



Original Article

# A comparative study of resilience, meta-emotional beliefs, and psychological well-being in fertile and infertile women

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## Abstract

**Introduction:** Considering the high prevalence of mental health problems caused by infertility in infertile women, and the necessity to know their mental state to carry out interventions to help them, this study was done to evaluate resiliency, meta-emotional beliefs, and psychological well-being in fertile and infertile women.

**Materials and Methods:** This is a causal-comparative study. The study population included all infertile women referred to health centers in the Meshginshahr in 2014. The study sample consisted of 80 infertile women and 80 fertile women, selected through convenience sampling method. Connor and Davidson Resilience Scale (CD-RISC), Positive Metacognitions and Positive Meta-Emotions Questionnaire and Psychological Well-being Scale were used to collect data. Data were analyzed through multivariate analysis of variance by SPSS software.

**Results:** Our findings indicate that there are significant differences between fertile and infertile women in resiliency ( $P < 0.001$ ,  $F = 10.47$ ), meta-emotional beliefs ( $P < 0.031$ ,  $F = 4.75$ ), and psychological well-being ( $P < 0.001$ ,  $F = 12.31$ ). Infertile women scored lower than fertile women in all of these variables.

**Conclusion:** According to our findings which imply lower levels of resilience, meta-emotional beliefs, and psychological well-being in infertile women than in fertile women, closer attention to infertile women's mental health and devising interventions to help them is warranted.

**Keywords:** Emotion, Infertility, Psychological well-being, Resilience

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## Introduction

Infertility referred to pregnancy failure after one year of regular unprotected sexual intercourse (1). It is estimated that more than 70 million couples worldwide suffer from infertility and most of them live in developing countries (2). Boivin et al. (3) reported that the prevalence of infertility is between 5 to 25.7 percent. This percent has been reported 24.9 in our country in 2004 (4).

Infertility in women is associated with mental disorders (5) and reduces quality of their life (6, 7). Rate of prevalence of mental disorders in infertile women compared with fertile women (11.2 percent) is reported 58 percent (8). The most common mental disorder in infertile women is anxiety disorder with a prevalence of 23% and then there is major depressive disorder with a prevalence of 17% (9). Infertility in

women is severely stressful event because undermines the sense of personal and social competencies and the value of being mother and wife and meaning and purpose of marriage and Continuing to life are being difficult (10). Because of the severity of the stressors and emotional stress, which imposes to individual psychological resources for dealing with this and this stress weakens the person's resiliency and reduce the psychological well-being (11).

Resilience that is considered as a process of ability or outcome of successful adaptation to the environment, despite the hazardous and threatening situations, enables person with gaining skills and overcoming problems is compatible with the challenges of life and stressful conditions of this (12). The term of resilience as a component of personality in the late twentieth century, based on studies that were done in the field of higher processes that were affecting the control and guidance of cognitive processes, came into psychological research. (13) Early Theorists of

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resiliency, including Levi and Wall (14) emphasized on traits associated with positive outcomes in the face of adversity and tribulations of life. However, Kumpfer (15) by providing an exchange model of resilience that include both process and outcome, less emphasized on cycles of destruction and reintegration and more emphasized on the nature of the exchange of environment content and internal resiliency (environmental exchange of personal-environmental processes). According to this view, resilience is not only ability and personality but also the capabilities and features in interaction with stressful factors will determine whether a person will be able to cope with stressors. Researches also suggest that infertility reduce person resistance against life problems, and in general, infertile persons in comparison to normal individuals show less tenacity and resilience in the face of problems (16 - 18) and suffer from mental disorders, especially emotional problems (5).

Emotions are divided into two types: primary emotions that occur as involuntary and secondary emotions that occur voluntary in response to raw emotions (19). Meta emotions that are defined as emotions that people have about their excitements (19), point out to emotional responses that one person has about her mood and initial excitement (20). Meta-emotions can be considered as sub floor of secondary emotions that is concept of time. But we can say that the initial excitement can also be the "issue" of secondary emotions such as anxiety and anger about person himself. So emotions such as anxiety, anger and compassion when they are meta-emotion that there subject are excitement itself (21). Meta-emotion beliefs that form an important part of people's emotion regulation strategies and enable individual to respond to environmental events with greater flexibility, itself is influenced with a variety of factors including the excitement severity of an event (22) and Infertility due to excitement severity that it has, it can effect on meta-emotions of them and thus reduce their psychological well-being (23).

