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The Comparison of Alexithymia, Worry, and Perceived Stress in Fertile and Infertile Women of Tabriz

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Abstract

Objectives: The purpose of this research was to compare alexithymia, worry, and perceived stress in fertile and infertile women in Tabriz.

Materials and Methods: In this descriptive-analytical study, 50 infertile women were selected by means of the convenience sampling technique from among women who were diagnosed with infertility and were receiving therapies by gynecologists, referring to Al-Zahra and milad fertility treatment centers during March-September 2017 and. The control group included patients' partners. The data were collected by the Toronto Alexithymia Scale, Penn State Worry Questionnaire, and Cohen's Perceived Stress Scale.

Results: The results showed a significant difference between fertile and infertile women in the extent of alexithymia, worry, and perceived stress being lower in infertile women ($P<0.05$).

Conclusions: In general, the results of present research revealed that infertility can affect personal, social, and marital relationships and result in a mental imbalance in the fetus, increased depression, and even divorce among the couples.

Keywords: Infertility, Alexithymia, Worry, Perceived stress

Introduction

Infertility in all cultures has a deeper dimension and is known as a stressful, critical experience, and a threat to personal, marital, familial, and social stability, especially in Iran where the majority of families are of extended types (1,2).

The World Health Organization defines infertility as not getting pregnant after one year of unprotected sex (without using contraceptives). It also refers to infertility as a global public health issue (3). In addition, infertility may expose the individual to numerous mental pressures. Approximately 168-180 million people around the world are infertile (2,4).

Further, infertility may cause heavy pressures and threaten the mental and physical health of the couples. The role of psychological factors in infertility has attracted special attention over the recent years, suggesting a relationship between these two variables (5). The prevalence of psychological problems in infertile couples is estimated at 25%-60% (1,4) and the psychological factors of infertility are of great importance in infertile women (6).

Evidence suggests that damaging incidents and mental pressures are highly important in the etiology of psychological disorders (7). People with different personality traits face problems differently and the knowledge of these traits seems to be necessary for confronting those problems (7). As a developmental deficit, alexithymia personality is positively associated with neuroticism, depression, and anxiety (8). Moreover, it can be considered as depression or anxiety and even as the effect of chronic mental traumas and physical disorders (9).

Similarly, alexithymia is characterized by difficulty in identifying, expressing, and describing emotions, as well as focus on external experiences (10). The main cause of alexithymia is an inability to distinguish between emotions and severe limitations to express them. This results in a lack of communication with others and reduced interpersonal relationships (11).

Infertility might make women experience some sorts of worry and confusion (12). More precisely, worry is observed as a chain of negative and probably uncontrollable thoughts, imaginations, and emotions about solving an internal issue with an unknown consequence and possibly a negative result (13).

According to some studies, infertility affects people's reactions and the length of infertility raises psychological tensions. Additionally, it seems that the rate of worry and anxiety increases in infertile women considering the prolonged courses of treatment, family issues, and problems, as well as high costs of treatment (14,15).

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In addition, infertility seems to be extremely important because of personal, interpersonal, familial, social, and cultural reasons. The role of psychological factors, especially personality traits such as alexithymia is highly essential in infertile women. Having this in mind and given the small number of studies on this subject, this study aimed to examine alexithymia, worry, and stress in infertile women.

Materials and Methods

The research population of this descriptive-analytical study included 50 infertile women who were diagnosed with infertility by gynecologists and were receiving therapies upon referring to Al-Zahra and Milad fertility treatment centers. The sampling was performed from March to September 2017 and the control group included patients' female fertile partners who were consistent in terms of age (±3 years). Further, the sample size was calculated using the Collins's method and the subjects were selected by the convenience and purposive sampling method.

Data collection tools included three questionnaires as follows:

Toronto Alexithymia Scale (TAS-20) was originally developed by Taylor in 1986 and revised in 1994 (16). It is a 20-item test and measures three subscales including difficulty in identifying the feelings containing seven items (3, 6, 7, 9, 12, & 13), difficulty in describing feelings encompassing five items (2, 4, 11, 12, & 17), and externally-oriented thinking having eight items (5, 8, 10, 15, 16, 18, 19, & 20) on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). A total score is calculated for alexithymia from the sum of the subscale scores ranging from 20 to 100.

