

Study of psychiatric disorders among fertile and infertile women and some predisposing factors

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Abstract

Objective: This study aimed to determine prevalence and predisposing factors of psychiatric disorders among infertile in comparison to fertile women.

Materials and Methods: By a descriptive- analytic study in Valiasr Reproductive Health Research Center, 300 women entered the research. Symptom Checklist -90 - Revised (SCL-90-R) test and structured researcher questionnaires were applied for all patients. Demographic characteristics and predisposing psychological and personality factors were recorded and psychological symptoms were scaled. For data analysis, SPSS-11-5 software system, chi-square and T-test were used. P-value <0.05 was considered significant.

Results: Results showed that 44% of infertile and 28.7% of fertile women had psychiatric disorders. Using SCL-90-R test, the highest mean scores among infertile women were found for paranoid ideation, depression and interpersonal sensitivity scales and the lowest scores were related to psychoticism and phobic anxiety scales. Interpersonal sensitivity, depression, phobic anxiety, paranoid ideas and psychoticism scales were significantly different between infertile and fertile women ($p < 0.05$). Housewives were at a statistically significant higher risk for psychiatric disorders as compared to working women ($p < 0.001$).

Conclusion: The significantly higher prevalence of psychiatric disorders among infertile women mandates a more serious attention from gynecologists, psychiatrists and psychologists regarding to diagnosis and treatment of these disorders.

Key Words: *Psychiatric disorders, Infertility, SCL-90-R*

Introduction

Special attention has been paid to psychological health of infertile couples during the last few years. Infertility is doubtlessly a severe distressful experience for many infertile couples.

Freeman et al (1987) reported that 50% of couples considered infertility as the most disappointing experience in their lives. Another study performed by Mahlstedt et al (1987) showed that 80% of infertile couples described infertility as a stressful or very stressful experience. Other researchers have paid special attention to fields such as health problems, lack of self-confidence, feeling of grievance, threat, depression, sin, disappointment, marital problems

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and they believed that the above factors are related to fertility (1-5). During the past few years, many researches have been devoted to anxiety and depression associated with in-vitro fertilization (IVF), especially during egg retrieval or embryo transfer which are mostly known to be due to the fear of treatment failure and lack of hope of having a child (6-9). It is shown that high levels of anxiety among women who conceive by IVF can lead to more complications in the newborn and even furthermore, the methods used in the treatment of infertility impose significant stress on these subjects (10). Overall prevalence of psychiatric problems among infertile couples has been estimated to be around 25%-60% (11-12). Different factors including, flexibility and mood stability, or psycho-social and marital relationship during IVF therapy play important roles in helping women to cope with infertility and to bring about satisfaction towards infertility treatment methods (6, 13-15). On the other hand, counseling and supportive psychotherapy are very effective in decreasing the rate of anxiety among couples undergoing infertility treatment (3).

SCL-90-R is a 90-item questionnaire designed to assess psychological symptoms and was initially used to show the psycho-cognitive aspects of psychological and somatic diseases after being developed by Derogatis, Lipman and Cori in 1973. The test was subsequently altered based on clinical experience of psychoanalysis. In the study performed in Iran the validity of this test was more than 0.8 in all aspects except for aggression, phobic anxiety, and paranoid ideation and its construct validity indicates that it can be used as a means of screening or diagnostic tool in psychiatric disorders throughout (16). In Iran, no similar study has been performed on the psychiatric and personality disorders among infertile women. This study aimed to evaluate the

prevalence of psychiatric disorders and their predisposing factors among infertile in comparison to fertile women. The scope of the study is focused on improving the mental health of infertile women.

Materials and methods

This cross sectional descriptive analytic study was performed on 150 infertile women attending the Infertility Clinic of Vali-e-Asr Reproductive Health Research Center and another 150 fertile women attending the Gynecology Clinic of Imam Khomeini Hospital between March 2005 and June 2006. The subjects were enrolled in the study based on the consequence of their arrival. After being informed by a psychologist about the aims of the study a written consent was taken. Data were recorded in SCL-90-R and structured researcher questionnaires. The ninety items of SCL-90-R test assesses the following nine aspects:

- 1-Somatization
- 2- Obsessive-compulsive disorders
- 3- Interpersonal sensitivity
- 4- Depression
- 5- Anxiety
- 6- Aggression
- 7- Phobic anxiety
- 8- Paranoid ideation
- 9- Psychoticism