Psychological well- being usually as a combination of positive emotional states such as happiness and performance with optimum performance has been conceptualized in personal and social life (24). Ryff model (25) is refers multi-dimensional and more enriched perspective that is including: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. Infertile women, because of the face to repeated failure in childbearing compared with fertile women have higher levels of stress, anxiety and depression experiences (26 - 28), and also have

lower levels of psychological well-being (29, 30) and are less satisfied with their lives (31). According to what was said and necessity of attention to characteristics and specifications of infertile people for understanding of lateral views of them and design of interventions to improve their mental health, this study aimed to examine resilience, meta-emotional beliefs and psychological well-being of infertile women and seek answers to these the question that whether there are differences in the resiliency, meta-emotion beliefs and psychological well-being between fertile and infertile women?

### Materials and Methods

The research is causal-comparative. The sample of this research is all fertile and infertile women referred to health centers in Meshginshahr that for follow-up, diagnosis and treatment were referred to these centers. The sample consisted of 160 women (80 fertile women and 80 infertile women) who were selected by convenience sampling method. Participants in fertile and infertile groups were similar in terms of age variable, duration of marriage and education. The selection was conducted with this method that after referring to the health centers in Meshginshahr and coordination with authorities, according to the criteria for inclusion, the women who were willing to cooperate were chosen and questionnaires were completed individually by them. Inclusion criteria consists of being a woman, lack of psychiatric disorders, be at least 20 and a maximum of 40 years old, passing at least one and up to 10 years of marriage, having minimum education cycle and consent to participate in research.

In order to comply with the ethics of the questionnaire was conducted only on those who were willing to cooperate and there was no mandatory to participate in the study. The subjects were told that the study is optional and in lack of tendency they are able to refuse to participate in the study. Participants also explained that the questionnaire contains no personally identifiable information and information obtained from the questionnaires will be analyzed as a group.

### Research instruments

- *Connor and Davidson Resilience Scale (CD-RISC)*: Connor and Davidson (32) provided this questionnaire by reviewing research resources of resiliency field. The scale has 25 items on a five-point Likert scale that scores are between zero (completely false) to four (quite right). The evaluation of psychometrics properties of this scale were done in six general population including

women that were referred to primary care, outpatient psychiatric patients, patients with generalized anxiety disorder issues and two groups of patients with posttraumatic stress disorder after accident that the results showed good psychometric properties of this scale. To check the validity of the scale, factor analysis was used and five factors by specific values 7.47, 1.56, 1.38, 1.13 and 1.07, respectively obtained. The reliability of the scale obtained using Cronbach's alpha that was 0.89. This scale is well able to distinguish between resilient and non-resilient individuals and this scale can be used in non-clinical research and clinical situations (32). This scale was normalization in Iran by Mohammadi (33). To determine the validity of the scale, the correlation coefficients with each item and the total score was examined that was 0.41 to 0.64. Cronbach's alpha test was used to determine the reliability scale that reliability coefficient was obtained 0.89.

- *Positive Metacognitions and Positive Meta-Emotions Questionnaire*: To measure meta-emotion beliefs, MCQ and positive meta-emotion questionnaire of Bear (34) were used. The scale consisted of 18 items in a Likert scale of four grades from "strongly disagree" to "strongly agree" that are to be answered. The survey items reflect the statements of meta-cognitive beliefs about cognitive and emotional processes when faced with challenging situations that was drawn from interviews conducted in the qualitative study. This questionnaire has three subscales: a) confidence in turning off the thoughts and sustainable emotions; b) confidence in the interpretation of self-emotions as a sign, prevent immediate reaction and adjustment of the mind to solve the problem and c) the confidence to set hierarchy of flexible and practical goals. Exploratory factor analysis on Bear and Monta Research (34) support the three-factor structure and showed that the three-factor variance accounted for 76.54% of the total. Cronbach's alpha for three factors have been reported 0.85, 0.76 and 0.85 respectively, which shows the high reliability of the questionnaire. Rahmaniyan and Vaez Mousavi in Iran (35) in one study with aim of the evaluation of psychometric properties, they conducted this questionnaire on 307 men and women athletes. Factor analysis indicated three factors that in total, 47.24% of the total variance explained by the questionnaire. Internal consistency reliability through Cronbach's alpha coefficient for the total questionnaire was 0.83 and Reliability-half was obtained 0.86 that indicates the reliability of this tool is high.

