The relation between couple's infertility distress with their partner's attachment and coping styles

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Abstract

Context: One of the potential risk factors for marital problems in infertile couples is the difference in couple's attachment and coping style to the infertility problems.

Aim: We amide to investigate the relation between couple's infertility distress with their partner's attachment and coping styles.

Setting and Design: This observational-cross-sectional study was done on infertile couples that referred to the infertility center of Imam Khomeini hospital in Sari, Iran, 2016–2017.

Materials and Methods: Data were collected using convenient sampling method from 120 infertile couples through sociodemographic questionnaire, Lazarus-Folkman coping strategy questionnaire, Collins and Read attachment strategy questionnaire (RAAS), and infertility-specific distress questionnaire (ISD).

Statistical Analysis: Descriptive statistics that were used include frequency, means, and standard division and analytical statistics include one-way ANOVA, Independent sample T test, Chi-Square Test and Pearson Correlation Coefficient test were used.

Results: The mean ISD score was obtained by husbands 42.50 ± 9.5 , wives 42.55 ± 9.7 and couples 42.53 ± 9.63 . One-Way ANOVA test showed that the wives' infertility distress was correlated with their partners attachment style (p=0.004) while husbands' infertility distress wasn't correlated with their partners attachment style (p=0.485). Also, based on Pearson Correlation Coefficient test there is no correlation between the couple's infertility distress and their partner's coping strategy.

Conclusions: The relationship of couples and their adjustment to infertility is influenced by their partner's attachment style and coping style. Therefore, identification of these patterns may help in identifying need and tailoring psychological interventions to infertile couples.

Keywords: Attachment style, Coping style, Infertility distress, Infertile couples.

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INTRODUCTION

Infertility means the lack of pregnancy in a year of unprotected intercourse that subdivided into primary and secondary infertility.^[1] The prevalence of infertility has been reported about 8%-12% in the world and about 13.2% in Iran. [2,3] The psychological consequences of the infertility cause these individuals to have less psychological health and be more susceptible psychologically in comparison to others. [4] Depression, anxiety, stress, interpersonal conflicts, decrease in psychological function, and incompatibility could be mentioned as factors affected by infertility.^[5] Furthermore, researches revealed that infertile women experience many problems such as lack of control over their life, oscial retirement, feeling lonely, or sexual dysfunction,[8] low self-confidence,[9] and fertility distress.^[10] Negative attitudes toward infertile people increase the possibility of others' interventions, divorce encouragement, and remarriage among them. Therefore, attention to midwifery problems, psychological health, and factors related to distress in these individuals seems to be essential.[11] Attachment styles could be mentioned as one of the infertility distress creating factors.^[12]

Individual attachment pattern creates the method of his/her encountering and compatibility with stressful experiences that include secure and insecure attachment. [13] Individuals with different attachment styles will come to regulate emotions and problem encountering in the ways that indicate their belief about themselves and others. [14] Men and women with higher anxious attachment style report they have higher stress about their need of parenting. Anxious attachment in comparison to avoidant attachment has a more fundamental role in adjustment for parenting in men and women. [12] This can show the effect of partner's attachment style on the interpersonal relations and the tolerance of stress caused by infertility. [15,16] Another important factor that can be effective on infertility distress is individuals' coping style. [6]

Coping style is defined as psychological and behavioral efforts to overcome stress and increase or minimize its effects on stressful situation. Coping style is subdivided into problem-solving strategy and emotional coping strategy. [6] It is important to note that attachment pattern and coping style in couples can affect each other. [6] A study reported that 2%–5% of a couple's infertility stress variance was determined by their partner's attachment and coping style. [12] Another study reported that there was no difference between coping style in fertile and infertile

couples.[17] Because of infertility and its treatments can be considered a crisis for some couples therefore, a better understanding of factors that are related to adjustment infertile couples to their condition at the initial stage of referral may assist to identify couples who may benefit from counseling earlier and became aware of therapeutic actions. Several studies have explored the relationship between adult attachment and coping style with stress in infertile couples. For example, Bayley et al. have found that attachment anxiety in individuals correlated with infertility distress.^[6] Furthermore, Lowyck et al. have demonstrated that individuals who are securely attached to their partner report higher well-being during infertility treatment than individuals with insecure attachment style. [18] Despite these findings, little attention has been given to the investigation of how the dimensions of partner's attachment and coping influence the individual's infertility distress.^[19] Hence, the main objective of this study is to assess the relation between couple's infertility distress with their partner's attachment and coping styles.