The response given for each item is in the form of a 5-point severity response scale reflecting, none, rarely, to some extent, mostly, and severe degrees with minimum and maximum scores being zero and four, respectively. Derogatis in 1983 used internal validity and test-retest reliability to assess the 9 aspects of this test. The internal validity of the SCL-90-R test was satisfactory for nine aspects with the highest and lowest association being for depression (0.90) and psychoticism (0.77), respectively. Test-retest reliability ranged between 0.78 and 0.90 (16). In our survey the

questionnaires were completed by a psychologist via a semi-constructed interview. After initial assessment and interview with 20 patients, primary data were obtained and organized and its reliability was confirmed by experts. The information derived from this questionnaire was first entered into an SPSS-11-5 software system and subsequently analyzed using chi-square and T-test. P value <0.05 was considered significant.

Results

A total of 150 fertile women 17-45 years old (mean =31.6± 5.5) and 150 infertile

women (age range 8-42 years, mean=27.7 years; SD=5.2) were enrolled in this study. Duration of marriage was 1-28 years (mean=12 years, SD=5.5) in fertile women and 2-25 years (mean=7 years, SD=4.6) in infertile women. Duration of infertility was generally 1-25 years (mean=6.1 years, SD=4.4). Table 1 shows demographic characteristics of the participants. The prevalence of psychological disorders was 44% in infertile and 28.7% in fertile women ($\chi^2=7.6$, $df=1$, $p<0.05$). Two patients had a history of taking psychotherapeutic medication without referring to psychiatrist.

Table 1: Demographic characteristics and medical history of understudy women

	Fertile group (%)	Infertile group (%)
Education		
Primary school	25 (16.7)	33(22)
Secondary school	38(25.3)	33(22)
High school	47(31.3)	63(42)
Academic degrees	40(26.7)	21(14)
Occupation		
Housewife	104(%69/3)	119(%79/3)
Working woman	46(%30/7)	31(%20/7)
History of visiting a psychiatrist	24(%16)	19(%12/7)
History of taking psychotherapeutic drugs	26(%17/3)*	19(%12/7)

*Two patients had a history of taking psychotherapeutic medication without referring to psychiatrist.

Table 2 shows the mean and standard deviation of the scores obtained in the SCL-90-R test. As shown in table 2, the highest mean scores among infertile women were found in respect to paranoid ideation (1.4), depression (1.3), and interpersonal relationship (1.12), with a mean coefficient equal to one. The highest mean scores among fertile women were in respect to paranoid ideation (1.18), depression (0.98), and somatization (0.93) and mean coefficient was 0.83 in this group. These symptoms were not significantly different among fertile and infertile women. However, the scales related to interpersonal sensitivity ($p<0.001$), depression ($p<0.001$), phobic anxiety ($p<0.001$),

paranoid ideation ($p<0.05$) and psychoticism ($p<0.005$) showed a significant statistical difference between fertile and infertile women.

According to the findings in table 3, most stress factors among infertile women are related to the reaction of other people, feeling of loneliness, and treatment of infertility. Financial factors ($\chi^2=0.02$, $df=1$, $p=0.9$) and sexual factors ($\chi^2=8.8$, $df=1$, $p=0.05$) are among the most important predisposing stress factors causing psychological disorders. Results show that there is no relationship between level of education, cause of infertility or history of medical treatment for infertility and psychological disorders.

Table 2: Result of SCL- 90-R test in two groups

	Infertile mean (SD)	Fertile mean (SD)	p-value
Somatization	0.94 (0.66)	0.93(0.65)	NS
Obsessive-compulsive disorder	1.06(0.7)	0.92(0.64)	NS
Interpersonal sensitivity	1.12(0.68)	0.81(0.61)	<0.001
Depression	1.3(0.7)	0.98(0.75)	<0.001
Anxiety	1(0.76)	0.9(0.7)	NS
Aggression	0.8(0.61)	0.7(0.58)	NS
Phobic anxiety	0.58(0.55)	0.49(0.46)	0.002
Paranoid ideation	1.4(0.74)	1.18(0.73)	0.013
Psychoticism	0.73(0.52)	0.56(0.48)	0.003
GSI	1(0.54)	0.83(0.52)	0.006
PST	46.3 (17.95)	40.99(18.87)	0.014
PSDI	1.87(0.47)	1.71(0.47)	0.004