- *Psychological Well-being Scale (PWB)*: This scale was created in 1989 by Ryff and was revised in 2002. (36) The questionnaire included 18 questions that are scored in a 6-degree Likert scale from "strongly agree" to "strongly disagree" and measured six factors including autonomy, environmental mastery, personal growth, positive relationships with others, having purpose in life and self- acceptance. The total scores of the six factors make up an overall score of psychological well-being. Ryff and Singer (36) were reported coefficient of internal consistency with Cronbach's alpha that was 0.91. In Iran, Khanjani et al. (37) in the study with the purpose of "Factor structure and short form psychometric properties of Psychological well-being scale of Ryff in the students' internal consistency factors of this scale using Cronbach's alpha was between 0.51 to 0.76 and to examine the factor structure, factor analysis was used, the results showed that the 6 factors Psychological well-being is a good fit with the data.

## Results

The results of descriptive tests showed that 26.25 percent of women were fertile and 28.75 percent of women were infertile in age range of 20 to 25, 31.25 percent were fertile and 33.75 percent of women were infertile in age range of 26 to 30; 25% of women were fertile and 22.5% of women were infertile that age range of them was 30 to 35 and 17.5% of women were fertile and 15% of infertile women were 36 to 40 years old. In terms of education, 25% of fertile women and 21.25% of infertile women were cycle, 32.5% of fertile women and 33.75% of infertile women were diploma, 15 percent of fertile women and 13.75% of infertile women were associate degree; 26.25% of fertile women and 28.75 percent of infertile women were BA and 1.25% of fertile women and 2.5% of infertile women were MA and higher level. In terms of period of marriage also 41.25 percent of fertile women and 36.25 percent of infertile women had been married for 1 to 3 years; 42.5% of fertile women and 40% of infertile women had been married for 4 to 6 years and 16.25% of fertile women and 23 percent of women infertile had been married for more than 6 years.

To investigate the influence of reproductive factors on resiliency, meta-emotional beliefs and psychological well-being, multivariate meta-analysis of variance (MANOVA) was used. Before doing multivariate analysis of variance to assess the consistency of the variance-covariance was used that the results showed that test box test results are

not significant (Boxes  $M=6.73$ ,  $P>0.56$ ), respectively. As a result, covariance matrices of resiliency, meta-emotional beliefs and psychological well-being were equal for varying levels of fertility. The results of the fertility effect, by using Wilks's Lambda test on the linear combination of resiliency, meta-beliefs and psychological well-being indicate that the effect of the variable ( $F=7.02$ ,  $P<0.01$ ,  $\eta^2=0.88$ ) on resiliency, meta-emotional beliefs and psychological well-being was significant.

According to statistical significance of Wilks's Lambda test, in order to identify the source of statistical significance of the effect of multivariate ANOVA statistics (ANOVA) on each of resiliency, meta-beliefs and psychological well-being variables was conducted individually. According to univariate analysis of variance to assess reproductive effects in Table 2, we can say that between fertile and infertile women in resiliency ( $P<0.01$ ,  $F(1)=10.47$ ), meta-emotional beliefs ( $P<0.05$ ,  $F(1)=4.75$ ) and psychological well-being ( $P<0.01$ ,  $F(1)=12.31$ ) there is a significant difference. Looking at the average of these variables in Table 1 shows that in all three variables, fertile women have gained higher scores than infertile women and thus the fertile women have higher resiliency, meta-emotional beliefs and psychological well-being.