MATERIALS AND METHODS

This study is an observational-cross-sectional study design. The target group was infertile couples that referred to the infertility center of Imam Khomeini hospital in Sari, Iran, 2016–2017 chosen using convenient sampling method. According to the results of the most similar study which indicates the estimate of infertility distress scale (IDS) in 155 Iranian infertile women with a mean of $59.09 \pm 12.73^{[20]}$ and using the formula for calculating the sample size in estimating the means and taking into account α = 0.05, d = 0.2, and 20% drop out, 120 couples (240 persons) were included in this study. Inclusion criteria in this study included desire for participating in the study, having primary infertility, ability to read and write, Iranian nationality, and being Persian speakers and excluded criteria included systematic chronic diseases such as diabetes, hypertension, thyroid acute disease, and acute psychological disease (based on the treatment history, information file, and patient's self-report), use of immunosuppressive drugs, substance, and alcohol dependency, and remarriage.

Ethical approval

After receiving approval for the proposal from ethical committee of the Mazandaran University of Medical Sciences (Ethical code: IR. MAZUMS. REC.1396.2294) and coordination with associated organizations, the written informed consent was signed by the infertile couples and they were requested to fill out data collection tools. Each

couple completed the tools anonymously in separate places without the presence of each other.

Data collection tools

Data collection tools were sociodemographic questionnaire, Lazarus–Folkman coping strategy questionnaire (CSQ), Collins and Read attachment strategy questionnaire, and infertility distress questionnaire. Sociodemographic questionnaire includes variables such as age, gender, educational status, cause of infertility, and treatment type.

Infertility distress scale

This questionnaire was the first used for infertile women by Akyüz *et al.*, in 2008 in Turkey^[21] and was validated by Shibani *et al.* in Iran, for content validity, six professors in Shahid Beheshti and Yazd Medical Sciences Universities studied and reformed it. Finally, to face validity, participants were asked to read each item carefully and choose the sentence which best described their feelings. The questionnaire's Cronbach's alpha was reported as 0.91.^[20] This questionnaire includes 21 multiple choice items which are scaled from 1 to 4, except 5 questions with opposite scaling from 4 to 1. The total scale of 21 items made the overall scale range from 21 to 84 and higher scores represented the higher level of distress.

Coping strategy questionnaire

This questionnaire was developed by Lazarus-Folkman that measures eight coping strategies in two types of emotional and problem-solving. [22] This questionnaire consists of 66 questions that were evaluated in 4-Likert scale (1 = Inever used it, 4 = I used it a lot) and eight dimensions including direct response, distance, self-control, social support, acceptance of responsibility, escape-avoidance, planned problem-solving, and positive re-evaluation. Four dimensions of social support, acceptance of responsibility, problem-solving, and positive re-evaluation were problem-solving style and the remaining was emotional coping style. First, the patient is asked to describe the stressful situation that they experienced recently and then determine how much he/she uses each of the strategies described in the questionnaire in that situation; therefore, higher score in all four subscales indicates the higher use of that particular strategy. The questionnaire's Cronbach's alpha in Lazarus's study was 0.66-0.79.[22] In the Persian version of CSQ validated by Padyab in 2009. Face validity was checked by giving the prefinal version of the questionnaire to twenty native Farsi-speaking individuals. Internal consistency, floor and ceiling effect, and factor structure of the items in the questionnaire were assessed, and Cronbach's alpha coefficient was 0.88.[23]

Collins and read revised adult attachment scale

The questionnaire the first time was designed by Collins and Reid in 1990 and then revised in 1996.[24] It contains 18 items that distributed in the three proposed factors: closeness that measures a person's comfort in intimacy, dependence that measures the degree of reliance on others, and anxiety that measures the fear of making a relationship. These items were evaluated in 5-Likert scale (1 = not at all characteristic of me and 5 = very characteristic of me). Based on the obtained results, participants were divided into three groups: secure attachment, anxious attachment, and avoidant attachment styles. Secure attachment group includes individuals that obtained higher than medium score in closeness and dependence subscale and lower than medium score in anxiety subscale. Anxiety attachment group includes individuals that obtained higher than medium score in anxiety subscale and different score in dependence and closeness subscale. Avoidant attachment group includes individuals that obtained low score in all three subscales. [21,22] In the Persian version, content validity of the questionnaire was obtained 77% in each three subscales by considering the agreement coefficient among five specialists.^[25] The reliability of this scale was approved with Cronbach alpha in healthy women 0.70 and in patient's women 0.73.[26]

