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Emotional and psychological consequences of infertility in a group of men with over 4 years of follow-up treatment: A Qualitative Study

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Abstract

Introduction: Infertility is one of the problems that can be at the individual and social level. Little research has been done on individual infertility problems among men. The purpose of this study was to investigate the emotional and psychological consequences of infertility in a group of men with more than 4 years of follow-up treatment.**Methods:** This research was conducted in a descriptive qualitative way with the aim of extracting the emotional and psychological consequences of infertility in a sample of 16 men in Hamedan. According to the qualitative method, a semi-structured interview was used to collect information. Data were analyzed using content analysis.**Results:** The findings of this study displayed the three following main categories as the emotional and psychological consequences of infertility in men: social self-esteem (including fears of negative evaluation, having distress in discussions about childbirth, and tendency to loneliness), negative emotions (including categories of frustration and general inefficacy) and marital inadequacy.**Conclusion:** Infertile men, like infertile women, have emotional and psychological consequences that should be addressed in psychological training.**Keywords:** Men infertility, Psychology, Qualitative study, Content analysis

Introduction

Infertility is considered as one of the serious concerns of couples, in particular those who are long-married, and as a significant challenge for societies which seek to increase fertility rate in line with their social policies (1). Infertility is demographically defined as a 5-year period of unsuccessful childbirth attempts (2). According to the World Health Organization's (WHO) definition, infertility refers to the failure to achieve a pregnancy after at least 12 months of regular and unprotected sexual intercourse (3, 4). Although there is no reliable and accurate statistics on infertility (2), estimates show that

nearly 72.50 million couples worldwide are facing fertility problems (5).

As estimated by WHO, between 60 to 80 million couples worldwide are affected by infertility (6), which accounts for 8 to 12 percent of couples (7). Approximately 40% of infertilities is attributed to men, 40% to women and approximately 20% is caused by a combination of problems in both partners or by unknown factors (8).

Extensive investigations into the conducted relevant studies indicate that the literature on infertility primarily focus on women; this may be because it is generally believed that women are at the center of treatment and infertility (9).



However, infertility is a condition that affects men and women alike (10). In a nearly comprehensive review on the existing academic literature, Greil, Slauson-Blevins, and McQuillan show that a great deal of studies have focused on women and neglected men's views towards infertility (11). "Male factor" infertility is one of the prevalent causes of infertility. In general, nearly 30-50% of infertility is caused by men, which results from sperm quality problems such as low sperm count, low sperm motility or sperm deformity (12). Nonetheless, men have been overlooked in infertility studies (10). In Iran, a systematic study of the published literature has reported that 13.5% of couples have an average infertility rate of 55658 (13).

Infertile couples undergo psychological problems such as stress, anxiety and depression. Related researches also show that they face problems in various aspects of their marital life (14-17). Infertility gives rise to a wide range of psychological problems including decreased self-esteem, increased stress, anxiety, depression, aggression, sense of inferiority, and various marital problems (18, 2). Sadeghian et al. (19) showed that infertile couples suffer from more stress and lower mental health than fertile couples. Moreover, infertile men have less stress and higher mental health than infertile women. Taqhavi and Fathi Ashtiani (20) revealed that infertile men have higher scores of anxiety and physical complaints than fertile men. Joja et al (18) demonstrated that infertile men go through serious psychological problems, including low self-esteem, and inadequacy in relation to their societal role, eventually feeling responsible for denying their wives a child. In a study conducted on the lived experience of 10 infertile men, Fahami et al (21) identified four important concepts including individual stress, challenges in communication, problems associated with treatment process and the effects of beliefs and religious attitude on their lives. Hasanpoor-Azghdy, Simbar and Vedadhir (8) Vedadhir conducted a study on the emotional-psychological consequences of 25 infertile women who were affected by primary and secondary infertility and were seeking treatment.

The results of this study included four main themes: 1. Cognitive reactions of infertility (mental engagement; psychological turmoil). 2. Cognitive reactions to therapy process (psychological turmoil; being difficult to control in some situations; reduced self-esteem; feelings of failure). 3. Emotional-affective reactions of infertility (fear, anxiety and worry; loneliness and guilt; grief and depression; regret). 4. Emotional-affective reactions to therapy process (fear, anxiety and worry; fatigue and helplessness; grief and depression; hopelessness).

