Research Article

Waiting Anxiety in Infertile Women Referring to Yazd Infertility Center

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Abstract

Background: Infertility has become a serious problem in societies, which may cause inevitable harm to the mental health of individuals. People suffering from their illness may experience increased anxiety if they wait for some time to receive services.
Objectives: The present study was conducted to determine the status of waiting anxiety in infertile women.
Methods: This descriptive-analytic study was conducted 200 infertile women who consulted the Infertility Center of Yazd for treatment in 2017. The method of sampling was conducted based on convenience sampling (availability sampling). Data were collected with waiting anxiety questionnaire (WAQ). Statistical analysis was done by using SPSS software (version 16.0). The analysis included: (1) descriptive statistics [mean and standard deviation (SD)], (2) chi-square, *t*-test, ANOVA and Pearson correlation coefficient.
Results: The total mean of waiting anxiety in infertile women was 20.69 ± 5.82. Based on the results, the mean of the dimensions were as follows: cognitive dimensions (5.31 ± 2.25), physiologic dimensions (5.24 ± 2.55), emotional dimensions (5.01 ± 2.13) and behavioral dimensions (14.32 ± 2.03). The results also showed that a significant relationship between the total mean of waiting anxiety and cognitive, physiology and behavioral dimensions with duration of infertility exists ($P < 0.05$). In addition, there was a significant relationship between the mean scores of behavioral dimensions with the duration of marriage ($P = 0.04$) and education ($P = 0.015$).
Conclusions: The results of this study showed that infertile women who consulted to the centers were in a moderate condition in terms of waiting anxiety. Therefore, designing and performing effective interventions to reduce the anxiety of infertile women is recommended.

Keywords: Infertility, Women, Waiting Anxiety

1. Background

Infertility is globally considered as a public health issue by the World Health Organization (WHO) (1). Non-occurrence of pregnancy during one year of sexual intercourse is known as infertility without the use of prevention methods (2). About 15% of couples are infertile (3). Over the world, above 70 million pairs suffer from infertility, in which most of them belong to developing countries (4). More than 20% of Iranian couples experience infertility throughout their lives (5).

Infertility is an intricate problem that affects families and couples in different aspects of life (6) and its psychological and social effects cause differences, marital conflicts, violence, exclusion and decline in women's quality of life (7). Approximately 32% of women in the early stages of infertility treatment are at risk of developing mental health problems (8). Anxiety is one of the main problems of patients before diagnostic and therapeutic procedures (9). Fear of unknowns and lack of awareness can also cause anxiety. Expectancy environments are one of the most important stressors, especially in treatment settings. Due to homogeneity with illness and death, the cold environment of hospitals and treatments cause pressure in humans. If a person wants to wait for an hour with pain, suffering and illness, this stress will be multiplied (10). Researchers believe that typical personality is an important factor in the

incidence and control of mental disorders due to the variety of skills and ability of individuals to manage stressful situation. Individuals with personality type A in waiting show different poses in urgent situations. Their usual behaviors include squeezing their fingers with hands regularly, laughing at the corner of the lips, facial movements, and wrinkling in the eyebrows. Socially, these individuals also display certain behaviors during waiting times such as hostility, anger, impatience to sit in long queues and neglect towards the others' turn. Also, types of personality in terms of extroversion and introversion can show different types of anxiety. Individuals with a high level of extroversion are likely to experience more positive events [11].

Various studies have been conducted to investigate anxiety in different groups of the society, patients and infertile people, but no study has been performed on waiting anxiety in infertile people so far. Thus, the researchers decided to conduct this study in order to investigate the waiting anxiety of infertile women.

2. Objectives

The present research was performed to decide the status of waiting anxiety in infertile women.

3. Methods

3.1. Study Design and Population

This is a descriptive cross-sectional study conducted in 2017. The research population in this study was infertile women referred to the Yazd Infertility Center. The sample size was determined to be 200 based on a confidence interval (CI) of 95%, the power of 80% and the existence of at least 2 different score.