**Table 1.** Mean and standard deviation of resiliency, meta-emotion beliefs and psychological well-being

Group	Psychological well-Being		Beliefs		Resiliency	
	M	SD	M	SD	M	SD
Fertile women	57.30	20.10	51.33	7.83	57.82	20.84
Infertile women	45.04	23.93	48.05	9.61	46.07	23.64

**Table 2.** Univariate analysis of variance to assess reproductive effects on resiliency, meta-emotion beliefs and psychological well-being

Source changes	The dependent variable	P	F	Df	SS	MS
Fertility	Resiliency	0.001	10.47	1	5522.50	5522.50
	Beliefs	0.031	4.75	1	429.03	429.03
	Psychological well-Being	0.001	12.31	1	6008.14	6008.14

## Discussion

This study was done with aim of the comparison of fertile and infertile women in resiliency, meta-emotional beliefs and psychological well-being. The findings showed that between fertile and infertile women in all three variables, there are significant differences and infertile women in comparison to fertile women have less resiliency, meta-emotional beliefs and psychological well-being.

Lower levels of resiliency in infertile women in comparison to fertile women is consistent with the results of Kagan et al. research (16), Sexton et al. research (17) and Lee et al. research (18). Resilience that is considered as a process of ability or outcome of successful adaptation to the environment, despite the hazardous and threatening situations, enables person with gaining skills of overcoming problems is compatible with the challenges of life and stressful conditions of this (12).

Early Theorists of resiliency (14) emphasized on traits associated with positive outcomes in the face of adversity and tribulations of life less emphasized on cycles of destruction and reintegration and more emphasized on the nature of the exchange of environment content and internal resiliency. According to this view, resilience is not only ability and personality but also the capabilities and features in interaction with stressful factors will determine whether a person will be able to cope with stressors. Studies show that women with infertility due to the stress that comes with infertility, involves them with the lower levels of identity, self-esteem, physical health and higher levels of depression, stress, anxiety, stigma and shame (38) and by undermining the coping resources, leads to low levels of resiliency and makes the women are constantly involved with negative emotion.

Because the results of this study about meta-emotional beliefs showed that infertile women in comparison to fertile women have lower levels of meta-emotional beliefs. Due to the fact that so far there weren't any research that examined meta-emotional beliefs in fertile and infertile women, it isn't possible to directly compare the results obtained from previous research. But according to theory, it can be said that causes for the low meta-emotional beliefs in infertile women can be caused by stress intensity and poor coping strategies to deal with this stress. Infertile women often have low self-esteem. They use less from faulted emotional coping strategies, which is associated with their depression. These women usually use self-blame and avoidance strategies, it is more likely that they are looking for information and emotional support and they are involved in cognitive restructuring and self-accusation (27).

If we want to talk in the context of meta-emotional beliefs, this strategy makes the infertile women believe that they have less ability to rapid change and prevention of rumination and worry when they are faced with infertility stresses, they don't have enough power for inaction, the immediate reaction and mind adjustment to solve the problem and they

don't have the enough ability to react flexible and strategic in stresses are caused by infertility. So, they more likely experience anomalies between the perceived demands of infertility and its ability to deal with that (34).

These strategies and beliefs not only have relation with low levels of resiliency and high levels of depression, anxiety, stress and other negative emotions, but also and as the research findings that are related to psychological well-being and in consistent with Valeryany et al. (29) and Bailey et al. (30) showed, it leads to lower levels of psychological well-being of this group. The results of this study showed that infertile women in comparison to fertile women in terms of positive relationship with other people, purposefulness and self-acceptance, physical functioning, vitality, social function, emotional function and mental health have more problems and they experience less satisfaction from life.

The limitation of this study is that it examined only infertile women who referred to health centers in search of medical treatment for their problem. The results of this study could not be used about women who are not seeking treatment or seeking non-medical treatments, because they may show

different patterns of psychological features.

### Conclusion

Infertility and problems caused by it is not only for lack of child, cases including turmoil in family relationships and marital relations, people feeling of rejection from people and self-blame and blames of others have a large influence on personality and psychological aspects of infertile women. This study was examined three of the psychological aspects (resilience, meta-emotional beliefs and psychological well-being), and the results of which showed that infertile women in comparison to fertile women in all these areas act at lower levels. These results reflect the severity of mental health problems caused by infertility and highlights the need for interventions to improve mental health of this group of people.

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