



Original Article

Investigating the role of defense mechanisms on marital adjustment in infertile couples based on the cause of infertility: A cross-sectional study

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Abstract

Background: Infertility affects individual's and couples' adjustment. The defense mechanism and marital adjustment are mental processes that play a key role in infertile couples' life.

Objective: This study aims to investigate the role of defense mechanisms on marital adjustment in infertile couples based on the cause of infertility.

Materials and Methods: This cross-sectional study was conducted on 400 infertile couples at Royan Institute (A referral center for infertility, Tehran, Iran). Infertile couples were divided into 4 groups based on the cause of infertility (female, male, both, and unknown). Demographic questionnaire, revised dyadic adjustment scale, and defense styles questionnaire were used for data collection.

Results: Results showed that the mean score of marital adjustment of men based on the cause of infertility (female, male, and both) was significantly higher in comparison with their wives ($p = 0.04$, $p \leq 0.001$, $p \leq 0.001$, respectively). However, no difference was observed between the mean score of women, men, and couples (women and husbands) in defense mechanisms. But marital adjustment has a significant positive correlation with mature defense mechanisms and a negative correlation with immature ones ($p < 0.05$).

Conclusion: The mean score of marital adjustment is higher in men than in their wives in all groups. So, counseling infertile couples in the field of marital adjustment and training in the use of mature defense mechanisms is recommended especially in women.

Key words: Defense mechanism, Marital relationship, Infertility.

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1. Introduction

Infertility can cause guilt and shame sense in couples which results in changes in the plan of their family identity, marital stability, and marital status (1, 2). Childlessness is a critical and stressful situation for couples of reproductive ages (2). Infertility can affect the physical, psychological, social, and economic wellness of couples, which leads to tension in personal and interpersonal relationships (3). The results of a meta-analysis study revealed that the scores of depression and anxiety in infertile couples were higher than the fertile ones, and this difference has been observed in many national and international studies (4). It has also been shown that the level of depression in infertile women and men was higher than the healthy ones (5).

Numerous studies have shown that infertile couples have lower marital satisfaction, expression of interest in their partner, marital adjustment, and sexual satisfaction than the fertile ones (6, 7). Marital adjustment consists of marital satisfaction, cohesion, agreement, and affection. Also, it affects the physical and mental health of family members (8, 9). Marital adjustment is “the integration of the couple in a union, in which the 2 personalities are not merely merged or sub-merged but interact to complement each other for mutual satisfaction and the achievement of common objectives” (9). Adjustments in marital relationships can cause significant improvements in quality of life among infertile couples (10).

Infertile couples that are undergoing infertility treatment apply many psychological mechanisms for coping with the stress due to this process; therefore, recognizing these mechanisms may be helpful in diagnosing their problems, understanding the type of treatment, coping and overcoming the barriers, and facilitating the treatment (11, 12).

Defense mechanisms occur unconsciously that can be used as an indicator for the level of individual adaptation with respect to significant psychological challenges (13). It should be noted that defense mechanisms may lead to compromising problems. This is due to neglecting the facts causing spousal relationship issues. However, focusing on facts and mutual needs between partners can be achieved by using effective and adaptive defense mechanisms (2). Defense mechanisms are divided by valliant into levels of mature, immature, and neurotic defenses (14). A study reported that infertile couples use immature defense mechanisms more than fertile ones (15). Another study indicated that women with sexual dysfunction are more likely to use immature and neurotic defense mechanisms than normal women and individuals' sexual health is significantly related to their defense mechanisms. Therefore, defense mechanisms have the capacity to be considered as one of the therapeutic variables and interventions (16).

In this study, we hypothesized that the cause of infertility can influence the type of defense mechanisms used by infertile couples and the marital adjustments made by them. To the best of our knowledge, this was the first study on the marital adjustment and defense mechanisms in both husbands and wives (couples) with infertility, based on its cause.

