

Comparative Study of Irrational Beliefs and Personality Traits in Infertile and Fertile Women

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ABSTRACT

Infertility as one of the most unpleasant life experiences imposes various inadaptabilities and psychological disorders on a person and infertile couples. Today the rare developing studies which be shown that psychological factors can intervene in causing infertility and also infertility can have many psychological outcome. In this matter, the main purpose of present research is comparative study of irrational beliefs and personality traits in infertile and fertile women.

Statistical universe of this research are all infertile women of Guilan province. The sample of present study includes 300 persons (150 infertile and 150 fertile women) which for infertile women, accessible sampling method and for fertile women, purposive sampling method was selected.

In this research, Ahvaz irrational beliefs questionnaire (2005) and Neo personality questionnaire (NEO-FFI) were used. In this study, in addition to using descriptive indexes, independent t-test and F were used for comparing research constructs. The results of this study indicated that there is significant difference between irrational beliefs and personality traits of infertile and fertile women.

KEY WORDS: irrational beliefs personality traits infertile and fertile

INTRODUCTION

In the present world, infertility is being increased and is becoming a social worry (Mohammadi Hoseini, 2001). This problem is considered as a serious tension in life and is a severe psychological shock to couples (Hwak, 2004). Infertility is defined as absence of pregnancy during one year of copulation without using prevention methods (Richlin, Shanti and Murphy, 2003). Pregnancy is an important stage for many couples and inability to become pregnant means stress and anguish and investigation of its impacts is a real challenge (Raskano and Veladika, 2012). Infertility rate is 5-30% in different countries. In Iran, as an estimate, more than 2 million people have infertility problems. WHO showed that psychological factors can be both effective in infertility and can be considered as its implications (Shakeri et al, 2006). Researchers pay special attention to hygienic problems, absence of self-confidence, anguish feeling, threat, depression, disappointment and marital problems in infertile women and believe that some of the above factors have relationship with fertility (Volgsten et al, 2010). Some people also consider psychological pressure as a cause for infertility because relationship between psychological stress and infertility usually constitutes a vicious circle which strengthens each other in a mutual impact. Infertile couples who consider themselves as guilty for infertility may intensify the psychological pressure by criticizing them (Erica and Taylor, 2002). Infertility is a common problem with physiological, individual, economic and medical complexities. Infertility means absence of pregnancy after one year of copulation in couples who tend to have baby. In general, 10-15% of women experience infertility (Right and Jonson, 2008). Katirayee et al (2010) showed that infertile women use irrational beliefs and defensive mechanisms more than fertile women. Another factor which can influence infertility is individuals' personality. Individuals with different personality traits face problems in different manners. Personality is influenced by environment and genetics and has different traits. Personality traits are deeply related to an individual's perception of the world and his or her response to stressful events. It is natural that some personality traits are more flexible than other traits. Individuals who have inflexible personality traits and also those who cannot match their responses with demands of a special situation lack life skills and express the worst responses to life (Rasti et al, 2012). Many studies showed that infertile couples experience different problems (Lu et al, 2008; Sebarzoli et al, 2008). Furthermore, the results of Najjarpour Ostad et al (2010) showed that there is a positive and significant relationship between personality traits and irrational beliefs and neuroticism can predict irrational beliefs. The results of Rasti et al (2012) showed that neuroticism in infertile women is more than that of fertile women and fertile women had more extroversion than infertile women did. Abolghasemi et al (2008) compared

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neuroticism personality trait in fertile and infertile women and reported that this personality trait is more in infertile women than fertile women. Verhaak et al (2005) showed that neuroticism personality trait is related to depression disorders and anxiety in infertile women and men who received IVF treatment. Chang (2001) showed that infertile women and men undergo anxiety and depression and guilty conscience because of infertility-driven stress. Domar et al (2000) showed that most infertile women experience anxiety and depression and have higher scores in obsessive-compulsive disorder, inter-individual sensitivity, depression, anxiety, hostility, fear and pessimism than fertile individuals. Peterson et al (2004) found that there is higher levels of stress and depression in infertile men and women. The results of studies conducted by Salvatore et al (2001) showed that women who received infertility treatments had higher levels of anxiety and sentimental stresses than control group. Matsobayashi et al (2004) also showed that emotional stresses and psychological stress in infertile women is more than that of fertile women. Veis et al (2004) showed that infertile group and control group did not have significant differences in the field of socio-psychological variables. The present research tries to find an answer to this question: whether there is a significant difference between irrational beliefs and personality traits in infertile and fertile women?

METHODOLOGY

Statistical population, sample and sampling method

Considering the main target of the research-which is investigation of irrational beliefs and personality traits in infertile and fertile women-it is a causal and comparative research. The statistical population of the research included all infertile women in Guilan province. Furthermore, fertile women were also investigated. In the present research, accessible sampling method was used for picking infertile women and purposeful sampling method was used for picking fertile women. 150 infertile and 150 fertile women were selected.