In the Persian version of TAS-20, Cronbach alphas were respectively calculated at 82, 75, and 72 for the total alexithymia and the 3 subscales of difficulty in identifying feelings, describing feelings, and externally-oriented thinking. The obtained values suggested good internal consistency which was confirmed based on the correlations (the Pearson correlation coefficient) between the total alexithymia and emotional intelligence (r=-0.80), psychological well-being (r=-0.78), and psychological distress (r=-0.44). Furthermore, test-retest reliability was confirmed for the total alexithymia and the subscales (r=0.80 to r=0.87) by twice administering the scale to a sample of 67 cases four weeks apart.

Penn State Worry Questionnaire (PSWQ) is a self-administered questionnaire developed by Meyer et al in 1990. It has 16 items and measures people's tendency to worry in general regardless of a specific worry. The answers are scored on a 5-point Likert-type scale ranging from 1 (not at all typical of me) to 5 (very typical of me). The validity and reliability of the Persian version of PSWQ (17) were reported by a 0.92 Cronbach alpha and a 0.42 internal correlation of the items.

Perceived Stress Scale (PSS) is a 14-item scale developed by Cohen in 1983. It examines the thoughts and feelings of an individual over the last month. The items are scored as never (0), almost never (1), sometimes (2), often (3), and very often (4) with the total score ranging from zero to 56. The higher score represents a lower rate of stress. The PSS reliability was calculated by internal consistency with the Cronbach's alpha at 0.74. Mohammadi-Yeganeh et al (17) also evaluated its reliability using internal consistency and reported a 0.81 Cronbach alpha. The reliability coefficient of the PSS was 0.80 in the present study using the Cronbach alpha.

The collected data were analyzed by means of an independent *t* test in SPSS17.

Results

In the control group, the mean age was 37.20±9.68 years with subjects' age ranging from 20 to 58 years. Moreover, the mean height and weight were 164±76.29 cm and 70.3±9.62 kg respectively. Eighteen women (36%) became pregnant in the first year of marriage, 22 (43%) of them earned above 20 million rials in a month, 40 (80%) cases lived in Tabriz, and 39 women (76%) had a university degree.

In the infertile group, the mean age was 39.21±8.21 years and the subjects were within the age range of 19-39 years. Additionally, the mean height and weight were 162±6.21 cm and 74.3±8.22 kg respectively. The infertility duration of 22 women (44%) was more than four years, 38 (78%) women earned 10-20 million rials in a month, 33 (96%) of them lived in cities other than Tabriz, and 18 (36%) cases had an associate degree.

The results showed that the mean scores of alexithymia, worry, and perceived stress were higher in the infertile group compared to the fertile group (Table 1). There was a significant difference between the two groups in terms of the alexithymia and worry (Table 2), and perceived stress scores ($P<0.05$), the details of which are provided in Table 2.

Discussion

The results of this study demonstrated that the infertile and fertile groups were different in terms of the rate of alexithymia, which is consistent with the findings of

Table 1. The Comparison of the Mean Scores (SDs) of Alexithymia, Worry, and Perceived Stress

Variable	Number	Mean	SD
Alexithymia – infertile women	50	66.7	6.58
Alexithymia – fertile women	50	61.18	11.40
Worry – infertile women	50	53.08	8.77
Worry – fertile women	50	40.72	10.43
Perceived stress – infertile women	50	42.25	5.57
Perceived stress – fertile women	50	32.35	4.70

Note. SD: Standard deviation

Table 2. The Difference in Alexithymia and Worry Scores of Infertile and Fertile Women

Variable	Equality of Variance Test		T-test						
	P	*F*	*t*	*df*	*P	Difference in Means	Difference in SDs	95% CI	
								Max.	Min.
Alexithymia	0.001	44.16	2.87	118	0.001	4.88	0.70	1.51	8.25
Worry	0.001	0.51	7.02	118	0.001	12.36	1.76	8.88	15.85
Perceived stress	0.001	1.30	10.72	118	0.001	10.10	0.941	8.23	11.96

Note. Significance level: $P<0.05$; *P*: Significance level for the fertile group; **P*: Significance level for the infertile group; SD: Standard deviation; CI: Confidence interval.