2. Materials and Methods

This cross-sectional study was conducted at Royan Institute, a referral center for infertility treatment in Tehran, Iran from April-December 2019. Considering that the main study of the project was the comparison of the mean scores of the studied variables between 4 groups, the analysis of variance test was used. To determine the sample size, type I error 0.05 and type II error 0.2

(power 0.8) were considered. Also, according to the previous research and the researcher's expectation of the practical (or clinical) difference, the effect size was equal to 0.126, and the sample size was 694. Including missing data, 700 people were considered. We used sequential sampling which is one of the non-random sampling methods. They were divided into 4 groups based on the cause of infertility (female, male, both, and unknown). First, the researcher explained the aim of the study and then the couples were requested to fill out 3 questionnaires separately (man and woman) at Royan Institute. The inclusion criteria were: a) Couples (men and women) 18-45 yr old; b) Diagnosed as infertile couples by Royan Institute; c) Those having the ability to read, write, and comprehend Persian. The exclusion criteria were: incomplete questionnaires and dissatisfaction with participating in the study, infertile couples who had severe psychiatric disorders (such as severe depression or psychosis), and were on medication were excluded from the study. In this study, 3 questionnaires had been used to collect data.

2.1. Demographic and fertility characteristics

The questionnaire included age, sex, education, infertility duration, cause of infertility, and history of abortion.

2.2. Revised dyadic adjustment scale (RDAS)

The RDAS is a 14-item scale that assesses marital adjustment. The RDAS questionnaire consists of 3 subscales, including consensus, satisfaction, and cohesion endorsed on a 6-point Likert scale, in which participants are asked to show their response on a 6-point scale ranging from 0 = disagreement to 5 = always agreement. In sum, a higher score indicates greater relationship

adjustment (17). The Cronbach's alpha coefficients in previous studies have been reported from 0.80-0.90 (18). In Iran, Cronbach's alphas for this questionnaire was 0.92, demonstrating the RDAS that could be used to measure a clinically significant change in individuals (19).

2.3. Defense styles questionnaire (DSQ)

The DSQ was simplified into 40 questions related to 20 defense mechanisms (20) divided by valliant into levels of immature, neurotic, and mature (14). The internal consistency of DSQ in the mature, neurotic, and immature sections were 0.70, 0.61, and 0.83 respectively (21). This questionnaire was normalized in Iran with Cronbach's alpha 0.716. The scoring scale of DSQ is Likert from 1-5 which is shown by 1 strongly disagree and 5 strongly agree (22).

2.4. Ethical considerations

The aim of the study and the confidentiality of the data were clearly explained for all participants. Therefore, completing the questionnaire by couples is considered as informed consent. The Ethics Committee of Royan Institute, Tehran, Iran approved this study (Code: IR.ACECR.ROYAN.REC.1396.148).

2.5. Statistical analysis

Statistical analysis was performed using the Statistical Package for the Social Sciences. SPSS version 22 (Inc. Chicago, IL, USA). Continuous variables were expressed as mean \pm standard deviation (SD) and categorical variables as frequencies (percentage). Normality of the variables was checked with Kolmogorov-Smirnov Test. Pearson correlation coefficient was used to examine the relationship between study

variables and paired *t* test was used to evaluate the difference between male and female data (wives and husbands) and used variance analysis to evaluate the difference between groups of infertility (female factor, male factor, both factor, and unknown factors). Finally, multiple linear regression analysis was performed by controlling confounders. P-value < 0.05 was considered statistically significant.

3. Results

In this study, 400 infertile couples consisting of 400 (50%) men and 400 (50%) women participated with a mean age of 33.37 ± 5.17 yr for males and 30.37 ± 5.51 for females. Among the participants, 430 individuals (53.75%) had under diploma/diploma, 368 (46%) academic education, and 2 missing educational information (0.25%). The cause of infertility in couples was 155 (38.7%) male, 75 (18.7%) female, 62 (15.5%) both, and 108 (27.1%) unknown factors. The mean duration of infertility was 4.68 ± 3.54 yr. Also, 88 (22.1%) of the participants reported a history of abortion.

3.1. Univariate analysis

Table I shows the relationship between the subscales of defense mechanism with the cause of infertility in women and their husbands.

3.2. Immature defenses mechanism subscales

The mean score for the projection was significantly lower in men than their wives in the female and unknown factors ($p \leq 0.001$, $p = 0.02$, respectively). The mean score of denial in all causes of infertility in men was significantly higher than their wives ($p < 0.05$). Devaluation

in couples with the male factor, the mean score of men was significantly higher than their wives ($p = 0.03$), but in both factors, women had a higher score than their husbands ($p \leq 0.001$). Also, women and men with female factors had a significantly higher score of devaluation than other groups of causes of infertility ($p \leq 0.001$, $p = 0.02$, respectively). The mean score of acting out in women with female and male factors was higher than their husbands ($p \leq 0.001$, $p = 0.01$, respectively). In the somatization section in all groups of causes of infertility, women had higher scores than their husbands ($p < 0.05$). In passive aggression, women had higher scores than their husbands in unknown causes of infertility ($p = 0.03$). The score of displacement in infertile women with both factors was higher than in other groups ($p = 0.01$). The score of splitting among women was lower than their husbands with male and unknown factors ($p \leq 0.001$, $p = 0.04$). The total score of immature defenses mechanism was not different between women and men in all groups of infertility factors ($p > 0.05$).