3.2. Inclusion and Exclusion Criteria

Women who were not pregnant did not use any contraceptive after one year and were waiting to receive the assisted reproductive techniques and had no history of mental disorder such as depression and anxiety were informed; and after obtaining consent entered the study. Also, patients with a history of mental disorders, anxiety and depression, and sedative medications and those who had experienced traumatic incidents during the past 6 months and those who would not like to participate in the study, were excluded from the study.

3.3. Instrument

The data were collected by a questionnaire including two parts: demographic variables, disease-related variables and waiting anxiety questionnaire (WAQ).

3.3.1. Part 1

The first part of the questionnaire contained demographic variables and disease-related variables including age, level of education, occupation, duration of marriage, duration of infertility diagnosis, number of doctors referred, and history of pregnancy leading to abortion).

3.3.2. Part 2

Waiting anxiety was assessed via the WAQ. This questionnaire was designed by Tavakoli et al. in 2010 [11]. Questionnaires were compared and reviewed by several experts in psychology in terms of appearance of the questionnaire, the use of proper words, and the use of proper grammar. This self-report questionnaire included 20 questions in 4 dimensions including: cognitive dimension (questions of 2, 9, 12, 16, 17), physiologic dimension (questions of 1, 4, 5, 6, 14), emotional dimension (questions of 3, 11, 15, 18, 20) and behavioral dimension (items of 7, 8, 10, 13, 19). The score range of each question was from 0 to 2 points (0 = never, 1 = sometimes, and 2 = always). Scoring for items 3, 11, 15, and 18 was reversed. So, the global score range for questionnaire was between 0 and 40 points.

Reliability of the questionnaire was 0.83, 0.84 and 0.82 using Cornbrash's alpha, two half-tunings and test-re-test respectively, which were satisfactory. In addition, the content validity of the questionnaire was confirmed by the expert panel. In the Saffarinia and Tavakoli study, four factors were taken out that generally explained 67% of the total variance including cognitive, physiological, emotional and behavioral dimensions [12].

3.4. Study Procedure

The method of sampling was conducted based on convenience sampling (availability sampling). In this study, the researchers referred to Yazd Infertility Center for sampling. According to the inclusion criteria, 200 women with a history of infertility admitted in Yazd Infertility Center entered the study after obtaining permission. Researchers explained the aim of the study to participants; then, completed the questionnaire by face-to-face interview with participants until sample size was complete.

3.5. Data Analysis

Statistical analysis was done by using SPSS/16 software. The analysis included: (1) descriptive statistics [mean and standard deviation (SD)], (2) the Kolmogorov-Smirnov test was utilized to evaluate the distribution of quantitative variables, (3) The t-test was used to compare the mean of waiting anxiety and dimensions according to number of children, (4) one-way ANOVA was conducted to evaluate the mean of waiting anxiety and dimensions according to

marriage duration, duration of infertility diagnosis, pregnancy history leading to abortion and the number of doctors referred for treatment, (5) Pearson's correlation were calculated for assessment of correlation between waiting anxiety and dimensions and age. A P value < 0.05 was considered significant.

3.6. Ethical Considerations

Before filling up the questionnaires, the researchers explained the aim of the study to participants. Participation in the study was also voluntary. This article has a license from the research ethics committees of Shahid Sadoughi University of Medical Sciences, code IR.SSU.SPH.REC.1395.77.

4. Results

In this study, 200 infertile women referred to the Yazd Infertility Center were studied. The mean age of subjects was 29.57 ± 5.03 years. The results show that 2.5% of the patients were under age 20, 53.5% were 20 - 30 years old, 39.5% were 30 - 40 years old and 4.5% older than 40 years. Also, most of them had university education (44.2%) and were housewives (85.5%). Table 1 shows the frequency distribution of variables related to the disease in the subjects. The results of Table 1 show that the duration of marriage in most people was less than 6 months (45%) and mostly without children (91%). Also, the duration of infertility diagnosis in most patients was less than 6 months (64%).