Thus, there are few studies addressing the psychological aspects of infertility in men (21, 22). Most research conducted so far, have focused on either the psychological problems of infertility in women or on the reactions of women to male partner infertility. There are few studies on the psychological consequences of infertile men (22, 23). Most studies have been conducted using quantitative methodology. Despite its benefits, the quantitative approach does not yield in-depth insight into the participants' experiences. The present study seeks to extract the main themes associated with the emotional and psychological consequences of infertility in men and hence provide a deep understanding of this issue. The current studies on male infertility have mainly focused on the social lives of these men. The psychological consequences of infertility on men have remained unexplored in Iran. Therefore, the present study seeks to analyze, identify and report on the psychological consequences of infertility on men with over 4 years of unsuccessful attempts at fertility.

Methods

This study was conducted in 2016 using qualitative method. It is a descriptive-qualitative study, which was done to extract the emotional and psychological consequences of infertility in a group of men with more than 4 years of follow-up care. After making the necessary arrangements with the participants, appointments were held in libraries, the parks, and hospitals. Participants included 16 men with

more than 4 years of infertility treatment. Purposeful sampling was used so as to find infertile men seeking treatment who were willing to participate. Semi-structured individual interviews were used to collect the required data until a saturation point was reached. A total of 18 individual interviews (due to complementary interviews of two participants) were conducted. The interviews were initiated by first addressing the research topic and some general questions about "infertility problems in men" and then were guided by the answers given. The interview questions revolved around the emotional and psychological consequences of infertility for men. The first question asked invariably was, "What are the most important emotional and psychological problems you have been experiencing during your treatment period?" Subsequent questions were asked based on the participants' responses; questions such as "Regarding the problems of the evaluation of other men you just talked about, can you please explain more?" or "Can you elaborate on the feeling of shame you just talked about?" The interviews were ended up with asking questions, which had been elicited from the participants' responses but had not been asked during the interview. When a participant diverted from the main topic, he was redirected into the discussion with guiding sentences such as "The issue of male adequacy that you were explaining is very important. It's great to talk about it more." It was tried to steer him into the main topic. Each interview lasted 35-70 minutes. Interviews were recorded or, in case of participant sensitivity, their notes were taken. Content analysis was used to analyze the recorded sentences. This method is used to determine the existence of certain words and concepts in a text or in a series of texts. Through exploring the existence, repetition, and relationship between the content, the researcher infers the messages conveyed in the texts or by the authors, listeners, etc. (24). Content analysis is in fact the process of structuring the unstructured data, through which the researcher seeks to locate similar data into specific categories and then extract their

themes (25). The data analysis began simultaneous with their collection; each interview was read several times, and then the texts related to the each individual's experiences and perceptions were put into one text to form the unit of analysis. Then, the meaning units of the texts were outlined and the condensed meaning units were extracted. Finally, the analytical codes were extracted. The resulting codes were carefully studied and subcategories and general categories were formed based on the similarities and differences of these codes. The themes were extracted using the theoretical analysis of the conceptual similarities of the general categories. Thus, the overall texts of the interviews were categorized from themes to meaning units. To ensure the robustness of the results of the study, four recommended criteria by Goba and Lincoln were evaluated. They have considered four criteria of Credibility, Confirmability, Dependability and Transferability for qualitative research (26). To make the results credible, the findings alongside the explanations of each category and theme were given to two participants and were confirmed by them. In order to ensure the confirmability and dependability of the results, two qualitative analysts separately coded and analyzed the data, and the results were in over 87% close proximity. As for the ethical considerations, the researchers obtained the participants' informed consent and scheduled the interviews with them. Prior to interviewing, the participants' were briefed on the research objectives, the criteria for sample selection, their right to withhold research, data collection procedures, and the confidentiality of their identities and information.

Results

The participants of this study were 16 men with more than 4 years of unsuccessful fertility. They aged between 27 to 37 (mean age: 34 years) and had Diploma (3 subjects), Associate degree (1 subject), Bachelor degree (9 subjects) and Master's degree (3 subjects)

Table 1. The extracted themes and categories from the interviews

Theme	Categories	Number of Emphasis
Social self-esteem	Fear of Negative Evaluation	15
	Distress in Discussion about childbirth	16
	Tendency to loneliness	16
Negative Emotions	Frustration	14
	General	13
	Inefficacy	
Marital Inadequacy	Sexual	16
	supportive	13

Table 1 reports on the themes and categories extracted from the interviews. There are three general themes: social self-esteem (including categories of: fears of negative evaluation, having distress in discussions about childbirth, and tendency to loneliness), negative emotions (including categories of: frustration and general inefficacy) and marital inadequacy (sexual and supportive).