3.3. Mature defense mechanism subscales

The mean score of sublimation was higher in women than their husbands in the unknown factors ($p = 0.02$). In female and unknown factors, humor was higher in men than in their wives ($p = 0.02$, $p = 0.04$, respectively). But, humor in women with male factor was higher than other groups ($p = 0.02$). The mean score of anticipation in female and male factors was lower in women than their husbands ($p = 0.05$, $p \leq 0.001$, respectively). The total score of mature defenses mechanism was not different between women and men in all groups ($p > 0.05$). But, in men with male factors, the mean score of mature defenses mechanism was higher than their wives nearly significant ($p = 0.06$).

3.4. Neurotic defenses mechanism subscales

Pseudoaltruism score was more in women than their husbands ($p \leq 0.001$). Men had more mean scores of idealization than their wives in male and unknown factors ($p \leq 0.001$). The total score of neurotic defenses mechanism was not different between women and men in all groups of factors ($p > 0.05$).

As seen in table II, in the total and subscale of marital adjustment, the consensus was higher in men than their wives in both and female factors ($p = 0.03$, $p = 0.05$, respectively). Satisfaction was higher in men than their wives in female, male, and both factor groups ($p < 0.05$). However, women in the unknown factor group had higher satisfaction than other groups ($p \leq 0.001$). The cohesion of men was higher than their wives in both factor group ($p = 0.04$). The total score of marital adjustment in all groups were lower in women than their husbands which were significant ($p < 0.05$) except in the unknown factor group ($p = 0.29$).

3.5. Correlations among study variables

Bivariate correlations were conducted among subscales of 2 questionnaires (marital adjustment and defense mechanism), as shown in table III. The total score of the marital adjustment questionnaire and its subscales (included consensus, satisfaction, cohesion) with the immature defense mechanism had a negative significant correlation. Also,

the total score of marital adjustment and their subscales (including satisfaction and cohesion) had a positive significant correlation with mature defense mechanism ($p < 0.05$).

3.6. Multiple linear regression analysis

For the marital adjustment, the used method was a covariate selection method, in step 1, demographics and subscales of defense mechanism entered to model, sex and immature defense, mature defense, and neurotic defense which were significantly related to marital adjustment ($B = -1.94$, $p \leq 0.001$ and $B = -2.30$, $p \leq 0.001$ and $B = 1.51$, $p \leq 0.001$ and $B = 0.57$, $p = 0.04$, respectively). When sex, education, cause of infertility, duration of infertility, and subscales defense mechanism were in the marital adjustment model, the model adjusted R^2 was equal to 0.13. On the other hand, variance inflation factor and tolerance of variables showed the model was not collinear.

In step 2, sex and immature defense, mature defense, and neurotic defense entered to model mature and neurotic defense were positively correlated with the marital adjustment ($B = 1.45$, $p \leq 0.001$ and $B = 0.55$, $p \leq 0.001$ respectively) and sex and immature defense were negatively correlated with the marital adjustment ($B = -1.47$, $p \leq 0.001$ and $B = -2.44$, $p \leq 0.001$ respectively). When sex, immature defense, mature defense, and neurotic defense were in the model, there was an improvement in the model (adjusted $R^2 = 0.21$, $p \leq 0.001$, Table IV).

