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Research

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Behavioral Defensive Mechanism in Infertile Couples

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ABSTRACT

Precise information related to behavioral patterns of infertile couples are limited. Therefore, the aim of this study is the assessing the behavioral issues in infertile couples in Iran. In this cross-sectional study, 680 individuals (infertile couples who married at least one year and received primary or secondary infertility diagnosis) who referred to five public and seven private and semi-private centers of infertility across the country were assessed by using non-probability sampling of available individuals. Data collection tool is researcher-made questionnaires to determine the defense mechanism of individuals to cope with infertility and consisted of 21 questions with five Likert scale. Standard score range was from zero to 100 which higher score was developed defense mechanism. Average age in all provinces was generally 30 years (20-40 years) for women and 34 years (22-50 years) for men. A total of 325(48.1%) of women and 419 (65.7%) of men had developed a mature defense mechanism and men were slightly more developed than women in defense mechanism. ($P < 0.001$). Regression coefficients analysis showed the most important factor influencing man's defense mechanism score is his educational level. ($p = 0.008$). Increased men's education lead to increased mature defense mechanism score in infertile individuals and will make this attitude more developed.

Key words: Psychological factors, Behavioral factors, Defense Mechanism, Infertility.Copyright © 2017 Batool Hossein Rashidi et al. This is an open access paper distributed under the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/).
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1. INTRODUCTION

Infertility is a destructive factor affecting lives of couples and a reason for marital conflicts, violence, stigma, crisp and reduction the quality of life in women. Infertility and possible failures of therapy lead to increase mental health problems of patients. In a study in Iran, it was observed that infertile women's personal stability, or individuality are more unstable compared to fertile women and these differences were statistically significant (1). Study result showed that there is a significant correlation between duration of infertility and education level with depression. Also, psychological treatment particularly supportive psychotherapy should be considered in context of fertility treatment (1). Stress of infertile patients affect their response to medical infertility treatment (1-7). Many studies have been carried out about psychological problems in infertile couples in the country. However, they are needed to asses in some areas, such as behavior patterns (Defense mechanism). Defense mechanisms are mental actions that are involuntary and

unconscious and contribute to reduce internal and external stresses. The concept of defensive organization, defined as a set of defense mechanisms relatively stable and characteristic of personality appears to be a major dimension of personality, from normal to pathology. Studies on defense mechanisms have gained the interest of clinicians (8). Defense mechanisms may result in healthy or unhealthy consequences depending on the circumstances and frequency with which the mechanism is used (9). In addition, defense mechanisms are psychological strategies that play to cope with reality and to maintain self-image by various entities. Healthy persons use different defenses throughout life (10). According, infertility is a growing disease, it is necessary to plan seriously to identify and determine priorities for diagnosis of infertility. This study was aimed to assess the behavioral defensive mechanism in infertile couples and related effective social and demographic variables on infertility, which could provide programs for the prevention and treatment of mental health disorders in infertile individuals.

2. MATERIALS AND METHODS

This is a cross-sectional study. This project after approval by the Tehran University of Medical Sciences and obtaining informed consent from individuals lasted from April 2012 until April 2014. 680 individuals (infertile couples) who referred to infertility centers across the country in year 2012 by using non-probability and available sampling were included. Inclusion criteria were the couples who married at least one year ago, and received primary or secondary infertility diagnosis and referred to the center for infertility services. Exclusion criteria were the couples who lack of willingness to participate in the study. Samples were collected from available patients who referred to five public and seven private and semi-private centers. The reason for choosing more private centers is that there is more number of private centers. We received informed consent from all participants. Data collection tool was a self-report questionnaire and was prepared based on defense mechanism of individuals to cope with infertility. This simplified questionnaire were adapted from Andrews et al (11), and included of 21 questions, that consisted of developed (mature) and undeveloped defense mechanisms (immature). The mature factors are sublimation, anticipation and suppression, and immature factor are projection, passive aggression, acting out, isolation, denial, displacement, rationalization, somatization. The internal consistency of the mature and immature defense styles were 0.70 and 0.61 respectively. In addition, results revealed that the questionnaire had acceptable reliability and test-retest reliability coefficient was 89%. Initially, raw scores were calculated for each of the above range. Then, by aligning scores in two above ranges that were calculated in a variable called raw defense mechanism score in range of zero to 100 and higher score meant more developed defense mechanism. Score lower than 50 were considered as undeveloped defense mechanism and score higher than 50 was considered as developed defense mechanism. Data collection was done by the trained questioner in 3 months with referral to the mentioned clinics on two occasions of morning and evening. Infertile couples were asked to complete the questionnaire. Another referral time was used

for collecting information in couples who do not have enough time for completing the information. Quantitative variables like developed and undeveloped defense mechanisms were also done using chi-square test, and Mann–Whitney test was used in the case of not following a normal distribution. Regression model was used to assess the relationship between the scores of variables related to infertility. Independent variables are included: age of woman and man (years), duration of infertility (months), man and woman educational levels in terms of elementary high school, diploma, unemployment for man and woman, infertility type (primary / secondary), duration of infertility diagnosis (years), monthly household expenses, the cost of infertility in the last 12 months and total cost of infertility treatment. In the regression model all of the variables entered into the model and in second level using stepwise regression, effective variables in the model were identified. All calculations were carried out in SPSS software version 21 and the error bars < 0.05 was considered as significant.

