Some participants reported no cooperation of their spouses in the treatment procedure: "For example, six years ago, we went to Yazd city and got the best doctor's visit time. If I was seeking treatment at that time, maybe I had a baby right now, but my husband did not accept responsibility and did not come, I'm sad about my wife and after that I did not have intercourse with him for a long time" (32 years old, infertility for 10 years).

3. Cultural and religious norms affecting sexual life

From the perspective of women participating in this study, cultural values and religious beliefs can affect their response to infertility and consequently, their sexual life.

Some participants, considering infertility as a divine issue, concede the result to God: "Maybe God has considered another fate for us. God knows something that has given us only one child, for this reason, I did not think about the outcome of my sexual relations". (40 years old, secondary infertility for 3 years). Another participant mentioned: "This is the will of God. Certainly, it is God's grace that pregnancy does not occur. This makes my infertility not affect the quality of my life and especially the quality of my sexual life." (33 year's old, infertility for 7 years).

In addition, some participants considered that the presence of the child is as an influential factor in the quality of life according to the cultural conditions of the society: "If I had children, I would always enjoy my sexual life and my life would be happier and better" (42 years old, infertility for 17 years).

Some participants believed that given the importance of childbearing in Iran, they would be more comfortable if the infertility issue remained confidential: "If our relatives are not aware of this problem, it is better for us and we have more peace in sexual relations". (35 year's old, infertility for 4 years).

Participants' statements showed that the response to infertility varies according to the conditions of society. Few participants considered that infertility was a simple matter, so they easily accepted it: "It does not matter to me. My husband also says, with or without a child, we live together with the same passion and we enjoy our sexual activities like in the beginning of our marriage" (33 years old, infertility for 7 years). However, most women said they could not react positively to infertility.

Discussion

According to the findings of the current study, dimensions of infertile women's sexual health are affected by infertility and its treatment (12). Infertility and its treatment can lead to a change in the couple's self-confidence in sexual issues, sexual relationships, and sexual performance (13, 14).

The first extracted theme of the present study was "Impact of the process of diagnosis and treatment on women's sexuality ". One of the important findings of the present study was that infertility and its diagnosis and treatment process affected sexual function of most participants. Infertility impacts women's sexual function in terms of desire, arousal, satisfaction, and total sexual dysfunction (15). Women with secondary infertility experience more impaired sexual function compared to those with primary infertility (16). The results of a systematic review by Tao et al (2012). implied that infertile females had significantly less stable marital relationships compared to fertile females, which was related to their socio-demographics and treatment experience (17).

The majority of participants complained about the treatment process and its consequences. Evaluation and treatment of infertility is an important risk factor for sexual dysfunction. Infertility and its treatment may damage the couple's relationship and sexual life (12). However, Furukawa et al (2012). found no significant difference in the rates of dyspareunia, sexual dysfunction, depression, or attitudes toward sexuality in infertile women seeking treatment compared with the control population (18). A qualitative study about the sexual behavior of infertile women by Bokaie et al (2015). Showed that some participants could cope with their infertility problems. Still, the sexual behavior of others was affected by infertility drugs and assisted reproductive technology (ART) procedures (19). The infertile patients retrospectively reported a sex-life satisfaction score similar to the controls before their infertility diagnosis. In contrast, their post-diagnosis sexual life satisfaction scores were

significantly lower than those of the controls (20). Compared with a nonclinical sample, women undergoing In-Vitro-Fertilization (IVF) had significantly lower scores in sexual interest, desire, orgasm, satisfaction, sexual activity, and overall sexual function (21).

In the present study, the women talked about diminished libido, lack of sexual pleasure, and having intercourse solely for childbearing. In the study of Bakhtiari et al. (2016) the most common sexual problems in women undergoing fertility treatment were dyspareunia, sexual desire disorder, and lack of orgasm (22). Also, Smith et al. also found that the most common sexual problems in women using IVF included lack of sexual desire, difficulty with orgasm, vaginal dryness, and vaginal tightness (21). Czyżkowska et al. (2016) showed that infertile women reported less satisfaction with their sexual relationships and experienced more sexual dysfunctions than the control group (23).

In the present study, most women reported the negative effects of timed sexual relationships on the quality of their sexual life. Therapeutic interventions such as timed sexual intercourse, medications, and ART were found to be emotionally stressful by infertile couples, which is why this group experiences lower sexual satisfaction than couples who become pregnant spontaneously (24).