Table I. Defense mechanism subscales in participants ($n = 800$)

Defense mechanism	Female factor	Male factor	Both factor	Unknown factor	P-value ^a
Immature defenses					
Rationalization					
Female	13.89 ± 2.65	14.20 ± 2.35	13.87 ± 2.67	14.30 ± 2.23	0.56
Male	14.29 ± 2.85	14.06 ± 2.71	14.29 ± 2.81	14.23 ± 2.69	0.91
P-value ^b	0.42	0.75	0.39	0.95	

Table I. (Continued)

Defense mechanism	Female factor	Male factor	Both factor	Unknown factor	P-value ^a
Immature defenses					
Projection					
Female	9.90 ± 4.06	8.31 ± 4.04	9.17 ± 4.30	8.81 ± 4.37	0.05*
Male	7.87 ± 3.80	7.45 ± 3.90	8.41 ± 3.61	7.47 ± 4.16	0.36
P-value ^b	≤ 0.001*	0.06	0.20	0.02*	
Denial					
Female	7.90 ± 4.00	7.90 ± 3.94	7.45 ± 3.69	8.67 ± 3.96	0.21
Male	9.87 ± 4.34	9.98 ± 4.04	9.54 ± 3.67	9.80 ± 3.87	0.90
P-value ^b	≤ 0.001*	≤ 0.001*	0.01*	0.03*	
Omnipotence					
Female	11.57 ± 3.91	11.74 ± 3.25	11.16 ± 3.72	12.17 ± 3.50	0.32
Male	12.27 ± 3.88	12.33 ± 3.14	12.27 ± 3.71	12.42 ± 3.33	0.99
P-value ^b	0.23	0.11	0.11	0.53	
Devaluation					
Female	11.33 ± 3.64	9.64 ± 3.44	10.61 ± 3.26	9.89 ± 3.66	≤ 0.001*
Male	10.67 ± 3.79	10.41 ± 3.62	8.91 ± 3.63	10.13 ± 3.52	0.02*
P-value ^b	0.18	0.03*	≤ 0.001*	0.56	
Acting out					
Female	12.83 ± 3.84	11.87 ± 3.93	11.38 ± 3.87	11.87 ± 3.81	0.16
Male	11.05 ± 4.03	10.58 ± 4.55	10.82 ± 4.17	11.15 ± 4.50	0.74
P-value ^b	≤ 0.001*	0.01*	0.27	0.25	
Somatization					
Female	14.52 ± 3.67	13.25 ± 3.56	13.59 ± 3.14	13.51 ± 3.57	0.09
Male	11.78 ± 4.34	11.85 ± 4.29	12.09 ± 4.19	10.87 ± 4.33	0.21
P-value ^b	≤ 0.001*	≤ 0.001*	0.02*	≤ 0.001*	
Autistic fantasy					
Female	10.49 ± 5.23	10.30 ± 4.74	10.43 ± 4.70	10.12 ± 4.80	0.93
Male	9.47 ± 4.89	9.38 ± 4.71	9.51 ± 4.40	10.14 ± 4.48	0.81
P-value ^b	0.97	0.53	0.20	0.46	
Dissociation					
Female	10.68 ± 3.76	10.03 ± 3.67	10.43 ± 3.32	10.64 ± 4.19	0.50
Male	10.87 ± 4.23	10.27 ± 3.89	10.75 ± 4.29	10.30 ± 4.01	0.66
P-value ^b	0.75	0.42	0.80	0.52	
Passive aggression					
Female	9.87 ± 3.69	9.25 ± 3.82	10.32 ± 3.92	9.92 ± 4.15	0.26
Male	10.45 ± 4.29	9.07 ± 3.96	9.37 ± 4.07	8.93 ± 3.80	0.06
P-value ^b	0.36	0.75	0.11	0.03*	

Table I. (Continued)