Statistical analysis

Data analysis was performed version 17.0, SPSS Inc, Chicago, Illinois, USA. Description of qualitative variables conducted with indexes including absolute and relative frequency and quantitative variables and questionnaires' scores have been indicated with a mean score and standard division after determining the normal situation of data distribution by drawing the histogram chart and doing Kolmogorov-Smirnov test. To compare the amount of distress on the scale of attachment style, one-way ANOVA parametric test was used. The one-way analysis of variance (ANOVA) was additionally utilized to compare levels of distress between different attachment styles. The levels of couple's infertility distress with their partner's attachment style also compared with Independent T test and One Way Anova. The correlation between distress and the problem-solving score was additionally assessed using the Pearson's correlation coefficient. P < 0.05 was considered as the significance level.

RESULTS

The result of Kolmogorov–Smirnov test showed that the data had a normal distribution. In this study, 120 infertile couples participated that their sociodemographic characteristics have been shown in Table 1. The mean age was 34.47 ± 6.98 years for males and 32.47 ± 6.5 for females and 32.23 ± 6.85 for couples. Duration of infertility was about 6.06 ± 5.02 years. More than half of the couples (68.33%) had diploma or higher degree. Among the assisted reproductive techniques, drug therapy had the most frequency and zygote intrafallopian transfer had the least frequency [Table 1].

In this study, couples with secure attachment style had less frequency in comparison to couples with insecure attachment style. Furthermore, among kinds of insecure attachment style, anxious style had the most frequency and the preoccupied style had the least frequency. Based on the Chi-square test, there was no significant difference between wives' and husbands' attachment style respectively in general classification (P = 0.690) and gender-based classification (P = 0.613) [Table 2].

The distribution of coping styles and levels of infertilityspecific distress in infertile couples is presented in [Table 3].

The average of infertility distress was 42.53 ± 9.63 in couples, 42.55 ± 9.70 in women, and 42.50 ± 9.59 in men. Based on the result of independent *t*-test, there is no significant difference between distress in men and women [Table 3].

The relation between infertility distress and the partner's attachment style

The results of one-way ANOVA test showed that the mean score of distress in kinds of attachment style in couples

was statistically significant (P = 0.007). The most and the least amount of distress was seen in persons whose spouse had anxious attachment style and preoccupied attachment style. Based on this test, the mean score of wives' infertility distress in all attachment styles in their husbands was different (P = 0.001). The most and the least amount of infertility distress was seen in persons whose spouse had anxious attachment style and secure attachment style respectively. Furthermore, the mean score of husbands' infertility distress in all attachment styles in their wives was the same (P = 0.075). In fact, the mean score of husbands' infertility distress did not depend on their wives attachment style [Table 4].

Individuals who have spouse with insecure attachment style with a statistical significance (P=0.009) are more than individuals who have spouse with secure attachment style. The mean score of infertility distress in women whose spouses have insecure attachment style is more than wives whose husbands have secure attachment style (P=0.004). Furthermore, in husbands, the mean score of infertility distress those, who wives attachment style is insecure, is similar to that of those who spouse's attachment style is secure. In fact, the amount of husbands' infertility distress did not depend on their partner's attachment style.

The relation between infertility distress and the partner's coping style

The results of the correlation test showed that, among all samples, there is no significant relation between