The results of this study showed that the total mean score of waiting anxiety was 20.69 ± 5.82 in the range of 0 to 40. Based on the results, the mean cognitive dimensions were 5.31 ± 2.25 in the range of 0 to 10, the physiological dimensions were 5.24 ± 2.55 in the range of 0 to 10, the emotional dimensions was 5.1 ± 2.13 in the range 10.5 and behavioral dimensions of 14.43 ± 2.03 was within the range of 0 to 10. Therefore, the total mean score of waiting anxiety and all dimensions were higher than the mean range.

The results indicated that with the increase in marriage duration, the mean of waiting anxiety and all its dimensions decreased. This difference though, is statistically significant only in behavioral dimensions ($P = 0.04$).

Table 2 shows the mean and standard deviation of waiting anxiety score and its dimensions based on the duration of infertility. According to Table 2, A significant relationship between the mean score of waiting anxiety and cognitive, physiology and behavioral dimensions with duration of infertility was noted.

The results also showed that the total score of waiting anxiety and the score of all subscales increased with increasing education, but this difference was significant only

Table 1. Frequency Distribution of Disease Variables in the Subjects

	No. (%)
Marriage duration, mo	
Less than 6	90 (45)
6 - 12	80 (40)
13 - 24	29 (14.5)
More than 24	1 (0.5)
number of children	
No child	182 (91)
1 - 3	18 (9)
Duration of infertility diagnosis, mo	
Less than 6	128 (64)
6 - 12	48 (24)
13 - 24	12 (6)
More than 24	12 (6)
Pregnancy history leads to abortion	
0	138 (69)
1 - 2	43 (21.5)
3 - 5	12 (6)
> 5	7 (3.5)
The number of doctors referred for treatment	
1 - 2	74 (37)
3 - 5	60 (30)
6 - 10	36 (18)
> 11	30 (15)

in the total mean score of waiting anxiety ($P = 0.05$) and behavioral dimensions ($P = 0.01$).

5. Discussion

The results of this research showed that the total mean score of waiting anxiety in infertile women was approximately equal to the mean range. In the study of Haririan et al. in Orumieh, 58% of infertile women suffered from some degree of depression of which 21% were at the level of clinical depression (13). Infertility and its process are a source of mental suffering for infertile Iranian women which has a devastating effect on the mental well-being of infertile couples (12). In a study by Peyvandi et al. which was conducted on infertile women referred to infertility centers in Sari, 50.5% had no anxiety, 19% had mild anxiety, 17.5% had moderate anxiety, 11% had severe anxiety and 2% had intense anxiety (14). The study of Lakatos et al. showed that the symptoms of depression and anxiety in infertile Hungarian women are more than fertile women (15). The research

Table 2. Mean and standard Deviation of Waiting Anxiety Score and Its Dimensions Based on the Duration of Infertility (Month)

Duration of Infertility, mo	Average	Standard Deviation	P Value
Cognitive subscale			0.013
< 6	5.63	2.1	
6 - 12	4.45	2.2	
12 - 24	4.81	2.8	
More than 24	5.81	1.7	
Physiology subscale			0.043
< 6	5.47	2.01	
6 - 12	4.56	2.07	
12 - 24	4.90	2.1	
More than 24	5.81	1.8	
Emotional subscale			0.31
< 6	5.17	2.1	
6 - 12	4.75	2.2	
12 - 24	5.18	2.08	
More than 24	4.09	2.02	
Behavioral subscale			0.000
< 6	5.53	1.9	
6 - 12	4.06	1.8	
12 - 24	5.18	2.3	
More than 24	5.27	1.8	
Total score			0.001
< 6	21.81	5.4	
6 - 12	17.83	5.9	
12 - 24	20.09	7.2	
More than 24	21	3.8	