Defense mechanism	Female factor	Male factor	Both factor	Unknown factor	P-value ^a
Immature defenses					
Displacement					
Female	10.04 ± 4.29	8.48 ± 3.88	10.14 ± 4.39	8.82 ± 4.49	0.01*
Male	8.43 ± 4.14	8.67 ± 4.33	9.67 ± 4.44	8.30 ± 3.65	0.19
P-value ^b	0.01*	0.61	0.47	0.27	
Splitting					
Female	8.89 ± 4.61	7.74 ± 4.09	8.35 ± 4.31	8.09 ± 4.45	0.30
Male	9.29 ± 4.17	9.50 ± 4.31	8.62 ± 4.16	9.25 ± 4.33	0.60
P-value ^b	0.51	≤ 0.001*	0.85	0.03*	
Mature defenses					
Suppression					
Female	11.92 ± 3.71	11.64 ± 3.59	11.24 ± 4.05	11.67 ± 3.68	0.76
Male	12.06 ± 3.85	12.20 ± 3.45	12.50 ± 3.25	11.43 ± 3.59	0.21
P-value ^b	0.82	0.11	0.07	0.54	
Sublimation					
Female	11.96 ± 3.81	11.44 ± 3.47	11.88 ± 3.84	11.68 ± 3.81	0.74
Male	11.52 ± 3.33	11.51 ± 3.59	11.19 ± 3.97	10.62 ± 3.64	0.22
P-value ^b	0.47	0.74	0.22	0.02*	
Humor					
Female	11.25 ± 3.96	12.69 ± 3.06	12.27 ± 3.23	12.08 ± 3.32	0.02*
Male	12.71 ± 3.68	12.90 ± 3.34	13.04 ± 3.61	12.91 ± 3.25	0.95
P-value ^b	0.02*	0.51	0.15	0.04*	
Anticipation					
Female	14.41 ± 2.94	14.35 ± 2.53	14.36 ± 3.07	14.63 ± 2.60	0.60
Male	15.25 ± 2.16	15.12 ± 2.20	14.93 ± 2.20	14.77 ± 2.60	0.50
P-value ^b	0.04*	≤ 0.001*	0.08	0.72	
Neurotic defenses					
Pseudoaltruism					
Female	14.38 ± 3.05	13.72 ± 2.77	14.61 ± 2.38	14.00 ± 3.02	0.14
Male	13.70 ± 3.12	13.57 ± 3.19	13.35 ± 3.28	13.97 ± 2.78	0.60
P-value ^b	0.11	0.80	≤ 0.001*	0.98	
Reaction formation					
Female	10.60 ± 4.21	10.24 ± 3.74	10.16 ± 3.83	10.06 ± 4.15	0.84
Male	10.41 ± 4.62	10.15 ± 4.26	10.09 ± 3.97	10.34 ± 4.08	0.95
P-value ^b	0.79	0.93	0.79	0.64	
Idealization					
Female	12.61 ± 3.57	13.29 ± 3.33	12.29 ± 3.53	13.26 ± 3.12	0.13
Male	12.05 ± 3.71	11.98 ± 4.10	12.33 ± 3.61	11.70 ± 4.00	0.83
P-value ^b	0.31	≤ 0.001*	0.87	≤ 0.001*	
Undoing					
Female	12.04 ± 3.00	12.22 ± 3.42	12.30 ± 3.44	11.85 ± 3.40	0.87
Male	12.55 ± 3.58	11.96 ± 3.88	12.38 ± 3.56	11.96 ± 3.77	0.64
P-value ^b	0.32	0.55	1.00	0.79	

Data presented as Mean ± SD. P-value^a, One way ANOVA, p-value^b, Paired t test and *p < 0.05

Table II. Marital adjustment subscales participants (n = 800)

Marital adjustment	Female factor	Male factor	Both factor	Unknown factor	P-value ^a
Consensus					
Female	24.84 ± 3.63	24.70 ± 4.37	24.09 ± 3.36	24.91 ± 3.80	0.60
Male	25.79 ± 3.41	25.43 ± 3.00	25.08 ± 3.79	25.00 ± 3.73	0.41
P-value ^b	0.05*	0.07	0.03*	0.75	
Satisfaction					
Female	15.30 ± 2.61	15.36 ± 2.91	14.29 ± 3.22	15.86 ± 2.59	≤ 0.001*
Male	16.03 ± 1.88	16.35 ± 2.42	15.87 ± 2.35	16.01 ± 2.84	0.50
P-value ^b	0.02*	≤ 0.001*	≤ 0.001*	0.54	
Cohesion					
Female	9.22 ± 4.30	10.11 ± 4.49	9.25 ± 4.34	9.55 ± 4.20	0.39
Male	9.46 ± 4.20	10.12 ± 4.19	10.43 ± 4.25	10.07 ± 4.47	0.58
P-value ^b	0.59	0.93	0.04*	0.32	
Total marital adjustment					
Female	49.37 ± 7.94	50.18 ± 8.84	47.64 ± 8.34	50.33 ± 7.66	0.17
Male	51.28 ± 7.46	51.96 ± 6.87	51.39 ± 8.20	51.09 ± 7.78	0.80
P-value ^b	0.04*	≤ 0.001*	≤ 0.001*	0.30	

Data presented as Mean ± SD. P-value^a, One way ANOVA, p-value^b, Paired t test. * p<0.05

Table III. The relationship of marital adjustment subscales with defense mechanism subscales