Guz et al (18). It may be argued that considering their disorders, alexithymic patients cannot experience dreams or fantasies, but their thinking is highly based on logic, reasons, and facts thus their dreams are also highly logical and realistic. They may manifest varying emotions. For example, they are sometimes highly restless and reprehend themselves or burst into tears and become angry. Since the signs of restlessness and self-reprehension associated with infertility are reported in infertile women, thus the manifestation of alexithymic symptoms in infertile women could be accounted for.

The worry scores were different between infertile and fertile women, which is rather in line with the results reported by Khanipour et al (12). Thus, infertility and its emotional problems would make infertile women experience some sort of worry and confusion. Normal people also become worried although evidence shows that infertile women's worries differ and need to be reflected upon (12). In addition, worry is a cognitive process of predicting risks and threats, which includes repeating thoughts and images, anxiety-provoking topics, possible stressful events, and their potentially disastrous consequences. This is manifested in infertile women because of prolonged infertility period, failures of medical interventions, and attempts to get pregnant.

Worry influences many physical and mental aspects of an individual and this might result in physical complications and is intensified in infertile women in particular (7). Moreover, the feeling of pressure and concerns about the inability to get pregnant escalates one's worry and leads them toward anxiety disorders. Worries seem to be higher in infertile women causing anxiety-related problems due to prolonged courses of treatment, evident and hidden marital and familial problems and issues, and highly costly treatments.

The infertile and fertile women also differed in terms of the amount of perceived stress, which is consistent with the results of Verhaak et al (15) and Galhardo et al (19). It may be argued that despite the various proposed causes for infertility, it is an extremely psychologically stressful experience that may result in escalated depression in some women (20).

Limitations

The results are based on the subjects' self-reported responses that may not reflect their real views. Climatic and cultural conditions also might have affected the results. This study was conducted on infertile women and excluded infertile men. Considering that the study was carried out in two centers, the results may not be generalized to other populations. Finally, the non-randomized allocation of the subjects is another limitation of the present study.

Conclusions

Infertile couples not only deal with various physical problems but also experience a set of psychological symptoms including anxiety, disrupted interpersonal relations, failure, suppressed anger and aggression, stress, feeling of humiliation, abandonment, a feeling of subconscious guilt, depression, jealousy, isolation, low self-esteem, physical problems, and obsession. These personal, interpersonal, and familial disturbances are associated with the fact that getting pregnant for some couples is a critical stage in life and the inability to get pregnant means bearing a great deal of stress and pain and thus investigating its impacts poses a real challenge.

Conflict of Interests

Authors have no conflict of interests.

Ethical Issues

This study was approved by Department of Psychology - Tabriz Branch of Islamic Azad University (10220701952011-96/4/18).

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References

1. Ameli M, Moghimian M, Saeb F, et al. The effect of clomiphene citrate and human chorionic gonadotropin on the expression of CatSper1, CatSper2, LHCGR, and SF1 genes, as well as the structural changes in testicular tissue of adult rats. Mol Reprod Dev. 2019;86(6):738-748. doi:10.1002/mrd.23151

