

Women's beliefs about infertility and sexual behaviors: A qualitative study

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ABSTRACT

Background: Infertility is a reproductive health problem and its prevalence is increasing in developing countries. This problem has some significant effects on the sexual behaviors of infertile women, especially during infertility treatment periods. Discovering the existing beliefs in the field of sexual and reproductive health and also determining the misconceptions would define the educational needs for providing sexual health programs for infertile women. Women should be able to distinguish risky behaviors from healthy behaviors that falsely have been marked as infertility-related behaviors. This qualitative study was conducted to determine women's beliefs about infertility and sexual behaviors among Iranian infertile women.

Materials and Methods: The present study was a qualitative conventional content analysis study conducted on 15 infertile women and 8 key informants until reaching data saturation. Guba and Lincoln evaluative criteria were used for ensuring rigor of the study.

Results: Data analysis defined three classes of beliefs that directly or indirectly affected sexual behaviors in infertile women: 1) Cultural, religious, or ethnic beliefs, 2) believing in the effect of diet on infertility, and 3) effect of the type of intercourse on getting pregnant.

Conclusions: Three themes of religious, cultural, and ethnic beliefs, believing in the effect of diet on infertility, and the effect of the type of intercourse were the most important factors indicating sexual behaviors among infertile women. It seems that cultural and social matters are the most effective factors on sexual behaviors of infertile Iranian women.

Key words: Infertility, Iran, qualitative research, reproductive health, sexual behavior

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INTRODUCTION

According to the report of World Health Organization, infertility is a reproductive health problem and women are especially affected by it.^[1] False beliefs in the field of fertility are caused by lack of knowledge.^[2] If women have sufficient knowledge about reproductive health, they could distinguish risky behaviors and factors that would lead to infertility from healthy behaviors that are wrongly believed to cause infertility.^[3] Fertility awareness campaign believes that studying false beliefs about fertility is necessary.^[2] For example, in a study that was conducted in Saudi Arabia, 60% of participants believed that infertility was caused by evil eye or envy.^[4] Some believed that if a couple adopted a child, the woman would get pregnant,^[5] while in a study that was conducted

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in Iran, adoption was the last solution among infertile couples and they hoped be pregnant.^[6] Since sexual behaviors of infertile women, like others,^[7] would be affected by culture, religion, and family,^[8] misconceptions about infertility and sexual matters would cause an undesirable effect on couples' relationship.^[9] These beliefs vary from the futility of intercourse to begging fertility Gods for having a child.^[10] Literature review revealed that most of the studies were about general matters and a few have exclusively considered studying misconceptions about sexual behaviors in infertile women. Considering that sometimes these beliefs would affect the principles of the intercourse which are to enjoy, with no obligation and being healthy, this qualitative study was conducted to determine the beliefs about infertility and sexual behaviors among Iranian infertile women.

MATERIALS AND METHODS

The present study is a conventional content analysis qualitative study. This study was approved under license no. SBMU2.REC.1394.7 by the ethics committee of Shahid Beheshti nursing and midwifery faculty. Targeted sampling lasted from August 2014 to February 2015 until data saturation. Sampling environment was Infertility Medical-Research Center of Yazd affiliated to Yazd University of Medical Sciences, and participants were 15 infertile women who referred to Yazd infertility center and 8 key informants including 3 infertility subspecialists, 1 clinical psychologist, 1 psychiatrist, 1 urologist, 1 midwife, and 1 nurse. The inclusion criteria for patients were: Being diagnosed as infertile by a specialist at least 2 years ago, speaking Farsi, being officially and permanently married, and willingness to participate in the study. Exclusion criterion was unwillingness to participate in the study. The inclusion criteria for key informants were: Working at the infertility center for at least 2 years, being a medicine, nursing or midwifery, graduate, and willingness to participate in the study. From all the participants who wanted to participate in the study, written and oral informed and voluntarily consent form was obtained.

For gathering the data, in-depth semi-structured interview with instructions for questions was used. The instructions were obtained by reviewing the literature, from counseling experts, and by conducting some pilot interviews. Interviews were started with some open questions, for example, "how did your sexual behaviors change after the diagnosis of infertility?", "what sexual behaviors do you think would lead to infertility?", "how do your beliefs affect your sexual behaviors?", and "what sexual behaviors do you perform to increase your fertility?" The aim of open questions and semi-structured interviews was that participants express their

thoughts freely.^[11] Interviews were conducted from 8 am to 1 pm. This time was the most appropriate time to reach the participants. Along with digital recording of the interviews, observation, taking notes in the field, and recalling also were conducted by the researcher. Two participants did not want their voice to be recorded, so their interviews were written by hand and then they were asked to check it. On an average, each interview lasted from 30 min to 1 h. Second and third interviews were conducted in two cases to confirm the data and fill the gaps.