	Consensus	Satisfaction	Cohesion	Marital adjustment	Immature defenses	Mature defenses	Neurotic defenses
Consensus	-	0.42*	0.29*	0.76*	-0.10*	0.18	0.01
Satisfaction		-	0.27*	0.68*	-0.24*	0.07*	-0.04
Cohesion			-	0.78*	-0.20*	0.10*	0.01
Marital adjustment				-	-0.24*	0.16*	0
Immature defenses					-	0.22*	0.46*
Mature defenses						-	0.38*
Neurotic defenses							-

Data are presented as a Pearson correlation coefficient for relationship marital adjustment subscales with defense mechanism subscales and Pearson correlation coefficient and, *p < 0.05

Table IV. The results of hierarchical model selection in the multiple linear regressions, including factors related to the total score of marital adjustment

	Marital adjustment			
	B	SE	Wald	P-value
Step 1:				
Sex (female vs. male)	-1.94	0.56	11.87	≤ 0.001*
Education (Educated vs. under diploma/diploma)	-0.60	0.06	0.97	0.32
Duration of infertility (Year)	-0.02	0.08	0.09	0.76
Age (Year)	-0.08	0.05	2.61	0.11
Cause of infertility (unknown vs. female/male/both)	-1.11	0.83	1.79	0.18

Table IV. (Continued)

	Marital adjustment			
	B	SE	Wald	P-value
Step 1:				
History of abortion (yes vs. no)	0.31	0.64	0.23	0.63
Immature defense	-2.30	0.29	62.88	≤ 0.001*
Mature defense	1.51	0.25	35.10	≤ 0.001*
Neurotic defense	0.57	0.28	4.19	0.04*
Model characteristics	Adjusted R ² = 0.13, F = 13.09, p ≤ 0.001*			
Step 2:				
Sex (female vs. male)	-1.47	0.53	7.68	≤ 0.001*
Immature defense	-2.44	0.28	75.37	≤ 0.001*
Mature defense	1.45	0.25	32.24	≤ 0.001*
Neurotic defense	0.55	0.28	3.89	0.05*
Model characteristics	Adjusted R ² = 0.21, F = 28.23, p ≤ 0.001*			

The test uses multiple linear regressions. B: Unstandardized coefficient, SE: Standard error, F: F statistics, and Adjusted R²: Adjusted r square

4. Discussion

In the present study, we aimed to investigate the role of defense mechanisms on marital adjustment in infertile couples referred to Royan Institute based on the cause of infertility.

Our results showed that the mean score of marital adjustment (total and subscales) in all groups was higher in men than in their wives, which was supported by previous studies (23, 24). In women with male infertility factors, the rate of marital satisfaction was more than those with female infertility factors (25). A systematic review in 2012 reported that the marital relationship in infertile men with the diagnosis of infertility was not seriously impaired (24). The difference in marital adjustment in fertile and infertile women is controversial. Some studies reported that marital adjustment in fertile women was higher than infertile ones (15, 24). Although, others believe that there was no significant difference in the total score of marital satisfaction between fertile and infertile women (26), infertility does not reduce

marital satisfaction in infertile women (27). The mean score of marital adjustment in infertile women with unknown factor group were higher in other groups (male, female, both). Perhaps it may be explained that in cultures and societies, women are considered to be responsible for infertility and this issue affects other aspects such as their life or marital satisfaction. But, when the cause of infertility is unknown, women might feel less guilty, and it could increase marital satisfaction in them.

Also, our results indicated marital adjustment was negatively correlated with sex (female vs. male) which was not related to some of the demographic features such as (age, infertility duration, and history of abortion). Another study reported a positive correlation between marital satisfaction with age and infertility duration (28). It means adjustment with each stressful situation such as chillness takes time to resolve their problems in this time. Another study reported that marital adjustment was negatively correlated with emotional disorders (29). In addition to results, our study revealed that defense mechanisms

affect marital adjustment. It seems that the mature defense mechanisms had a significant positive association with marital adjustment. This means that infertile couples using the more mature defense mechanisms when exposed to stressful events, have more adjusted behavior and marital adjustment in their life (30). Also, there was a negative significant relationship between immature defense mechanisms and marital adjustment; this means by increasing the use of immature defense mechanisms, depression and stressful behavior happen more often happen, decreasing marital satisfaction.

Other research has revealed that there is a significant relationship between immature defense mechanisms and lower psychological and also physical health such as depression and stress. However, mature defense mechanisms are associated with mental and physical health and more life adjustment in adults (31). According to recent studies, using mature defense mechanisms predicts psychological adjustment and physical health (32).