Research instrument

1. Irrational beliefs questionnaire: Ahwaz irrational beliefs index (4IBI-A) was built by Ebadi and Motamedin (2005) using Jones' irrational beliefs test (1969) by means of factors analysis method. They implemented the main form on 360 students for preparation of this questionnaire and selected 143 people by means of random sampling in order to test reliability and validity. The implemented Jones' irrational beliefs test and Ahwaz irrational beliefs test simultaneously and obtained validity coefficient to be equal to 0.87. they used Cronbach's alpha and bisection methods for measurement of reliability (alpha coefficient was equal to 0.759). all 40 questions of Ahwaz irrational beliefs index are scored from zero to 4 for options (completely disagree to completely agree).
2. NEO-FFI questionnaire: NEO questionnaire is one of the main questionnaires for evaluation of personality based on factor analysis viewpoint. NEOPI-R questionnaire took place of NEO test in 1985. It was introduced by Mac Cary and Costa. The answer sheet of this questionnaire was based on Likert scale (completely disagree, disagree, indifferent, agree and completely agree). A long 6-year study of neuroticism, extroversion and openness to experience revealed reliability coefficients between 0.68 to 0.83 in personal reports and also in couples reports. Reliability coefficients for adaptability and conscientiousness were equal to 0.79 and 0.63 in two years (Mac Cary and Costa, 1983; as quoted from Garousi Fareshi, 2001). Correlation coefficients of the five main dimensions ranged from 0.56 to 0.87 in a normalization of NEO test which was conducted by Garousi Fareshi (2001) on a sample with 2000 members of students of Tabriz, Shiraz and Medical Sciences universities. Cronbach's alpha coefficients for main factors: neuroticism, extroversion, openness, adaptability and conscientiousness were equal to 0.56, 0.68, 0.73, 0.68 and 0.87, respectively.

Statistical data analysis

In the present research, we used independent t test and also F test for comparison of variables, in addition to descriptive indices. All analyses were conducted by means of SPSS20 software package.

RESULTS

As it can be seen in table 1, mean value of irrational beliefs scores in infertile and fertile women were equal to 130.25 and 112.05 respectively. Mean value of irrational beliefs score in infertile women was more than that of fertile women ($p < 0.01$).

Table 1. mean, standard deviation and t score for irrational beliefs

group	mean	SD	T	sig
Infertile women	130.25	18.58	8.44	0.01
Fertile women	112.05	18.75		

Considering equality of variances of groups which was conducted by means of Leven's test ($p \geq 0.05$), t value for irrational beliefs is equal to -8.44 assuming equal variances. This value is statistically significant ($p < 0.01$). moreover, infertile women had more irrational beliefs than fertile women.

Table 2. Descriptive indices for personality traits in infertile and fertile women

variable	group	mean	SD
extroversion	Infertile women	40.47	4.73
	Fertile women	42.34	4.46
adaptability	Infertile women	34.59	4.97
	Fertile women	32.93	4.18
conscientiousness	Infertile women	41.24	3.68
	Fertile women	41.95	3.34
neuroticism	Infertile women	33.61	4.97
	Fertile women	32.41	5.3
flexibility	Infertile women	37.67	3.74
	Fertile women	38.03	3.79

In order to investigate significance of the observed differences, the results of multivariate variance analysis test are presented. However, before that, the assumptions of this test are evaluated.

Table 3. Box test for investigation of homogeneity of matrix

Box's M	82.36
F	5.39
DF₁	15
DF₂	357552.95
Sig	0.01

As it can be seen in Box test, considering the insignificance of $\text{Sig}=0.01$, $F(15, 357552.95)=5.39$, homogeneity of variance-covariance matrices condition is rejected and we should care about interpretation.

Table 4. Levene's test for investigation of equality of variance of personality traits in infertile and fertile women

variable	F	df ₁	df ₂	sig
extroversion	1.32	1	298	0.25
adaptability	1.25	1	298	0.27
conscientiousness	2.29	1	298	0.13
neuroticism	0.09	1	298	0.77
flexibility	0.49	1	298	0.49

Leven's test is conducted for investigation of equality of variances. As it can be seen in table 4, all dimensions except for neuroticism have significance levels for F s greater than $p \geq 0.05$. Therefore, difference in variances is not statistically significant and the hypothesis of equality of variances holds. Therefore, the results of multivariate variance analysis are presented as follows:

Table 5. The results of personality traits comparison test in infertile and fertile women