Also, the researcher observed and recorded the behavioral reactions of the participants. The researcher, by reminding issues, tried to make the women fully cooperate. During targeted interviews with key informants, according to their job experiences, the researcher asked them to describe the most common misconceptions about infertility and sexual matters among infertile women.

After each interview, the researcher wrote down the context of the interview using Listen N Write software. The working process was that immediately after each interview, it was written down word by word and then it was coded and after analyzing the interview, the next interview was conducted. For managing the data, MAXQDA v10 was used.

Data were analyzed through conventional content analysis. In this method, codes and classes would be extracted from raw data directly by deductive reasoning. Data analysis was conducted through conventional content analysis and by the systematic method of Graneheim and Lundman. First, after each interview, data were written down and arranged for qualitative content analysis. To achieve concept repetition, the complete text was read several times so that the researcher got acquainted completely with the data before coding. Codes with similar concepts were categorized in same groups and created subgroups. New codes were added to the primary table. Subclasses were placed inside classes. Codes were compiled through time aggressively and this was ended by analyzing the last written notes.

Guba and Lincoln evaluative criteria 1989 (including credibility, fittingness, transferability, confirmability, and dependability) were used for precision and accuracy of the data. Credibility was achieved through researcher's long interaction with the data and review of the data by the participants and research team colleagues. By peer checking and reviewing, four participants were asked to approve the precision of the typed texts. Also, the research team members coded some of the interviews separately and evaluated their similarities and in cases of conflicts, they reached consensus after counseling sessions. For

transferability and fittingness, all the procedures must richly and completely be explained. So, we tried to present participants’ quotes as they were said. Also, demographic characteristics of participants and studied field were demonstrated in detail, so that the reader could decide about using the results. Choosing key informants with at least 2 years of working experience at the infertility center and interviewing with people from different ranks also helped in transferability. Confirmability was evaluated through controlling the data by outside observers familiar with qualitative study and reproductive and sexual health, meaning that some parts of the interviews with their codes and extracted classes were evaluated and approved by two observers familiar with qualitative study. Dependability of the stages of the study is thoroughly recorded and reported so that others would be able to follow the study, if they wanted to.

Ethical considerations including giving information to the participants about the procedures, permission to leave, permission for recording interviews and taking notes, confidentiality, respecting participants’ privacy during interviews, and keeping the data secret were regarded. After obtaining approval of the project from Shahid Beheshti University of Medical Sciences, a correspondence letter by no. 303/1471 was sent to Yazd infertility center for cooperation. Meanwhile, the proposal of the project was presented at the ethics committee of the infertility center and study’s procedures were approved again.

One of the limitations of this study was that only a few infertile women accepted to participate in the study and men did not want to be interviewed about their sexual matters and behaviors. On the other hand, many infertile women who do not refer to infertility centers might also have misconceptions that were out of our reach for interviewing. One of the strengths of this study was the ethnic diversity of the patients who refer to Yazd infertility center.

RESULTS

In this qualitative study 15 infertile women and 8 key informants were interviewed. Women aged from 24 to 45 years and their educational level ranged from elementary school to master’s degree. Educational level of key informants was from bachelor’s degree to clinical specialist physician. Their work experience in the field of infertility was 3 years at least and 30 years at most. The duration of infertility among women was from 2 to 20 years and the duration of infertility treatments was from 2 to 19 years; most of the women had primary infertility [Table 1]. From 135 primary extracted codes, three classes and eight subclasses were formed. Misconceptions that directly or indirectly affected the sexual

behaviors of infertile women were: 1) Cultural, religious, or ethnicity beliefs with three subclasses, 2) effect of diet on fertility with two subclasses, and 3) effective sexual behavior on fertility with three subclasses [Table 2 demonstrates the classes and subclasses].

Class 1: Cultural, religious, or ethnicity beliefs

Effect of masturbating on infertility

Approach toward the effect of masturbating on infertility was different. Some participants believed that masturbating caused infertility: *“I think it is not good for men to masturbate ... maybe masturbation weakens the body ... I think it does.”* (34-year-old woman, type of infertility: Secondary female infertility)

Some participants did not think that masturbation had an effect on infertility: *“Although some people say that masturbation causes infertility ... but I don’t think it does....”* (45-year-old woman, master’s degree, male infertility for 19 years).