Based on the present study findings, infertile men (in all groups) used denial mechanisms more than their wives. Women also used the somatization mechanism more than their husbands (in all groups). To justify this, it can be said that men by avoiding a stressful situation, try to resolve this subject without any change and use denial mechanism and they also tend to turn negative emotions into physical symptoms in stressful events so they use the somatization mechanism. These findings were consistent with the research results (33, 34).

According to studies, infertile females using defense mechanisms were more than fertile ones which affected the women's defense mechanism score, and also use of immature

defense mechanisms were more in fertile women (15, 34, 35).

4.1. Limitations

Our study has several limitations. First, we relied on patients coming to only one center, but it is a referral clinic for infertility treatment in Iran and patients come to this center from all around the country. Second, the cross-sectional nature of the study only allows no conclusions on causality and just reveals a correlation. Finally, this research depended on self-report findings, and information from other sources could not be obtained to confirm the findings of the self-report.

5. Conclusion

Understanding psychological defense mechanisms used by infertile persons may be helpful in the diagnosis of various problems. Marital adjustment is directly related to mature defense mechanisms. Also, the mean score of marital adjustment is higher in men than in their wives in all groups. It seems that infertile women are more vulnerable to its psychological consequences than infertile men. In sum, according to the results of this study, counseling infertile couples in the field of marital adjustment and training in the use of mature defense mechanisms, especially in women is recommended.

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Conflict of Interest

The authors report no conflict of interest.

References

- [1] De D, Mukhopadhyay P, Roy PK. Experiences of infertile couples of West Bengal with male factor, female factor and unexplained infertility factor: A qualitative study. *J Psychosexual Health* 2020; 2: 152–157.
- [2] Jaan U, Sultan A. Defence mechanisms of fertile and infertile women. *J Psychiatr Ment Health* 2017; 3: 1–4.
- [3] Hamzehgardeshi Z, Shahhosseini Z, Rezaei M. [The role of counseling interventions on different dimensions of infertile couples' health: A systematic review]. *J Mazandaran Univ Med Sci* 2019; 28: 225–236. (in Persian)
- [4] Fallahzadeh H, Zareei Mahmood Abadi H, Momayyezi M, Malaki Moghadam H, Keyghobadi N. The comparison of depression and anxiety between fertile and infertile couples: A meta-analysis study. *Int J Reprod BioMed* 2019; 17: 153–162.
- [5] Saffarieh E, Yousefi Saffarieh SR, Nasiri S, Aghaamoo Sh, Ziari A. [Evaluation of depression and anxiety in couples with infertility and related factors]. *Tehran Univ Med J* 2020; 78: 522–527. (in Persian)
- [6] Kim JH, Shin HS, Yun EK. A dyadic approach to infertility stress, marital adjustment, and depression on quality of life in infertile couples. *J Holist Nurs* 2018; 36: 6–14.
- [7] Amirian M, Mazloum SR, Laal Ahangar M. [Comparison of marital satisfaction in fertile and infertile couples and its relationship with sexual problems]. *Iran J Obstet Gynecol Infertil* 2015; 18: 1–10. (in Persian)
- [8] Eftekhari M, Amanelahi A, Christopher Perry J, Rajabi Gh, Aslani Kh. Explaining the marital adjustment process in Iranian women: A grounded theory study. *J Research Health* 2021; 11: 77–86.
- [9] Burgess CE, Cottrell L. Predicting success or failure in marriage. US: Prentice Hall, Inc.; 1939.
- [10] Sahraian A, Bahmanipoor A, Amooee S, Mahmoodian H, Mani A. Marital maladjustment in infertile couples who referred to ghadir mother and child hospital, Shiraz. *Women's Health Bull* 2016; 3: e30895.
- [11] Abbaspour Khoshdast F, Jalali MR, Kakavand AR. Relationship between the personality traits, defense mechanisms and marital satisfaction of elementary school students' parents. *IIOAB J* 2016; 7: 31–37.
- [12] Podolska M, Bidzan M. Infertility as a psychological problem. *Ginekol Pol* 2011; 82: 44–49.
- [13] Vaillant GE. Ego mechanisms of defense and personality psychopathology. *J Abnorm Psychol* 1994; 103: 44–50.
- [14] Vaillant GE. The need for a uniform nomenclature for defenses. In: Vaillant GE, American Psychiatric Association. Ego mechanisms of defense: A guide for clinicians and researchers. Washington, DC: American Psychiatric Press; 1992.
- [15] Katiraei Sh, Haghghat M, Bazmi N, Ramezanzadeh F, Bahrami H. The study of irrational beliefs, defense mechanisms and marital satisfaction in fertile and infertile women. *J Family Reprod Health* 2010; 3: 129–133.
- [16] Broun P, Manavipour D, Sedaghati Fard M. [Investigate the relationship between proactive personality and work autonomy with job crafting]. *J Analy-Cogn Psychol* 2014; 5: 34–43. (in Persian)
- [17] Busby DM, Christensen C, Crane RD, Larson JH. A revision of the dyadic adjustment scale for use with distressed and non-distressed couples: Construct hierarchy and multidimensional scales. *J Marital Family Ther* 1995; 21: 289–308.
- [18] Hollist CS, Miller RB. Perceptions of attachment style and marital quality in midlife marriage. *Family Relations* 2005; 54: 46–57.
- [19] Yousefi N. [Investigation of psychometric properties of the revised dyadic adjustment scales (RDAS)]. *Res Clin Psychol Counseling* 2012; 1: 183–200. (in Persian)
- [20] Andrews G, Singh M, Bond M. The defense style questionnaire. *J Nervous Mental Dis* 1993; 181: 246–256.
- [21] Yilmaz N, Gençöz T, Mehmet Ak. Psychometric properties of the defense style questionnaire: A reliability and validity study. *Turk Psikiyatri Derg* 2007; 18: 244–253.
- [22] Shabanpour R, Zahiroddin AR, Janbozorgi M, Ghaeli P. Assessment of defense styles and mechanisms in Iranian patients suffering from obsessive compulsive or panic disorders versus normal controls using Persian version of Defense Style Questionnaire-40. *Iran J Psychiatry* 2012; 7: 31–35.
- [23] Lee TY, Sun GH. Psychological response of Chinese infertile husbands and wives. *Arch Androl* 2000; 45: 143–148.
- [24] Tao P, Coates R, Maycock B. Investing marital relationship in infertility: A systematic review of quantitative studies. *J Reprod Infertil* 2012; 13: 71–80.
- [25] Sahraian K, Jafarzadeh F, Poursamar SL. The relationship between social support and marital satisfaction in infertile women based on infertility factor. *Nurs Midwif J* 2015; 12: 1104–1109.