Social self-esteem

Social self-esteem is one of the extracted themes for men facing infertility issues. Self-esteem is a psychological concept, which refers to one's attitude towards oneself. The perceptions of the men studied included social harm. This theme consisted of three categories of: fear of negative evaluation by others, especially men, having distress in discussions about childbirth and tendency to loneliness.

Fear of negative evaluation means being afraid of others' negative judgment and results in social seclusion and anxiety. One of the participants (code No. 1) said, "I keep thinking that I have a defect and that others instantiated me in different situations. They may have very bad ideas about my problem." Another participant (Code No. 3) stated that, "It's annoying to feel that you are being talked about in different social occasions. They may not tell you, or anyone else, but they will have a negative mentality about you. Even those who pray for you as soon as they see you, still find you somehow defective." Another participant (code

No. 6) pointed out other men's ridiculous looks and said, "Unfortunately, there is a valued judgment about most diseases. I myself don't have any problem. But it is difficult to see others, especially men, thinking that part of the manhood of the infertile men has been severely impaired."

The second category of negative social self-esteem is having distress in discussions about childbirth. It means infertile men become worried and distressed when issues such as birth, pregnancy, childbirth, and similar concepts are being talked about around. One of the participant (code No. 8) said, "I don't like hearing about childbirth in situations I am. I feel I have to hide something I don't like." Another participant (code No. 11) experienced this anxiety among his own family and said, "I get upset when I hear about pregnancy and childbirth either in my surrounding environment or in TV; they may not even mean it" Tendency to loneliness which is regarded as another category of social self-esteem, means avoiding to attend crowded situations, especially family gatherings, as they lead the person to make negative comparisons and perceptions. Participant (code No. 4) said, "When you are under infertility treatment, you are being asked about it wherever you go. People ask questions like how are you going along with your problem, what did you do for that, when would it be solved,... Gradually you get tired of them and prefer to stay in your own home." Participant (code 14) put forth another reason as, "When you attend different gatherings with an upset mindset (driven by infertility), you misinterpret what others say and thus this would lead to misunderstanding"

Negative Emotions

Negative emotions include sadness, anger, hatred, aversion, etc. Here, the concept of negative emotions was applied to two categories of disappointment and general inefficacy.

In the conducted interviews, frustration was mostly rooted in childbirth, but it was extended to other situations as well. One participant (code 12) said, "After visiting so many doctors, I am frustrated and think that I might never succeed. ... Such thinking about the outcomes of treatment can be frustrating." Referring to the spread of this frustration to the surrounding atmosphere,

another participant (code 1) said, "Your parents and your wife would finally realize that you're upset, and they get upset too. This makes you even more frustrated. ... Frustration would gradually penetrate the rest of your life as well."

General inefficacy is associated with the psychological concept of self-efficacy. Self-efficacy refers to people's beliefs about their abilities in doing different things. Individuals who have low self-efficacy, develop a sense of disability in their minds. In this regard, the participant coded 10 stated that: "For men, sexual dysfunction or weakness is an important issue. It is considered as a kind of manhood. You are thought to have a weak manhood and gradually you internalize this belief. ... When you hold such belief, you feel frustrated and powerless in other areas as well." Another participant (code 16) said: "Many infertile men, especially those who are severely frustrated, wrongly conclude that they are completely powerless (impotent)"

Marital Inadequacy

This overall theme consists of two categories of sexual and supportive inadequacies, and it relates to the man's feeling and belief about his weak manhood and, in fact, inadequacy. The difference between this theme and the problems associated with social self-esteem that shaped the first theme lies in the audience. This theme centers on the problems and the sense of inferiority, which the man grapples with in front of his wife.

Sexual inefficacy refers to the problems of sexual dysfunction and weakness in marital relationships. One of the participants (code 13) said that, "Sometimes when the prospect of permanent infertility comes to my mind, I can't have a good sex, and I think what if my wife doesn't consider me as a good sexual partner. These obsessions make sex abhorrent to me." Another participant (code 2) pointed to the occasional erectile dysfunction and said: "...When these thoughts (about infertility) come to my mind, I want to stop sex... And even I sometimes find an erection problem." Another participant (code 4) talked about his wife's concern for his masculine adequacy and said, "I think a lot about how my wife

is judging me ... Does she compare me to other men or not ...?"