2.1. Informed consent

Informed consent was obtained from all individual participants Included in the study.

2.2. Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the Tehran University of Medical Sciences committee and with 1964 Helsinki declaration and its later amendments or comparable ethical standards.

3. RESULTS AND DISCUSSION

In this study, 682 couples from 9 provinces and 15 infertility treatment centers were evaluated. Average age in all provinces was generally 30 (20-40 years) for women and 34 years (22-50 years) for men. The average duration of infertility was 56.90 ± 49.61 years and more than 90% of referring women were housewives. In terms of man's job, 7% was unemployed. In terms of educational status, more than a third of studied women had education level about diploma (Table 1).

Table 1. Total characteristics of study participants

Variable	N.(%)
Type of Hospital:	
1. Governmental	501 (73.5%)
2. Private	181 (26.5%)
Have insurance:	608 (89.4%)
Women education :	
1. Elementary	262 (38.4%)
2. Diploma	269 (39.4%)
3. Higher diploma	151 (22.2%)
Men education :	
1. Elementary	286 (42%)
2. Diploma	254 (37.4%)
3. Higher diploma	141 (20.7%)
Women employee:	69 (10.1%)
Men employee:	632 (92.8%)
Women age:(mean ±SD)	29.7±5.8
Men age:(mean ±SD)	34.2±6.1
Duration of infertility;(month)	56.90±49.61
Type of infertility:	
1. Primary	510 (83%)
2. Secondary	102 (16.7%)

The percentage of women and men with developed defense mechanism was shown in Table 2 . 325 patients (48.1%) of the women had developed a defense mechanism; and in men, 419 patients (65.7%) of men have developed defense mechanisms. Defense mechanism of infertile individuals was compared among gender, findings showed that men

were slightly more developed than women in defense mechanism (P<0.001). In first analysis, regression coefficients analysis showed that the most important factor influencing woman's defense mechanism score is educational level of man (P=0.002).

Table 2. Score of defense mechanisms of men and women referring to infertility centers

	Raw Score of Defense Mechanism (0-100)				Defense Mechanism				P-value
					Not developed		Developed		
	Num	Mean	Standard Deviation	Median	Num	Percent	Num	Percent	
Woman	675	49.14	13.05	50	350	51.9%	325	48.1%	<0.001
Man	638	54.75	12.69	55	219	34.3%	419	65.7%	

Enhancing the education of men and the risk of secondary infertility will lead to increased woman defense mechanism score and defense mechanism will be more developed. Unlike above two variables, the negative coefficient of duration of infertility diagnosis means that by increasing the time of dealing with this problem,

woman defense mechanism is directed to more undeveloped defense mechanisms. Stepwise regression analysis showed that variables influencing woman defense mechanism score were levels of man's education (P=<0.001), type of infertility (P=0.004) and total cost of infertility in the past 12 months (P=0.043) (Table 3).

Table 3. Regression analysis in order to identify variables effective in Defense mechanism of woman

Specifications of model	Dependent variable: Defense Mechanism of Woman		Corrected Coefficient of Determination: 0.083		
	Non-standard regression coefficient		Standardized regression coefficient	Amount of t	Significant level
	Regression Coefficient	Standard Error			
Constant amount	43.453	5.811		7.477	<0.001
Woman's age	-0.230	0.138	0.099	1.666	0.096
Man's age	-0.136	0.125	-0.063	-1.093	0.275
Marriage duration	-0.096	0.193	-0.035	-0.496	0.618
Woman's education	-0.144	0.467	-0.016	-0.308	0.758
Man's education	1.504	0.476	0.163	3.158	0.002
Woman's unemployment	-1.346	0.923	-0.064	-1.458	0.145
man's unemployment	0.764	-0.300	-0.013	0.475	0.635
Type of infertility (Secondary infertility)	4.240	1.609	0.121	2.636	0.009
Duration of infertility diagnosis	-0.036	0.017	-0.140	-2.157	0.031
Monthly household expenses	2.38E-007	0.000	0.035	0.804	0.422
total cost of infertility in the past 12 months	-321E-007	0.000	-0.079	-1.723	0.086
total cost of the treatment of infertility so far	-3.69E-008	0.000	-0.022	-0.450	0.653

Regression coefficients analysis in table 4 showed the most important factor influencing man's defense mechanism score is his educational level (p=0.008). Increased education lead to increased defense mechanism score and will make this attitude more developed.

Stepwise regression analysis showed that variables influencing man defense mechanism score were levels of man's education (P<0.001) and duration of infertility (P=0.028) (

Table 4).