- [26] Faal Kalkhoran L, Bahrami H, Farrokhi NA, Zeraati H, Tarahomi M. [Comparing anxiety, depression and sexual life satisfaction in two groups of fertile and infertile women in Tehran]. *J Reprod Infertil* 2011; 12: 157–163. (in Persian)
- [27] Amiri M, Sadeqi Z, Hoseinpoor MH, Khosravi A. Marital Satisfaction and its influencing factors in fertile and infertile women. *J Family Reprod Health* 2016; 10: 139–145.
- [28] Heidari P, Latifnejad R. [Relationship between psychosocial factors and marital satisfaction in infertile women]. *JQUMS* 2010; 14: 26–32. (in Persian)
- [29] Iordachescu DA, Gica C, Vladislav EO, Panaitescu AM, Peltecu G, Furtuna ME, et al. Emotional disorders, marital adaptation and the moderating role of social support for couples under treatment for infertility. *Ginekol Pol* 2021; 92: 98–104.
- [30] Miranda B, Louzã MR. The physician's quality of life: Relationship with ego defense mechanisms and object relations. *Compr Psychiatry* 2015; 63: 22–29.
- [31] Malone JC, Cohen S, Liu SR, Vaillant GE, Waldinger RJ. Adaptive midlife defense mechanisms and late-life health. *Pers Individ Dif* 2013; 55: 85–89.
- [32] Cramer P. Understanding defense mechanisms. *Psychodyn Psychiatry* 2015; 43: 523–552.
- [33] Cramer P. Protecting the self: Defense mechanism in action. New York, NY: The Guilford Press; 2006.
- [34] Coleman JV, Patrick DL. Integrating mental health services into primary medical care. *Med Care* 1976; 14: 654–661.
- [35] Hossein Rashidi B, Malek Afzali H, Haghollahi F, Abedini M, Eslami M, Kazemi Jaliseh H. Behavioral defensive mechanism in infertile couples. *J Biol Today's World* 2017; 6: 49–54.