Table 1: Demographic and medical characteristics of infertile couples

Characteristics	Couples (<i>n</i> =240), <i>n</i> (%)	Husbands (<i>n</i> =120), <i>n</i> (%)	wives (n=120), n (%)	
Age (years), mean±SD	32.23±6.85	34.47±6.98	32.47±6.53	
Educational status				
Illiterate	16 (6.6)	9 (7.5)	7 (5.8)	
Middle and high school	60 (24.9)	32 (26.7)	28 (23.4)	
Diploma	102 (42.5)	49 (40.8)	53 (44.2)	
Associate and bachelor degree	59 (24.5)	29 (24.2)	30 (25)	
Master and doctoral	3 (1.2)	1 (0.8)	2 (1.7)	
Job	, ,	` ,	, ,	
Housewife	103 (42.9)	1 (0.8)	102 (58)	
Worker	53 (22.1)	49 (40.8)	4 (3.3)	
Employee	19 (7.9)	14 (11.7)	5 (4.2)	
Free job	57 (23.8)	50 (41.7)	7 (5.8)	
Others	8 (3.3)	6	2 (1/7)	
Assisted reproductive technology	,		(, ,	
Fertility medication	118 (49.2)	58 (48.3)	60 (50.0)	
ICSI	59 (24.6)	30 (25.0)	29 (24.2)	
Egg donation	9 (3.8)	4 (3.3)	5 (4.2)	
<i>In vitro</i> fertilization	44 (18.3)	23 (19.2)	21 (17.5)	
ZIFT	4 (1.7)	2 (1.7)	2 (1.7)	
Infertility causes	, ,	,	, ,	
Female factor	44 (18.3)	22 (18.3)	22 (18.3)	
Male factor	69 (28.8)	35 (29.2)	34 (28.3)	
Both (men and women) factor	49 (20.4)	23 (19.2)	26 (21.7)	
Unexplained/unclear causes	78 (32.5)	40 (33.3)	38 (31.7)	

Table 2: Distribution and comparison the frequency of attachment style in infertile couples according to gender

Couples (<i>n</i> =240), <i>n</i> (%)	Husbands (<i>n</i> =120),	wives $(n=120), n (\%)$	D
	n (%)	11.100 (1. 120), 11 (70)	P
91 (37.9)	44 (36.7)	27 (39.2)	0.690*
149 (62.1)	76 (63.3)	73 (60.9)	
91 (37.9)	44 (36.7)	27 (39.2)	0.613*
25 (10.4)	10 (8.3)	15 (12.5)	
53 (22.1)	39 (32.5)	32 (26.7)	
71 (29.6)	27 (22.5)	26 (21.7)	
	149 (62.1) 91 (37.9) 25 (10.4) 53 (22.1)	91 (37.9) 44 (36.7) 149 (62.1) 76 (63.3) 91 (37.9) 44 (36.7) 25 (10.4) 10 (8.3) 53 (22.1) 39 (32.5)	91 (37.9) 44 (36.7) 27 (39.2) 149 (62.1) 76 (63.3) 73 (60.9) 91 (37.9) 44 (36.7) 27 (39.2) 25 (10.4) 10 (8.3) 15 (12.5) 53 (22.1) 39 (32.5) 32 (26.7)

^{*}Chi-square test

Table 3: Distribution of coping styles and levels of infertility-specific distress in infertile couples

Variable	Mean±SD			
	Couples (n=240)	Husbands (n=120)	wives (n=120)	
Emotional coping style	38.21±9.6	38.32±9.9	38.11±9.4	0.886
Problem-solving coping style	37.37±9.5	36.66±10.4	38.08±8.5	0.248
Infertility distress	42.53±9.6	42.50±9.6	42.55±9.7	0.968

SD: Standard deviation

Table 4: Relationship between attachment style dimensions in infertile individuals with infertility distress in their partners

Attachment style	Infertility distress score							
	Couples (<i>n</i> =240), <i>n</i> (%)	Р	Husbands (<i>n</i> =120), <i>n</i> (%)	Р	wives (n=120), n (%)	Р		
Secure	40.38±9.7	0.009*	40.98±9.7	0.485**	39.75±9.7	0.004**		
Insecure	43.83±9.3		43.48±9.4		44.17±9.4			
Secure	40.38±9.7		40.98±9.7	0.075***	39.75±9.7	0.001***		
Insecure								
Preoccupied	40.28±9.1	0.007***	38.60±9.6		42.80±8.4			
Avoidant	43.97±9.6		44.84±8.7		43.26±10.3			
Anxious	45.32±8.8		44.62±9.5		46.38±8.2			

^{*}Mann-Whitney U, **Independent t-test, ***One-way ANOVA

Table 5: Relationship between coping style score in infertile individuals with infertility distress score in their partners