Table 1: Profile of participants

Demographic status	Category	n
Age	Up to 35 (years)	11
	Over 36 (years)	4
Educational level	Under diploma	3
	Diploma	6
	Academic	6
Length of infertility	<5 years	4
	≥5 years	11
Female job	Housewife	13
	Employed	2
Cause of infertility	Female factor	8
	Male factor	7
	Both	0
	Unknown	0

Table 2: Main categories and subcategories about infertility, misconceptions, and sexual behavior

Infertility, misconceptions, and sexual behavior	
The main category	Subcategory
Cultural, religious, or ethnic beliefs	Impact of masturbating on infertility
	Woman guilty in every type of infertility
	Role of superstition in fertility
Believing in the effect of diet on infertility	The effect of eating warm-natured or cold-natured foods on the success rate of IVF
	Role of herbal medicines in fertility
Effect of the type of intercourse on the success rate of getting pregnant	The effect of the number of intercourses on fertility
	Not believing in the effect of having intercourse on specific days of menstrual cycle on the success rate of getting pregnant

Women's guilt in every type of infertility

Some participants mentioned that Iranian men believe that in every type of infertility, women are guilty and this would reduce women's sexual drive and their desire for their husbands: "The matter is that in Iran, most of the people believe that women are guilty. Although my husband has no sperm count, still believes that it is my fault ... when he thinks like this, I don't want to be with him." (24-year-old woman, elementary school, male infertility for 6 years).

Role of superstition in fertility

One of the participants mentioned that to increase the likelihood of conception, her mother-in-law gave her a special jabber to tie on herself during intercourse: "My mother-in-law has got me a jabber from a prayer writer to tie to my hand while intercourse so that as they say 'the baby catches,' all the time of the intercourse, I'm worried that the jabber would fall off." (30-year-old woman, middle school, female infertility for 10 years).

Class 2: Believing in the effect of diet on fertility

The effect of eating warm-natured or cold-natured foods on the success rate of IVF

Since in Iranian traditional medicine some foods are introduced as warm-natured (like date, mango, and cinnamon) and some as cold-natured (like chicory and watermelon), some participants believed that these types of foods were effective on the success rate of IVF: "During the treatment period, I mostly eat warm-natured foods like dates so that I get pregnant..." (43-year-old woman, bachelor's degree, male infertility for 6 years).

Role of herbal medicines in fertility

Some of the participants referred to herbal medicines store to improve their productivity: "Once I went to a herbal medicines store and he/she gave me a powder to incense my vagina with it ... sometimes he/she gave a decoction to my husband to strengthen his sperms." (45-year-old woman, master's degree, male infertility for 19 years).

Class 3: Effect of the type of intercourse on the success rate of getting pregnant

The necessity of holding the feet high after intercourse

Most of the participants believed that holding the feet high after intercourse would increase the chance of getting pregnant: "I do not go to the bathroom after intercourse and hold my feet high to conceive." (26-year-old woman, diploma, female infertility for 6 years).

The effect of number of intercourses on fertility

Some of the participants believed that the more the number of intercourses in a day, the higher the chance of getting pregnant. But some others had intercourse with long

intervals: "The number of our intercourses has increased since the diagnosis of infertility; sometimes my husband wants to have sex 2-3 times a day..." (26-year-old woman, diploma, female infertility for 6 years).

Not believing in the effect of having intercourse on specific days of menstrual cycle on the success rate of getting pregnant

Some women are not aware of their menstrual cycle and the importance of having intercourse on days when the chance of ovulation is higher: "Most of the patients do not have knowledge about menstrual cycle; if there will be enough time we would explain to them why it is important to have intercourse around that time, but most of them do not know..." (Midwife, 6 years of working experience).

DISCUSSION

After data analysis, the class of cultural, religious and ethnicity beliefs was the most important class that was discussed in the following subclasses. The first subclass was about the belief in the effect of masturbation on infertility. Some of the participants did not have enough information or believed that it is related to infertility. Some, even for medical purposes, refused to perform masturbation. In this regard, the study of Jain *et al.* showed that Indian women considered masturbation a factor for infertility.^[12] Inhorn revealed that due to illegitimacy of masturbation, some of the infertile men believed that their infertility was caused by masturbation, meaning that they believed masturbation during their teenage years was the reason for their infertility now. They believed that God was punishing them by infertility because of this sin they have committed. Some other believed that by performing masturbation, they have lost their resources of semen and they no longer have enough semen to impregnate their wives. These beliefs could be found among Muslim men with any educational degree.^[13] This matter clarifies the necessity of teaching sexual issues in Muslim societies with proper planning and based on the beliefs of the society. Maybe it is necessary that in medical cases, a special order be issued by the clerics so that the husband would not feel guilty, because performing an illicit act would not cause an undesirable feeling in the person, but the individual's feeling about their act would cause depression and discomfort.