2. Peterson BD, Gold L, Feingold T. The experience and influence of infertility: considerations for couple counselors. Fam J. 2007;15(3):251-257. doi:10.1177/1066480707301365
3. Zegers-Hochschild F, Adamson GD, de Mouzon J, et al. The international committee for monitoring assisted reproductive technology (ICMART) and the world health organization (WHO) revised glossary on ART terminology, 2009. Hum Reprod. 2009;24(11):2683-2687. doi:10.1093/humrep/dep343
4. Shokoohi M, Khaki A, Shoorei H, et al. Investigating the effects of onion juice on male fertility factors and pregnancy rate after testicular torsion/detorsion by intrauterine insemination method. Int J Womens Health Reprod Sci. 2018;6(4):499-505. doi:10.15296/ijwhr.2018.82
5. Yauger BJ, Feinberg EC, Levens ED, Gustofson RL, Larsen FW, DeCherney AH. Pre-cycle saline infusion sonography minimizes assisted reproductive technologies cycle cancellation due to endometrial polyps. Fertil Steril. 2008;90(4):1324-1326. doi:10.1016/j.fertnstert.2007.09.050
6. Volgsten H, Skoog Svanberg A, Ekselius L, Lundkvist O, Sundström Poromaa I. Risk factors for psychiatric disorders in infertile women and men undergoing in vitro fertilization treatment. Fertil Steril. 2010;93(4):1088-1096. doi:10.1016/j.fertnstert.2008.11.008
7. Molla GL, Sebhat HM, Hussen ZN, Mekonen AB, Mersha WF, Yimer TM. Depression among Ethiopian adults: cross-sectional study. Psychiatry J. 2016;2016:1468120. doi:10.1155/2016/1468120
8. Martínez-Sánchez F, Ato-García M, Adam EC, Huedo Medina TB, Selva España JJ. Stability in alexithymia levels: a longitudinal analysis on various emotional answers. Pers Individ Dif. 1998;24(6):767-772. doi:10.1016/S0191-8869(97)00239-0
9. Karami J, Momeni K, Zakiei A. The relationship alexitymia, positive affect and negative affect with the obsessive-compulsive disorder syndrome. The Journal of Urmia University of Medical Sciences. 2013;24(7):534-542. [Persian].
10. Lumley MA, Neely LC, Burger AJ. The assessment of alexithymia in medical settings: implications for understanding and treating health problems. J Pers Assess. 2007;89(3):230-246. doi:10.1080/00223890701629698
11. Castonguay LG. Psychotherapy outcome: an issue worth re-revisiting 50 years later. Psychotherapy (Chic). 2013;50(1):52-67. doi:10.1037/a0030898
12. Khanipour H, Mohammadkhani P, Tabatabaei S. Thought control strategies and trait anxiety: predictors of pathological worry in non-clinical sample. Journal of Behavioral Sciences. 2011;5(2):173-178. [Persian].
13. Nolen-Hoeksema S. The Response Styles Theory. Depressive Rumination; 2004:107-124.
14. Saxena P, Dubey A, Pandey R. Role of emotion regulation difficulties in predicting mental health and well-being. SIS Journal of Projective Psychology & Mental Health. 2011;18(2):147.
15. Verhaak CM, Smeenk JM, van Minnen A, Kremer JA, Kraaimaat FW. A longitudinal, prospective study on emotional adjustment before, during and after consecutive fertility treatment cycles. Hum Reprod. 2005;20(8):2253-2260. doi:10.1093/humrep/dei015
16. Aaron RV, Benson TL, Park S. Investigating the role of alexithymia on the empathic deficits found in schizotypy and autism spectrum traits. Pers Individ Dif. 2015;77:215-220. doi:10.1016/j.paid.2014.12.032
17. Mohammadi-Yeganeh L, Bastani F, Feizi Z, Agilar-Vafaie M, Haghani H. Effect of stress management education on mood and perceived stress among oral contraceptive pill users. Iran Journal of Nursing. 2008;21(53):63-73. [Persian].
18. Guz H, Ozkan A, Sarisoy G, Yanik F, Yanik A. Psychiatric symptoms in Turkish infertile women. J Psychosom Obstet Gynaecol. 2003;24(4):267-271. doi:10.3109/01674820309074691
19. Galhardo A, Cunha M, Pinto-Gouveia J, Matos M. The mediator role of emotion regulation processes on infertility-related stress. J Clin Psychol Med Settings. 2013;20(4):497-507. doi:10.1007/s10880-013-9370-3
20. Wichman CL, Ehlers SL, Wichman SE, Weaver AL, Coddington C. Comparison of multiple psychological distress measures between men and women preparing for in vitro fertilization. Fertil Steril. 2011;95(2):717-721. doi:10.1016/j.fertnstert.2010.09.043