Variations source	Sum of squares	Degree of freedom	Mean of squares	F	Significance level
extroversion	261.33	1	261.33	12.39	0.01
error	6285.05	298	12.09		
adaptability	205.01	1	205.01	9.72	0.01
error	6287.71	298	21.1		
conscientiousness	37.45	1	37.45	3.04	0.08
error	3672.93	298	13.33		
neuroticism	106.8	1	106.8	4.04	0.05
error	7870.18	298	26.41		
flexibility	9.36	1	9.36	0.66	0.42
error	4234.79	298	14.21		

Considering the results of table 5, there are significant differences between infertile and fertile women in extroversion $F(298, 1)=12.39$, adaptability $F(1, 298)=9.72$ and neuroticism $F(1, 298)=1.04$ ($p < 0.05$). in extroversion, fertile women had higher mean values than infertile women and in adaptability and neuroticism, infertile women had greater mean values than fertile women. Furthermore, there were no significant differences between infertile and fertile women in conscientiousness ($F(1, 298)=3.04$ and flexibility $F(1, 298)=0.66$ ($p \geq 0.05$).

DISCUSSION

The results of the present research showed that there are significant differences between irrational beliefs in infertile and fertile women. This result is consistent with the results of Honarparvaran et al (2012), Katirayee et al (2010), Wang (2004) and Trokes and Paul (1998). This result may be attributed to experience of negative emotions. In particular, infertile couples may have some temporary images of them which may reduce their self-esteem due to negative attitudes they have towards other people (fertile) and due to anger and jealousy towards others (Alizadeh et al, 2005). This can affect psychological and physical health, individual's attitude towards social and physical environment and may reduce their motivation for doing works and make them depressed (Hatamlouy Saad Abadi; Hashemi Nosrat Abadi, 2012). On the other hand, considering the importance of infertility within the framework of our culture and society's confrontation with individuals who suffer this problem, infertile women are expected to confront with this problem emotionally (Heidari et al, 2011). Furthermore, the results of the present research showed that there is a significant difference between personality traits in infertile and fertile women and fertile women had greater scores in extroversion personality trait and infertile women had smaller scores. As a result of a physical problem (like infertility), the individual becomes isolated and leaves inter-personal relations. These results are consistent with the results of studies conducted by Rasti et al (2012) and Moghanlou et al (2009). They also had found that extroversion has a relationship with physical health. As explanation of this result, it can be said that extrovert individuals spend more time with other people and being in a group is happier than being lonesome for them. Further, they experience more active reward systems and more positive motions (Rasti et al, 2012). Moreover, the results of the research showed that infertile women had greater scores in neuroticism and adaptability. This result is consistent with the results of studies conducted by Rasti et al (2012), Abolghasemi et al (2008) (who reported greater values for neuroticism in infertile women), Njmi et al (2001) (who investigated three dimensions of neuroticism (anxiety, depression and hostility) and Jamilian et al (2011) (who investigated two dimensions of neuroticism (depression and anxiety)). Further, this result is consistent with the results of Chang (2001), Yopkong and Oraji (2002), Gas et al (2003), Domar et al (2000), Matsobayashi et al (2004), Peterson et al (2004), Matsobayashi et al (2001) and Salvatore et al (2001) and is not consistent with the results of Veis (2004). As explanation, it can be said that many basic issues like personal identity and way of selling oneself is highly dependent on having baby (Muhammadi and Farahani, 2001) and infertility creates some kind of a sense of defectiveness and results in emotional misery like anxiety, depression, aggression (one of the dimensions of neuroticism), absence of energy, distress and unhappiness (Mousavi et al, 2013). Considering negativity of dimensions of neuroticism, an infertile individual is not flexible and expresses more limited responses to different situations. Therefore, he or she is expected to have ineffective and inappropriate responses to life problems. Women are more vulnerable to men due to age restriction in fertility (Pahlavani et al, 2001). neuroticism makes people susceptible to experience negative emotional states and it is not surprising that neuroticism has a positive significant correlation with absence of psychological health (Dwnev & cooper, 1998). Consciousness factor which has some elements like efficiency, discipline, dutifulness, attempt for progress and self-regulation was the same in both groups. This means that cleanliness, dutifulness and attempt for achieving goals (in infertile women like becoming a parent and reference to infertility centers) are observed in people. These features are considered as good for women in our society (Rasti et al, 2012). In general, the results showed that irrational beliefs and personality traits influence infertility. Further, infertility can bring irrational beliefs and some neuroticism dimensions like anxiety, depression and hostility. Therefore, taking infertility seriously and presentation of appropriate treatment for it are very necessary and other cognitive and emotional features are proposed to be investigated in the groups of the present research. Further, variables like family structure, economic problems, and treatment time which increase disorders should be considered. Moreover, it is recommended that consultancy with clinical psychologists and psychiatrists become an element of infertility treatment process so that infertile couples enjoy psychological consultancy benefits besides medical treatment and participation of family members in consultancy sessions can be useful.

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