

Research Paper: Life Quality in Infertile Couples Undergoing Assisted Reproductive Techniques: a Qualitative Study



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ABSTRACT

Background: Infertility is one of the most difficult and debilitating conditions that, besides having unfavorable effects on the life quality of infertile couples, it can lead to many problems. The aim of this study is to explain effective factors for life quality in infertile couples undergoing assisted reproductive techniques in a qualitative manner.

Methods: In this qualitative study which was performed using a conventional content analysis method, 20 infertile couples who were referred to IVF Center, were interviewed in-depth. Sampling was purposive sampling and the interviews were continued until data saturation and the obtained data were analyzed using the constant comparative method.

Results: Five major themes including infertility and emotional relation, relatives and infertile couples, sexual relation and infertility, mental disturbances, and cost of infertility treatment were extracted by analyzing the data.

Conclusion: The findings suggested that infertility is not merely a physical disease that just requires medical and surgical interventions; consequently, its mental and sexual aspects should also be considered and life quality of the involved people needs to be increased using effective interventions.

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Introduction

Infertility, defined as inability to get pregnant after one year of sexual intercourse without using birth control methods is one of the most difficult and debilitating conditions, which not only has unfavorable effects on the life quality of infertile couples, but also causes many health and social problems [1-3]. The prevalence of infertility among ethnic and racial groups is not greatly different [4]. World Health Organization has specified infertility as an important reproductive health problem that is not a disease, but can cause serious emotional disorders and have psychological and social consequences [5]. According to WHO, infertility affects about 8 million couples worldwide and varies from 5% to 30% in different countries [6]. This rate is increased by 25% annually and its overall incidence in the last decade has increased by about 50% [1].

Infertility in Iran has remained a major reproductive health problem and its prevalence is high. In Systematic Review and Meta-Analysis that performed by Parsanezhad and colleagues on 2012, prevalence rate of life time infertility in Iranian couples was 10.9% [7]. Attempts to get pregnant are associated with costly and boring medical procedures. Moreover, hopelessness Connected to infertility may damage basis of relationship of a couple [8]. In some cultures, achieving parental role is regarded as a fundamental condition for personal perfection, social acceptance, sexual identity completion, and perfect adulthood status, and couples consider themselves incomplete if they are unable to have children. Therefore, it is reasonable to assume that inability to have children is stressful and leads to disturbed life quality and marital relationship, loss of intimacy, and fear of ending the marriage [9]. When pregnancy does not happen, infertile couples think that sexual intercourse is not fruitful, and sexual desire reduces. Infertile couples progressively forget that their sexual relationship is also a response to their natural needs [10]. People who seek treatment for infertility have been reported to be more anxious and emotionally distressed than the general population [11]. It seems marital dissatisfaction in women is higher than that in than men, which can be related to women's greater interest in having children in comparison to their male partner. Women experience more stress during treatment, while men have less psychological trauma, more self-esteem, and more marital satisfaction [12]. In fact, various researchers have different opinions about the impacts of infertility on couples. Many studies have stated that infertile couples (women and men) have dissatisfaction of marital

relationship. These studies expressed stresses associated with infertility and infertility treatment affect the couples' relationship both directly and indirectly [10, 13] however, in some other works, it is mentioned that due to the identical conditions of infertile men and women, their ideas and feelings become closer to each other, which has a positive effect on couples' relationship and life quality [14-16].

Therefore, factors that predict life quality may vary in different infertile populations [11]. In addition, studies about the impact of infertility on life quality, marital, and sexual satisfaction have shown contradictory results in western countries and the number of conducted studies in eastern countries, like Iran, is not considered sufficient. Many qualitative researches have been done about sexual behavior of infertile women in Iran [10, 17-20]; however, the number of qualitative researches on infertile couples is only limited to few [8]. Therefore, this study aims to explore and deeply perceive the effective factors for life quality as well as marital and sexual satisfaction of infertile couples and its results can be used for effective planning to achieve the objectives of this study.