GSI: Global Symptom Index

PST: Positive Symptom Total

PSDI: Positive Symptom Distress Index

Table 3: Stress factors among infertile women

Stress factors	n (%)
Financial problems	72(48)
Sexual disorders	42(28)
Marital problems	48(32)
Divorce	47(31.3)
Second marriage	49(32.7)
Family intervention	51(34)
Identity disorder	76(50.7)
Social acceptance	42(28)
Feeling of loneliness	111(74)
Others attitude	122(81.3)
Treatment of infertility	91(60.7)
Change of behavior of husband	41(27.3)
Change in interest of husband	39(26)
Woman named as infertile	59(39.3)
Feeling of inability to reproduce	51(34)
Lack of hope	62(41.3)
Incomplete family	78(52)
Lack of safety and support	21(14)
Annoyance	28(18.7)
Women wanting a child	63(42)
Husband wanting a child	32(21.3)
Feeling of motherhood	30(20)
Future problems	12(8)

Discussion

The results of this study show that 44% of infertile women and 28.7% of fertile women have psychological disorders, which are about two-fold among infertile women and indicates the importance of psychological aspects of infertility in Iranian ladies. In the study performed by Noorbala et al in 1999, the prevalence of psychological disorders was found to be about 27.85% in Tehran (17). Bjorn et al (1992) reported this figure to be 35.2% among infertile women (18). Lu et al (1995) reported that 83.8% of the disorders were mild, and 52% were moderate-severe in intensity among infertile women as compared to women in the control group and psychological disorders are significantly more prevalent among infertile women. However, some reports indicate that there is no significant difference between the 9 scales of the SCL- 90- R questionnaire among fertile or infertile women (19). Considering the results derived from the present study the prevalence of psychological disorders among infertile women in Iran is higher than western countries and lower than eastern countries (18-19). The present study shows that infertile women obtained higher scores for paranoid

ideation, depression, interpersonal sensitivity and lower scores for psychoticism and phobic anxiety. Comparing fertile and infertile women, there was no significant statistical difference between somatization, obsession-compulsion, anxiety, or aggression while there was a significant difference with interpersonal sensitivity, depression, panic phobia, paranoid ideation and psychoticism. The results of this study show that the most important stress factors which cause psychological disorders in infertile women include the reaction of relatives and friends, feeling of loneliness, and treatment of infertility. Financial and sexual factors are also shown to act as one of the most important factors in psychological and personality disorders of infertile women. The present study showed that there is an association between psychological disorders and high school level of education, and duration of infertility. Also, women aged between 26-30 years are at higher risk of developing psychological disorders. The results of our study also show that the prevalence of psychiatric disorders is associated with occupation being more prevalent in housewives as compared to working women. Noorbala et al (1999) reported that psychiatric disorders are more frequent among housewives than working women in general population in Iran (17). However, in the study performed by Yaghoobi et al (1995), the rate of psychiatric disorders was reported to be higher among working women (16). It seems that in this aspect, our findings show controversy with some other studies, which may be due to cultural differences or method of data collection. Regarding the results derived from this study, specialists must be aware of the importance of psychological factors in these patients and in the treatment of infertility. These subjects should be identified and psychiatric counseling, especially

supportive therapy should be within the general framework of treatment for infertility in order to improve the mental health with a possible effect on fertility rate. Based on the findings of this study, we propose the following:

1/ Gynecologists should be made aware about the prevalence of psychiatric and personality disorders among infertile women and their need for being referred to psychologists or psychiatrists.

2/ Counseling methods, especially supportive psychotherapy, should be considered for infertile women in order to improve their mental health and increase their chance of conceiving.

3/ Treatment of women in all infertility centers should be through the combined and close work of both gynecologists and psychologists and psychiatric counseling centers should be set up in these centers.

4/ The media should make the public, especially infertile women, aware about the importance of combined use of psychotherapy and routine treatment to treat infertility. This can help increased success rate of infertility treatment and can improve the quality of life of these patients.

5/ The media should make family members of infertile women aware about the importance of morality and the help and support they can give to these individuals to decrease mental stress.

6/ The Social Welfare Society and other related centers should work in cooperation in order to facilitate the process of child adoption in these individuals.

As the final conclusion considering the high prevalence of psychiatric disorders among infertile women, it seems that more serious attention is required from gynecologists, psychiatrists and psychologists regarding to these disorders. The use of psychotherapy, especially supportive methods, should be considered as part of the general therapeutic framework of infertility.

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