Inadequate sexual activity was reported in some infertile couples in the present study. This finding was confirmed in the study of Piva et al. (2014) indicating that two-thirds of infertile couples claimed impaired sexual activity. After several unsuccessful attempts, they avoid having sex even during the ovulatory phase to prevent anger, frustration, and a sense of guilt aroused by the onset of menses (25).

The second extracted theme in the present study was "Psychological, behavioral, interpersonal and economic factors influencing sexual health ". The reports of participants showed that infertile women had different psychological-behavioral responses. In most of the participants, these reactions were negative. Sexual health can be affected by biological, psychological, social, moral, religious, legal, political, cultural and historical multifaceted factors. Infertility is an emotionally challenging experience in women's lives. Infertility can cause various mental problems such as a feeling of loss of control, low self-esteem, stress, depression, marital distress, which cause sexual dissatisfaction. Women's lack of confidence and self-teem may affect their sexual life (26).

In the study by Xu et al. (2017) nearly 40% of the participants were anxious, and 30% were depressed. Additionally, more than 20% of the patients suffered from anxiety and depression. Women aged < 35 years were significantly more likely to suffer from anxiety and depression than older women. This feeling of depression showed the decrease in women's satisfaction with their sexual life. Educational background significantly affected the psychological status of all patients. Female factor infertility can be accompanied by significant pressure on women (27).

In Iran, psychiatric disorders in infertile women are about twice higher than Western countries (28). Infertility and its treatment process are a source of mental suffering for Iranian infertile women associated with destructive effects on the mental well-being of infertile couples (29). The study of Mazaheri et al, (2012) revealed that infertile couples who had no children showed more risk for different psychological problems compared to other studied groups (30). Infertile women have more depressive symptoms (31).

Infertility is a stressful experience, and depressive symptoms are normal manifestations of reactive behaviors. Sahin et al. (2017) reported that the frequency of depression in patients with secondary infertility was significantly higher than those with primary infertility (32).

Diagnosis and treatment of infertility are often expensive. Due to the lack of insurance coverage for these treatments in Iran, they are a source of stress for infertile couples. Social concern, maternal relationship stress, and financial stress were significantly related to distress (33).

The behavior of others greatly influences infertile couples' life and often causes a lot of psychological pressure. The role of relatives and others in the life of infertile women is very important and even crucial. This role can be both positive and negative (34).

Behboodi-Moghadam et al.(2017) found that infertile women had no tendency to participate in parties and social gatherings because they fear that their relatives might ask them about their

infertility (35). Direkvand Moghadam et al. (2016) reported that social relationships, culture, and beliefs were the important sub-concepts in the life experience associated with infertility (36). Infertile women receive the most support from their families; this social support is considered a mental health predictor (2).

The third extracted theme in the current study was "cultural and religious norms affecting sexual life". Beliefs and cultures are the key elements affecting how infertility is experienced, and the role of beliefs and culture is impressive in Iran. The social-scientific literature on infertility significantly emphasizes the importance of sociocultural context in the experience of infertility (37).

Latifnejad Roudsari et al. (2011) indicated that religious participants had higher feelings of optimism and peace in dealing with infertility problems by adopting religious/spiritual coping strategies, which originated from their religious teachings and divine outlook on life (38). In the present study, some women left their infertility outcome to God. Trust in God was a powerful coping strategy for these women. Latifnejad Roudsari et al. (2013) in their study similarly reported Religious infertile women using a religious/spiritual meaning-making framework tried to perceive their marital life as something granted by God that could be accepted peacefully [39]. Islamic spiritual beliefs and religious rites strengthened their trust in God and helped them considerably cope with this challenge (40).

In this study, some women stated that all dimensions of their lives would be better with the presence of a child. The study by Daibes et al. (2018) revealed that having children, especially boys, grants power to mothers as they fulfill social expectations of reproduction by contributing to patrilineal lineage (41).

This research is one of the few studies that have been done qualitatively on the sexual health of infertile women in Iran. In addition, sampling was done in a referral center from different parts of Iran. The limitation of the present study was the small number of secondary infertile women compared to primary infertile women.

Conclusion

Problems related to infertility, especially the long and complex treatments, can affect all aspects of women's life, especially their sexual life. The results of the current study showed that sexual health in infertile women is affected by "infertility and its diagnosis and treatment process", "Psychological, behavioral, interpersonal economic factors" and "cultural-religious norms". It is worth noting that a small number of participants noted increased intimacy after the diagnosis of infertility.

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Conflicts of interest

Authors declared no conflicts of interest.

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