Methods

The present study was performed using a qualitative method with conventional content analysis approach conducted from February 2015 to August 2015. In this study, the purposive sampling was conducted with maximum diversity in terms of age, education, income level, and socio-economic category. Participants were selected among the couples who referred to Fatemeh Hospital in Hamedan city for the treatment of infertility and were shown moderate to severe sexual and marital dissatisfaction using Enrich marital satisfaction and Lindabergh sexual satisfaction questionnaires. Couples (both of them, not just one of them) who had a score lower than 60 in the Enrich Questionnaire and lower than 67 in the Lindabergh Questionnaire, were enrolled in the study. Lindabergh sexual satisfaction questionnaire has 17 questions whose validity and reliability were confirmed by Javad Salehi Fedardi in 1998 [21]. The reliability was 0.97 using Cronbach's alpha. Enrich marital satisfaction questionnaire contained 47 questions, 5 of which were related to children. Since the questionnaire was used for infertile men and women, these 5 questions were removed by the expert panel was formed based on the related specialists (2 PhD holders in reproductive health, 2 epidemiologists, 2 PhD holders in health education, and 1 PhD holder in nursing) and the infertile couples answered 42 questions. The re-

liability using Cronbach's alpha, was 0.90. In general, 20 infertile couples participated in this qualitative study, and semi-structured in-depth individual interviews were used. All interviews were undertaken by the PhD researcher in reproductive health. The participants were asked to freely describe their experiences about marital satisfaction. The time and place of the interview were determined by the participants. Some of the questions in the interview include the following: "Please express your feelings about infertility?", "How does infertility affect your life quality?", "How does infertility affect your relationships with your husband?", "Please explain the impact of infertility treatment on your life."

Prior to commencing the study, the ethics committee approval was obtained from Hamadan University of Medical Sciences; in addition, arrangements were made for the presence of the researcher in research environments. To start, some explanations about this study were given to the patients, and oral consents were gained for taping their voices. All interviews were conducted individually. Depending on the willingness of the participants and their complete opinions during the interview, its duration ranged from 30 to 60 min. Voice of each interviewee was recorded by a digital sound recorder in the case of their consent and, if they did not agree, the transcript of the interview was completely written. During the interview, the speech and facial expressions of the participants were also recorded. Participants could discontinue the interview if they did not desire. The interviews were immediately typed word by word after being listened to for several times and the conditions and characteristics of the participants were also noted beside the interviews. At the same time with data collection, coding process also began. The researcher did his best to gain the trust of the participants. Furthermore, the participants were asked to be contacted if the researcher had any questions during the transcription of the interviews. The interviews were then entered into the software MAXQDA10 for analysis. In this study, both types of content (explicit and implicit), which only differed at the level of abstraction, were studied. Finally, considering Landman-Granham's proposed steps, the data were analyzed as follows: 1) First, the audio file of the interviews was written down (transcribed). After the detailed study of the transcriptions, the researcher tried to receive the external and internal elements of these experiences. In fact, data immersion for achieving the understanding and experiences of interviewees was the first step to reach the objectives of the study. 2) By reviewing the transcriptions, the narratives were identified and, after

initial encoding, the categories were formed. 3) With the progress of interviews, the relationship between the themes was determined to identify the main patterns and internal original meanings of the interviews. 4) Finally, constant comparative method was used in the study's implementation according to content analysis [22]. In order to increase data credibility and verify the data, four Guba and Lincoln criteria were used as follows: A) the transcriptions were reviewed by participants (member check) and the credibility of data was increased by presenting the findings to some participants and reviewing them to ensure consistency of findings. B) Peer debriefing was used such that the text of the interviews was extracted along with code and categories and examined by one of the faculty members fluent in qualitative research in addition to professors and advisors. Then, they were asked to investigate the accuracy of the encoding process. C) Prolong engagement and continuous evaluation were other measures for increasing the credibility of the present study's findings. To increase dependability of the data, peer debriefing was used. In order to achieve this criterion, the data were analyzed by other qualitative researchers to see whether they achieve the same conclusions and categories and are of the same opinion. Then, their results were compared with those of his study. Finally, the codes and categories that required serious review were re-examined. To increase transferability, A) All processes and activities in the research were written clearly and carefully to make it possible for others to follow the research path. B) The samples were selected from different socio-economic categories, different educational levels, and diverse groups. To increase confirmability, the researcher tried to: A) Clarify the research steps, B) Record and write the participants' statements, and C) review the statements by expert participants and supervisors.

Results

In this study, 20 infertile couples were interviewed. Their demographic characteristics were as follows: All of the participants were aged between 20 and 40. and the majority of them were in the age group of 26-31(50% of women and 40%men). Most of the female participants had elementary and secondary education (60%) and most of the male participants (85%) were self-employed (Table 1).

Five themes, 8 categories, and 86 codes were extracted from data analysis about the effective factors for life quality as well as marital and sexual satisfaction of infertile couples. The extracted themes as well as the main categories and subcategories are shown in Table 2.