	Infertility Partne		coping style	Correlation coefficient, r		Р	
	distress	Emotional coping style	Problem-solving coping style	Emotional coping style	Problem-solving coping style	Emotional coping style	Problem-solving coping style
Couples (<i>n</i> =240)	42.53±9.6	38.21±9.6	37.37±9.5	0.117	-0.005	0.069	0.936
Husbands (n=120)	42.50±9.5	38.11±9.4	38.08±8.5	0.073	0.092	0.427	0.317
wives (n=120)	42.55±9.7	38.32±9.9	36.66±10.4	0.159	0.065	0.082	0.481

r= Pearson correlation coefficient

scores of infertility distress and scores of their partner's problem-solving coping style (P = 0.936, r = -0.005), and there is a weak positive relation between scores of infertility distress and scores of their spouses' emotional coping style that is not statically significant (P = 0.069, r = -0.005).

Based on gender among women, there is a direct and moderate linear relationship between the degree of infertility distress and scores of their spouses' problem-solving style, but this relation is not statistically significant (P = 0.481, r = 0.117). In wives, there is a weak positive relation between the amount of infertility distress and scores of their husbands' emotion-based coping style but this relation is not statistically significant (P = 0.082, r = 0.159). In husbands, there is no significant relation between the mean score

of infertility distress and mean scores of their wives' problem-solving style (P = 0.317, r = -0.092).

Among husbands, there is no significant relation between the mean score of infertility distress and scores of their wives' emotional coping style (P = 0.427, r = -0.073) [Table 5].

DISCUSSION

The present study sought to examine the association between various forms of attachment and coping styles with infertility distress in infertile couples. The findings of the present study showed that there were no significant differences between husbands and wives on the attachment pattern similar to previous studies. [6,27] These results confirmed previous findings on the equality of infertility distress among infertile men and women. [12,28]

This finding differs from a number of studies indicating that the mean score of perceived stress is higher in women than men. [29,30] This difference indicates that suffering from infertility as a social construction can adversely affect individual's psychological health. This study, in line with other studies, showed that wives whose husband has insecure attachment style are more capable of suffering from infertility distress than wives whose husband has secure attachment style. [6] Lack of intimacy in male partner with insecure attachment style, specifically anxious attachment, is related to negative appraisal and less adaptive ways of coping and cause this correlation. However, based on earned results, the amount of infertility distress in men does not depend on their wife's attachment style. However, in another study, this relationship was statistically significant. [12] This may be due to different perceptions of infertility between men and women in different cultures. Furthermore, studies on attachment show a relationship between attachment styles and the level of mental health of couples, for example, individual with anxious attachment styles may be flushed faster in response to their partner's stress.^[14,15]

The mean score of problem-solving and emotional coping style in husbands and wives is not significant difference in this study. It means that couples are almost the same in utilizing different aspects of coping strategies; these results supported previous researches.[31,32] The results of this study showed that the level of infertility distress in each couple no correlation with their partner's coping style. However, some studies in this item no consistent with the present study, [29,33] for example, a study reported that husbands' avoidance coping style can lead to the increase of infertility distress in their partner. Furthermore, the utilizing of confronted coping style by wives increased husbands' infertility distress, utilizing of problem-solving coping style led to the decrease of marital distress in husbands, and the increase of social distress in wives.^[34] Differences in studies can be influenced by the nature and concept of infertility for couples over time. Since this concept is influenced by culture, so differences in different cultures can be the reason for these differences.

The present study is one of the few studies that deal with the relation between attachment and coping style and the level of distress caused by spouse's infertility. Lack of control group including fertile couples, lack of access to couples who do not undergo therapy, incomplete information of samples file, being cross-sectional and absence of causal relation are the limitations of this study, so caution in interpreting results is necessary.

CONCLUSIONS

Our finding showed that wives are more likely to suffer from infertility distress due to their husbands' insecure attachment style. Therefore, health-care providers should pay attention to the attachment pattern and coping style of both individuals in therapeutic interventions.

Conflicts of interest

There are no conflicts of interest.

Authors' contribution

FE designed the study, provided the important suggestions for the improvement of the first draft, revised the paper, and supervised the study process. MH and MN collected the data and KSG wrote the paper. SP supervised the study process. PIP performed the statistical analysis and contributed to the study design. MN collaborated on the article process. All the authors read and approved the manuscript.

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