Table 4. Regression analysis in order to identify variables effective in defense mechanism of man

Specifications of model	Dependent variable: Defense Mechanism score of woman		Corrected coefficient of determination: 0.066		
	Non-standard regression coefficient		Standardized regression coefficient	Amount of t	Significant level
	regression coefficient	standard error			
Constant amount	49.862	5.996		8.315	<0.001
Woman's age	-0.256	0.142	-0.113	-1.800	0.072
Man's age	0.133	0.134	0.060	0.991	0.322
Marriage duration	0.015	0.197	0.005	0.074	0.941
Woman's education	0.191	0.475	0.02	0.403	0.667
Man's education	1.294	0.483	0.142	2.681	0.008
Woman's unemployment	-0.095	0.941	-0.005	-0.101	0.919
man's unemployment	0.805	1.216	0.029	0.662	0.508
Type of infertility (Secondary infertility)	1.760	1.660	0.051	1.060	0.290
Duration of infertility diagnosis	-0.016	0.017	-0.061	-0.912	0.362
Monthly household expenses	3.66E-007	0.000	0.055	1.210	0.227
total cost of infertility in the past 12 months	-8.75E-008	0.000	-0.022	-0.463	0.644
total cost of the treatment of infertility so far	-3.29E-008	0.000	-0.020	-0.394	0.694

A defense mechanism becomes pathological only when leads to maladaptive behavior and the physical and/or mental health of the individual are adversely affected. The defense mechanisms protect the mind from anxiety, social sanctions or provide a refuge from a situation with which one cannot currently cope (10). The results of this study showed a significant relationship between the levels of men's education with developed defense mechanism in women. Duration of infertility and levels of men's education, increase women's defense mechanisms. Some researchers believe that the intertwined network of physical, mental and social factors affect the infertile individual, relations and functioning of this complex system, determines how a person responds to the problem of infertility (12). Infertility takes a deeper dimension especially in our culture that a large number of families are widespread type and with regard to the role of parents and caregivers in the lives of couples (13). This kind of attitude is not only related to the Iranian society and can be seen in other societies also, so that there is a similar reaction to infertility in different societies (14). Research shows that men and women in both groups experience stress that is caused by treatment (15). Due to the characteristics of infertile individuals such as facing with the harsh and laborious treatments, long waiting periods, loneliness, rejection, and fear of failure in treatment, these individuals show high levels of anxiety and somatic symptoms and their adjustment with problem will be difficult. This poor incompatibility and psychological pressure often prevent people to reasonably think in a stressful situation and have

a problem-focused coping strategy (15). Increasing the level of the education in men will also lead to more developed defense mechanism and has similar significant relation with woman defense mechanism. The role of awareness and knowledge of men seems to be effective in raising developed defense mechanisms of men and women. Recently, many researches that have provided reports on the characteristics of infertile individuals have considered counseling and psychological interventions as a necessary to help these people. Stresses of infertile treated individuals will lead to decreased physical function and patient response to medical infertility therapy. On the other hand continues infertility and possible failures of therapy lead to increased mental health problems of these patients. As a result, the facilities should be provided so that these individuals receive psychological treatment parallel to infertility medical treatment (16, 17). Identifying the characteristics of understanding-psychological and using developed defense mechanisms methods and therapeutic interventions (psychiatry and counseling) in infertile individuals is a new phenomenon in our society. These findings also indicate that educating couples families and providing social protection for women in order to create a more positive experience for women when they are faced with this crisis are essential (18). Moreover, the results show that type of infertility affects the women defense mechanism score. The study results indicate that the secondary infertile women use the immature defenses considerably to a larger extent as compared to the primary infertile women that this results are in consistent with this

present research (19). This may be due to the stress, lack of social support and feeling of shame over their infertility to conceive or carry a successful pregnancy that results in distress in the interpersonal context (19, 20). Therefore, infertile couples undergoing different treatments need psychological counseling and supportive psychotherapy (21-23). In addition, further research on the consequences of the stress in infertile men and women, and their relation to defense mechanism dimensions is recommended.

4. CONCLUSION

Results of this study show that men with higher education used more developed defense mechanisms. The role of awareness and knowledge of men can be effective by increasing defense mechanisms of men and women. Increasing awareness of women is effective in having a more developed defense mechanism. Therefore, treatment process can be improved by methods such as information and consultation from system of media.

4.1. Limitation

It is obvious that this research had some drawbacks. Firstly, our questionnaire was self – made and, it was settled by self-report items whose answers may be polluted by factors such as social and mental desirability. Secondly, some psychopathological disorders along with infertility that were treated with psychotherapeutic interventions and drug treatments were not controlled; also in this study, we did not assess the infertile couples mental health. Therefore, a self-report scale in the assessment of stress requires to be complemented by a clinical measurement. Eventually, investigating the associations between character, defense mechanisms and stress, can provide deeper understanding in the direction of what personality characteristics underlie stress severity in infertile patients and related to undeveloped defense mechanisms. Therefore, further research on the consequences of the stress in infertile men and women, individual and social attitude and their relation to defense mechanism dimensions are recommended.

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AUTHORS CONTRIBUTION

Study concept and design: Hossein Rashidi and Malekafzali; Analysis and interpretation of data: Haghollahi and Kazemi; Drafting of the manuscript: Kazemi and Haghollahi; Data collection: Islami, Abedini, Haghollahi; Statistical analysis: Kazemi.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this paper.

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