Table 1. Participant’s characteristics

	Woman n (%)	Man n (%)
Age, years		
20-25	4 (20)	1 (5)
26-31	10 (50)	8 (40)
32-38	5 (25)	7 (35)
38-43	1 (5)	3 (15)
44 ≤	0 (0)	1 (5)
Education status		
elementary	6 (30)	7 (35)
secondary	6 (30)	4 (20)
High school	4 (20)	4 (20)
University	4 (20)	5 (25)
Job		
Housewife	17 (85)	-----
Employed	2 (10)	3 (15)
Self-employed	1 (5)	17 (85)

Table 2. Theme, category, and sub-categories of the experience of infertile couples

Theme	Category	Sub-category
Infertility and emotional relation	Negative impact of infertility on couples’ relation	Infertility as an obstacle in emotional relation between infertile men and women
	Positive impact of infertility on couples’ relation	Infertility and disturbance in sexual relation between couples
		Infertility as a factor to strengthen relation between couples
Relatives and infertile couples	Negative role of friends and family	Curiosity of relatives
	Positive role of friends and family	Being under pressure by relatives
		Supportive role of relatives
Sexual relation and infertility	Negative impact of infertility on sexual relation	Impact of infertility on decreased sexual relation
	Positive impact of infertility on sexual relation	Impact of infertility on increased sexual relation
		Impact of infertility treatment on sexual relation
Mental disturbances	Beliefs, ideas, and infertility	Infertility and feeling of sorrow
	Fear and discomfort	Fear of the future
Cost of infertility treatment		Financial problems of infertility treatment
		Medical insurances and infertility

Infertility and emotional relation: This theme consisted of two main categories called negative and positive impacts of infertility on the couples’ relations. Experiences of some infertile couples showed that infertility could be an obstacle for the emotional relation between the couples. One of the infertile men (P7) stated: “My wife has become very sensitive due to not having children and stops talking to me for days.” One infertile woman (P5) said: “Life has become repetitive and boring and we have nothing to talk about.” On the other hand, some couples consider infertility as a factor for

disruption in marital relations. One infertile man (P21) who was experiencing infertility for 10 years said: “My wife and I are only together for 3 or 4 months a year. She travels alone to visit her relatives for months for various reasons, which makes me very uncomfortable, because it interrupts our treatment.”

In contrast, some couples regarded infertility as an amplification factor of the relation between couples. For example, in this regard, an infertile man (P14) said: “My wife’s behavior has become so much better;

I think that's because I care for her, listen to her, and better understand her feelings about our problem." An infertile woman (P16) said: "My husband cares about me more than before and makes me feel better, especially when we have sexual relation."

Relatives and infertile couples

This theme consisted of the negative and positive role categories of friends and family. Many couples were uncomfortable about curiosity of relatives and family. For example, a rural woman (P28) who had infertility for one year said: "Sometimes my mother-in-law comes to our home suddenly and searches the home for various excuses to find ultrasound papers or something like that. Another infertile women (P34) who was extremely upset with the pressures of others said: "Loneliness and what people say; not strangers, I mean the friends and relatives; they tell my husband what is the use of an infertile woman? Divorce her and marry someone else. Sometimes, we fight over what other people say; for example, a few days ago, we were discussing divorce and separation."

Instead, a number of couples mentioned the supporting role of relatives and their sympathy, and consider their support as an encouraging factor. One of the infertile men (P27) with a 7-year background of infertility said: "In some parties, I notice my wife is very happy and I think it is so good for us to be among other people. My sisters are always telling us do not stay at home." One of the infertile women (P25) said: "We become very happy when my brothers-in-law tell my husband we can count on them. It makes us think we are not alone."

Sexual relation and infertility

This theme consisted of categories called negative and positive impacts of infertility on sexual relations. According to many couples, fertility and child rearing are the imaginable consequences of sexual activity and since sexual relation cannot bring about this objective for infertile couples, they gradually feel it is useless, which makes the relation repetitive and boring, consequently The couples become. One of infertile women said about their sexual relation: "Infertility has some disappointments. For example, arguments lead to feelings of sexual activity resentment. After a while, I came to the conclusion that I am involved in sexual activity in order to make a baby; I continue this involvement for having a child so that my problems will be solved."

In many couples, being forced to have sex as a part of the treatment, decreased sexual desire due to the side effects of medications, decreased sexual desire due to

taking some medical steps in infertility center, and no conclusion of previous treatments make the couples regard infertility treatments as a factor to cause disruption in their own sexual relations. One of the women (P14) mentioned the case as follows, "We've been told to have sex once per 3-4 nights and this is so boring. Sometimes, I am tired, but I have to do this because the doctor has ordered us. It is not based on desire and love." Another woman (P16), who had problem with having a specific program for sexual relation, said: "Sometimes, on the specific time prescribed by the doctor as every other night, it may be a little difficult, specially when we go to parties late at night. We just have to do it more often due to medical issues."