done by Namdar et al. indicated that quality of life and general health of infertile women was low in more than half of them, and these women were at risk of anxiety, social dysfunction and depression (16). A study by Carter et al. on infertile women awaiting the receipt of oocyte showed that infertility can affect sexual function, quality of life and emotion (17). The process of treatment of infertility causes stress and anxiety in couples due to uncertainty in the success of the treatment (18). Another important point in this regard is that most cases of infertility are considered as a medical problem. Unfortunately, their mental-emotional dimensions do not matter much. The results showed that the total mean of waiting anxiety, cognitive, physiology and behavior dimensions with duration of infertility had a significant relationship. It showed that people with infertility length of between 12 to 24 months experienced the

most waiting anxiety in the clinic. Therefore, the mean of waiting anxiety was on the increase for a period of 12 to 24 months, and from that time on, it showed a decreasing trend. The study of Dadipoor et al. showed that, the mean of depression decreased with increasing the duration of infertility (19). In the study of Chehreh et al. who examined the severity of anxiety and its relation with the obstetric and infertility factors in pregnant women using assisted reproductive technology, showed that the duration of infertility is one of the factors that affects the severity of anxiety and this trend grows over the years, as the anxiety also increases with the increase in the number of years of infertility (20). The study of Drosdzol and Skrzypulec showed that the duration of infertility is the risk factor of depression and anxiety (21). Ramezanzadeh et al. reported a significant relationship between depression scores and the duration of infertility (22). The research done by Sedighi et al. showed that increasing the duration of infertility and the age of infertile women increases the anxiety during treatment (23).

Waiting anxiety in a doctor's office is an introduction to anxiety for treatment. Anxiety, inadequacy and guilty feelings that is caused due to fertility can cause anxiety in couples. Obstetricians and gynecologists can reduce this anxiety by providing advice and giving enough information. This suggests that as the number of years of infertility increases, the hope for pregnancy decreases, thus, anxiety increases. But after a few years, anxiety is reduced because of getting used to the situation and adapting to the current conditions of life.

In this study, the total mean of waiting anxiety and all its dimensions increased with the increase in education. Nevertheless, a significant relationship between the total mean of waiting anxiety and behavioral dimension with education was noted. The study of Tavakkoli et al. indicated that individuals with university education show higher waiting anxiety rather than individuals who did not finish high school (11). Higher levels of awareness and sensitivity of people with higher education levels leads them to experience more anxiety in the waiting times in the doctor's office. The study of Kalkhoran et al. in comparison to distress, depression and marital satisfaction in two groups of pregnant and no pregnant women in Tehran showed that anxiety, depression and marital satisfaction were not significantly correlated with education in both groups (24).

The use of relaxing colors such as blue and green on the walls, chairs and furniture can provide a relaxing environment for the patients. Walls Without decoration can create anxiety in people. Therefore, the use of beautiful artwork and decoration can create good feelings for the patients. The use of relaxing fragrances such as lavender and orange

in the clinic and waiting rooms can help the patients relax before meeting with a doctor. The use of gentle light and relaxing ambient music will also provide a relaxing environment for the patients (25, 26).

The furniture of the waiting room should be clean and comfortable. Additionally, setting the ambient temperature at lower levels may help reduce stress and anxiety. Placing books and educational pamphlets in various fields can help them focus on something else in addition to raising their awareness. The role of health care personnel in reducing patient anxiety is also very important. Making polite and clear communication with patients from admission to even after treatment can help reduce patient anxiety. The personnel's encounter with a smile, kindness and respect for patients rather than anger and aggression has a huge impact on patient comfort.

One of the limitations of this research is the lack of a similar research on waiting anxiety in infertile women to emphasize the results of the study or compare them with the results of other studies. Therefore, researchers have used the studies that have examined the psychological problems of infertile women. Therefore, other similar studies are recommended.

5.1. Conclusions

The results of this study showed that infertile women who referred to the centers were in a moderate condition in terms of waiting anxiety. Women's anxiety levels can be decreased by certain interventions and taking measures to improve the waiting environment in infertility centers and appropriate psychological counseling as well as providing the necessary information about therapeutic methods. Some changes in the clinical environment can help reduce the anxiety of the waiting time at the office. Adding a TV screen, aquarium and other interesting elements in the clinic will help patients focus on something other than their own pains and difficulties.

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Footnotes

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