The second subclass was that infertile women believed that Iranian men, even when they were the cause of infertility, considered their wives the cause of infertility. This type of thinking would decrease intimacy between couples and made women have less tendency toward initiating sexual intercourse. As it was mentioned in the study limitations, infertile men did not want to participate in interviews and

researchers were not able to get their opinions directly. But in developing countries, in societies where daughters are born to become mothers, infertility imposes a significant pressure on them.^[14] On the other hand, due to social prejudices, infertility is mostly considered a female problem and women face more familial problems and issues than men.^[15] The responsibility of disease in the field of infertility is on women's shoulders.^[16,17] Studies that have been conducted in Zimbabwe^[18] and Mozambique also showed that infertility is considered a female problem in their cultures too.^[19] Infertile Egyptian men also would try to hide their infertility to feel less ashamed.^[20] While a study that was conducted in the United States showed that American infertile men feel less masculine.^[21] Results of various studies indicate that infertile women are more impressible in developing countries due to masculism prejudices. In this context, when all the fingers are pointed at women, they would be made to do anything to solve the problem, even when they are not the cause of the problem.

The third subclass was turning to superstitions for increasing the chance of getting pregnant by the infertile women or their families. Turning to superstitions for fertility is observed in many developing countries. Indian women would beg the God of fertility "Shiva" for getting pregnant.^[10] When society's awareness is insufficient, superstition becomes common.^[12,22-24] It is recommended that these superstitions should be recognized at infertility centers and necessary trainings in this regard should be provided by medical staff and reproductive health experts.

The second class was about the effect of diet on the success rate of infertility treatments. Some women believed in eating warm-natured foods for success in getting pregnant. The researchers did not find any studies about the effect of warm- and cold-natured foods on the success rate of conception, and it is recommended that more studies about the effect of warm-natured foods like dates and mango and other nutritious foods on improvement of women's fertility should be conducted.

The third class was about the effect of the type of intercourse on the success rate of getting pregnant. Most of the participants believed that they should hold their feet up after intercourse and do not go to the bathroom in order to increase the chance of getting pregnant. Although some websites recommend putting a pillow under feet after intercourse for 20 min to increase the chance of getting pregnant, there are no scientific evidences to support this theory.^[25] In the book "The Infertility Survival Guide," it is said that "Some infertile women stand on their heads after intercourse to increase the chance of fertilization."^[26] Considering that, in normal condition, millions of sperms

would flood toward the womb after intercourse, not going to the bathroom after intercourse for hours and taking unusual positions for improving the rate of fertility do not seem rational and no scientific evidences were found to support the theory of staying in bed after intercourse for improving fertilization.

Another subclass was about the effect of number of intercourses on fertility. Some participants believed that the more the number of intercourses in a day, the higher the chance of getting pregnant, but some others had intercourse with long intervals. Perlis *et al.* suggested that the number of intercourses must be considered in evaluation of infertile couples.^[11] Meanwhile, some couples have this misconception that the more the number of intercourses in a day, the higher the chance of getting pregnant.^[27]

The last subclass was not believing in the effect of having intercourse on specific days of menstrual cycle on the success rate of getting pregnant. Results of the study of Tuschen-Caffier *et al.* insisted on the importance of having intercourse on specific days of menstrual cycle in successful fertilization and mentioned that most of the women do not have knowledge about menstrual cycle and the days that the chance of ovulation is higher.^[28] Since about one-third of all the pregnancies occur independent from medical infertility treatments and, for example, during diagnosis or the waiting period,^[29-32] it feels necessary to provide sexual and reproductive health trainings at infertility centers and indicate that sometimes elementary trainings like the time of ovulation and not being extreme in the number of intercourses could be effective on the success rate of fertilization.

CONCLUSIONS

Three themes of religious, cultural, and social matters, believing in the effect of diet on fertility, and effect of the type of intercourse are the most important factors of infertile women's sexual behaviors. It seems that cultural and social matters are the most effective factors on sexual behaviors of Iranian infertile women. Fortunately, most of these ineffective measures on sexual behaviors are also not risky. Conducting counseling sessions at infertility centers by reproductive health experts is recommended.

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Conflicts of interest

There are no conflicts of interest.

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