In contrast to the couples who consider infertility and infertility treatment as a factor with a negative impact on their sexual relation, some other couples mentioned they have overcome the infertility problem overtime and continued their married life because of interest in their bilateral relation. In this regard, one of the infertile women (P18) said: "Earlier when I was faced with infertility, I was very confused and it had even affected my sexual relation; but, now I feel better and I have separated the problem of sexual relation from infertility." One of the infertile men (P32) also said: "After Studying and reading many books, I realized that sexual relation is not related to infertility, love to the spouse is a separate issue, and modification of this relation could probability lead to overcoming infertility."

Mental disturbances

This theme consisted of beliefs, ideas, and infertility as well as discomfort and fear category. In many couples, the feeling has been developed that they might have committed a sin and, as a punishment, God has prohibited them from the great blessing of having a child. In this regard, one of the infertile men (P27) said: "I have to spend all my money on treatment. I think I might have committed a sin and that is the punishment." Sometimes, the men and women who are infertile consider themselves responsible for not having children, which makes them confront feelings of sorrow, guilty conscience, and sadness and blaming themselves. For example, an infertile woman (P28) said: "I am suffering a lot, since I am responsible for our infertility problem. I feel sorry for my husband." One of the men said: "I feel guilty since I am responsible for the problem. I wish it was possible to have a medical examination before marriage and get married later in the case there was no problem. If I knew I had a problem, I would not get married at all or I would undergo the treatment and then marry."

Another problem is that, although the legal issues related to embryo and oocyte donation have been resolved, there is still uncertainty among people on this issue. In this regard, an infertile man (P7) said: "I am still uncertain about legality and legitimacy of this method."

Inability to achieve the big dream of "being a father and mother" also causes different mental and psychological pressures and might make people feel sorrow and uncertain about future. In this regard, an infertile man (P15) with a 15-year background of infertility said: "I think if I had a problem, there would be no one to help me." One of the women (P11) said: "I think if I had a child, my efforts would not be wasted. I am working; so, at least my child could benefit. But now all I have is left for my relatives."

On the other hand, fear of husband's future decision and remarriage has severely negative effects on women. One of the infertile women (P9) in this regard said: "If I do not have a child, my husband might leave me and marry someone else. He would have the right in this case; why he should waste his life for me?"

Cost of infertility treatment

This theme consisted of two sub-categories called financial problems and infertility treatment as well as infertility and treatment insurances. Many couples were forced to spend a major part of their income on their infertility treatment. An infertile man who has used assisted reproductive techniques for several times said: "I cannot afford infertility by peddling." One of the women (P35) also said: "Cost of infertility is very high. Tell the authorities to do something for us. My husband is a peddler and we gather money with a lot of difficulty; but, at the end, the embryo is not formed and the whole process should be repeated."

Lack of inclusion of infertility treatment in insurances is one of the factors from which infertile couples suffer. A woman said: "Infertility treatment is considered like cosmetic surgery; please do something that makes insurance companies pay even a small part of the costs."

Discussion

This study aimed to explain the effective factors for life quality as well as marital and sexual satisfaction of infertile couples undergoing assisted reproductive techniques. According to the experiences of infertile couples, several factors can affect the life quality of

these people, which including infertility and emotional relation, relatives and infertile couples, sexual relation and infertility, mental disturbances, and cost of infertility treatment. In fact, facing infertility has a significant impact on the lives of men and women and exposes patients to emotional and mental problems. In fact, the problems of infertility leads many people in their late second and third decades of life to depression [23]. Fekkes et al. concluded that irrational thoughts of having children can increase emotional and mental problems [24]. Because of facing anger, sadness, and desperation, infertile couples have lower tendency to share and consult their thoughts and feelings with each other. Also, there is the possibility to feel less intimacy to each other and cause sense of loneliness, lack of support, and lack of mutual understanding [20]. In the present study, infertile couples mentioned a variety of emotional relation disorders such as not listening to each other, being in bad terms, decreasing interest, no interest in being With each other, no expression of feelings, lack of forgiveness, and emotional disturbances. Many researchers have reported decreased performance and marital compatibility of couples as a result of infertility, and suggested that infertility is a major cause of marital dissatisfaction [25]. Moura-Ramos concluded that, in more than a quarter of infertile women, decreased marital satisfaction and life control can be observed [26]. In the present study, the couples mentioned generating excuses, isolation, not reaching the objective of marriage, having argument and controversy, paying attention to weaknesses, and loss of honesty.