Supportive inefficacy is emotional. In this category, participants dealt with inadequacy problems in relation to their wives from a supportive perspective. The participant (code 11) said, "I wonder if it might have anything to do with it, but to tell the truth, this thought occur to me what if my wife doesn't consider my worthy of support my support due to my differences with other men. ... Somehow, you become silent." Another participant (code 6) said that, "I think I was more assertive earlier in life and before I know about my infertility ... I guided others... I was more critical and felt more sense of management, but now I'm less so... Maybe I have become a little more conservative...."

Discussion

This study sought to investigate the emotional and psychological consequences of infertility among a group of men with more than 4 years follow-up treatment. To this end, 16 infertile men with more than 4 years of unsuccessful fertility were selected and interviewed. By analyzing the themes of the interviews, the psychological consequences of infertility on men were divided into three general themes alongside their subcategories: social self-esteem (including fears of negative evaluation, having distress in discussions about childbirth, and tendency to loneliness), negative emotion (including frustration and general inefficacy) and marital inadequacy (both sexual and supportive).

Self-esteem refers to beliefs and attitudes about one's values and importance (27). The self-esteem of infertile men gets impaired, particularly in collective environments where people are evaluated according to traditions and stereotypes. This finding is in tune with the results of a study done by Joja et al. (18) on in the damages experienced by infertile men. Scholte et al. (28) reported self-esteem problems as one of the psychological problems of infertile couples and mostly attributed its rate to social and cultural reasons in women. In the present study, women were not studied and no comparative explanation could be made thus. However,

although the Iranian culture holds women are responsible for fertility, but it also relates men's infertility to their sexual identity (12). Moreover, Mascarenhas et al. have reported self-esteem as one of the main consequences of infertility, which is consistent with the results of this study (2). Reviewing the sub-categories of social self-esteem (fear of negative evaluation, having anxiety in discussions about childbirth, and tendency to loneliness) more clarifies the fact that infertile men are seriously worried about the perceived negative social feedback, internalize their underestimation and hence distance themselves from disturbing environments.

The second extracted theme was negative emotions, which consisted of the two subcategories of frustration and general inefficacy. Almost all research done on infertility, demonstrate various aspects of negative emotions, such as sadness and frustration (2, 18, 19, 20). In Hasanpoor-Azghdy et al (8) who conducted a similar study on women, one of the extracted themes was emotional reactions which included fear, anxiety, worry, loneliness, sense of guilt. The researchers seem to have focused on the details of the interviews and have not conceptualized them. Inefficacy and frustration are more general and abstract concepts. In this study, frustration means the set of negative emotions and feelings and inefficacy means lack of belief in one's abilities in doing daily affairs. In a study conducted on the lived experiences of 10 men affected with infertility, Fahami et al. (21) reported individual stress as one of the extracted themes and one of the components of negative emotions. Joja et al (18) also counted inefficacy as a condition experienced by infertile men. However, they limited it to inadequacy in relation to their societal role, eventually feeling responsible for denying their wives a child. Sadeghian et al. (19) demonstrated that infertile couples suffer from more stress and lower mental health than fertile couples. Taqhavi et al. (20) stated that infertile men display more anxiety and physical complaints than infertile men. This is in line with the results of this study.

Marital inadequacy, including the two subcategories of sexual and supportive inadequacies, was the third extracted theme. This theme refers to men's helplessness in his marital roles. A large number of studies have reported on the communicative and marital problems, which somehow result from men's impaired inadequacy, as the consequences of infertility (17-14). Mascarenhas et al. have rooted this inadequacy back to the sense of inferiority (2). Fahami et al (21) have considered men's marital inadequacy as a subcategory of communicative problems. What distinguishes this theme from the first theme (social self-esteem), lies in both the addressees and the topic of inadequacy. Social self-esteem was addressed to the public, even those who were not aware of the men's problem. However, the inadequacy discussed here includes aspects of marital life and arises from men's continued concern for their impaired fertility.

The study at hand was qualitative in nature and conducted an in-depth analysis of the perceptions of infertile men; an issue, which has been less, studied so far. However, it is limited by context dependency and can't be generalized to other situations. Although the criteria proposed by Goba and Lincoln (26) were taken into account in this study, but it is possible to observe different results extracted from different groups of men. Scholars can conduct related research in different cultural contexts so as to help confirm or refine the findings of this study.

Conclusion

The study at hand delivered results on the psychological and emotional consequences observed in infertile men. These findings can be used in psychological interventions and treatments of such men. Further, these themes can be utilized to develop psychotherapy programs to improve the lives of these men and ultimately strengthen the couple relationships.

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Conflicts of Interest

The authors declare that they have no competing interests.

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