One of the problems mentioned by infertile couples in this study was the curiosity of relatives. Feeling of being under pressure by relatives or their support can affect life of infertile couples and cause different reactions such as avoiding parties and hiding infertility from others. In fact, the behavior of relatives places great emotional pressure on couples. Shahnoushi et al. who examined the relationship between infertility and encouragement for divorce found a significant relationship between infertility and encouragement for divorce; i.e. in spite of infertility, couples, whether men or women, are encouraged for divorce and separation by their families and sometimes relatives in order to have a life with children. Moreover, there was a significant relationship between infertility and encouragement for remarriage and adopting a child by relatives. In addition to the negative role of relatives mentioned above, in the present study, some couples noted the supportive role of relatives in some cases and the result of some studies has indicated the supportive role of relatives in solving the infertility problem of couples and reducing their stress and reproach [27].

One of the interesting topics in this study is sexual issues. Although speaking about these issues is often accompanied with feeling of shame, many infertile couples mentioned the impact of infertility on their sexual relation as well as the effect of infertility treatment on sexual relation. If sexual relation between the married couple is not satisfactory, feelings of deprivation, frustration, insecurity, and lack of happiness would emerge [28]. Sexual dissatisfaction may cause problems such as depression [29], or divorce and separation of couples [30]. In the present work, the infertile couples mentioned the decreased number of sexual intercourses as well as decreased sexual desire and sexual pleasure. Results of this study were in agreement with those of some previous works. Monga et al. showed that infertile women had less sexual satisfaction and more sexual problems than the fertile ones [31]. Bakhtiari also found sexual dysfunction as a common problem among the infertile women, especially during their treatment [32].

Mental disturbances of infertile couples were some other findings of this study and clinical observations also showed that reaction to infertility is accompanied by severe reactions such as depression, feeling of guilt, and incompetence. Kazandi et al. reported many of infertile couples have variation in their emotional states [33]. Sahraian et al. also found that all the infertile couples suffer from stress caused by different degrees of infertility [5]. It seems that infertility and its costly and time-consuming treatments along with the stigma of infertility in the society imposed a heavy mental burden on infertile women. Thus, the majority of interviewees showed some degrees of anxiety and depression. This finding was in agreement with that of Savadzadeh's study. In her study, he concluded that majority of infertile women suffered from some degrees of depression [34]. In the present study, the infertile couples mentioned the conscience of man and woman, jealousy, and uncertainty of the position of assisted reproductive techniques in most societies. In the process of various assisted reproductive techniques, sometimes, 5 persons play the role of parents; genetic parents (owners of sperm or egg cell) [35], surrogate mother, and social parents (recipients of gamete or embryo). This fundamental issue is crucial for the decision-making of couples in terms of continuing the treatment and using assisted reproductive techniques.

Couples seeking treatment of infertility face problems caused by its high costs as well as problems associated with mental pressure. In the present study, the infertile couples noted some financial problems of infertility treatment such as high medical expenses, difficulties in

getting a loan and borrowing to continue the treatment, lack of insurance coverage for drugs, etc. However, in this regard, the results of these studies were contradictory. In Alami et al.'s study, in the group of women whose infertility treatment put no pressure on the family's economy, 87.5% had good life quality; but, in the group for which these costs were considered high, only 24% had good life quality [36]. However, in the study by Khayata, the life quality of infertile women from UAE who did not pay for treatment of infertility was not significantly different from that of non-UAE women whose treatment of infertility was not free [37].

Conclusion

Infertility is one of the important issues which has increased in frequency during the past decade. Problems associated with infertility decrease marital satisfaction, mental health, and life quality in infertile couples. Infertility problem is not only a physical disease requiring medical and surgical interventions; it is also necessary to increase the consideration of psycho-sexual aspects of infertility and generate programs, by experts in infertility centers, to educate the marital and sexual skills. Thus, by overcoming the pressure and tension in infertile couples, a major step can be taken for improving the quality of marital life and, finally, increasing the quality of their whole life.

Ethical Considerations

Compliance with ethical guidelines

This study paper was approved by the Research Council of Hamadan University of Medical Sciences and the Ethics Committee (Code number: IR.UMSHA.REC.1394.517) and also Research Project code of 9412187278.

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Authors' contributions

Study design: Seyedeh Zahra Masoumi, Arezoo Shayan, Reyhaneh Ebrahimi, Roya Ahmadiania-Tabesh; Data collection and analysis: Seyedeh Zahra Masoumi, Arezoo Shayan, Reyhaneh Ebrahimi, Roya Ahmadiania-Tabesh; Manuscript preparation: Seyedeh Zahra Masoumi, Farideh Kazemi.

Conflict of interest

The authors declared no conflict of interest.

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