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Evaluation of the Psychological State and Levels of Violence Exposure in Infertile Women

İnfertil Kadınlarda Psikolojik Durum ve Şiddete Maruz Kalma Düzeylerinin Değerlendirilmesi

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ABSTRACT

Objective: The present study was conducted to assess the psychological state and levels of violence exposure in infertile women and to examine the relationship between them.

Methods: This research was carried out in the descriptive and relationship-seeking type with 240 women who applied to the IVF center of Atatürk University Aziziye Research Hospital between April and October 2015 and who were determined by the improbable sampling method and volunteered to participate in the study. In the research, the "Information form" prepared by the researchers, the "Infertility Distress Scale," and the "Infertile Women's Exposure to Violence Determination Scale" were utilized as data collection tools.

Results: The mean total score of the Infertility Distress Scale was found to be 60.91 ± 10.26, and the mean score of the Infertile Women's Exposure to Violence Determination Scale was found to be 85.12 ± 15.37. The mean score of the Domestic Violence subscale was determined to be 30.53 ± 6.06, the mean score of the Social Pressure subscale was found to be 19.49 ± 3.77, the mean score of the Punishment subscale was found to be 16.10 ± 3.51, the mean score of the Exposure to Traditional Practices subscale was found to be 11.12 ± 2.99, and the mean score of the Exclusion subscale was found to be 7.85 ± 2.05. A statistically positive significant correlation was determined between the women's mean score on the Infertility Distress Scale and the mean Infertile Women's Exposure to Violence Determination Scale subscale and total scores ($p < .001$).

Conclusion: It was revealed that primary infertile women were exposed to moderate violence. In accordance with the study results, it was found that when women were exposed to violence, they were more psychologically affected by infertility.

Keywords: Infertility, midwifery, psychological affection, violence

ÖZ

Amaç: Bu araştırma, infertil kadınlarda psikolojik durumun ve şiddete maruz kalma düzeylerinin değerlendirilmesi ve aralarındaki ilişkinin incelenmesi amacıyla yapılmıştır.

Yöntemler: Bu araştırma, tanımlayıcı ve ilişki arayıcı tipte, Atatürk Üniversitesi Aziziye Araştırma Hastanesi, Tüp Bebek Merkezi'nde, Nisan-Ekim 2015 tarihleri arasında tüp bebek merkezine başvuran, olasılıksız örneklem yöntemiyle belirlenen ve çalışmaya katılmaya gönüllü olan 240 kadın ile yapılmıştır. Araştırmada veri toplama aracı olarak araştırmacılar tarafından oluşturulan "Bilgi Formu", "İnfertilite Etkilenme Ölçeği (İEÖ)" ve "İnfertil Kadınlarda Maruz Kalınan Şiddeti Belirleme Ölçeği (İKMKŞBÖ)" kullanılmıştır.

Bulgular: İEÖ toplam puan ortalamasının 60,91 ± 10,26, İKMKŞBÖ puan ortalamasının 85,12 ± 15,37 olduğu bulunmuştur. Aile İçi Şiddet alt boyutu puan ortalamasının 30,53 ± 6,06, Sosyal Baskı alt boyutu puan ortalamasının 19,49 ± 3,77, Ceza Alanı alt boyutu puan ortalamasının 16,10 ± 3,51, Geleneksel Uygulama alt boyutu puan ortalamasının 11,12 ± 2,99, Dışlanma alt boyutu puan ortalamasının 7,85 ± 2,05 olduğu bulunmuştur. Kadınların İEÖ puan ortalaması ile İKMKŞBÖ alt boyut ve toplam puan ortalaması arasında istatistiksel olarak pozitif yönde anlamlı bir ilişki olduğu belirlenmiştir ($p < ,001$).

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Sonuç: Primer infertil kadınların orta düzeyde şiddete maruz kaldıkları belirlenmiştir. Araştırma bulgularına göre kadınların şiddete maruz kaldıklarında infertiliteden psikolojik olarak daha fazla etkilendikleri belirlenmiştir.

Anahtar Kelimeler: İnfertilite, ebe, psikolojik etkilenme, şiddet

Introduction

Infertility is described as a couple's inability to achieve pregnancy in spite of more than 12 months of unprotected sexual intercourse (Fode et al., 2016). More than 186 million people worldwide suffer from infertility, and most of them reside in developing countries (Vander & Wyns, 2018). Infertility represents a global problem that affects people all over the world, the cause and importance of which can change depending on geographical location and socioeconomic condition (Deyhoul et al., 2017). While both women and men experience reproductive health problems, they experience severe psychological distress such as low self-esteem, isolation, loss of control, sexual inadequacy, and depression. The World Health Organization (WHO) defines health as "a state of complete physical, mental, and social well-being, not merely the absence of infirmity or disease." Accordingly, infertility constitutes a source of reduced health and social well-being (WHO, 2015).

Fertility represents the result of thousands of biological processes in women and men. An imbalance in any of the mentioned systems causes infertility and makes couples susceptible to mental and psychological problems, for example, anxiety, depression, and mental pressure, which sometimes leads to social problems such as domestic violence (Taebi et al., 2016). Particularly in patriarchal societies and people with pronatalist assumptions (in other words, those who advocate a high birth rate), if a woman cannot give birth to a child, she may be exposed to violence by her spouse (Onat, 2014). Violence against women is gradually increasing worldwide and is regarded as a major public health problem (Öztürk, 2016). It has been demonstrated that infertile women are exposed to violence twice as much as fertile women (Ardabily et al., 2011). The type of domestic violence against infertile women may vary between physical, psychological, and sexual (Ardabily et al., 2011). The studies in the literature demonstrate that a history of sexual violence is related to infertility. It is stated that psychological trauma that is caused by sexual violence leads to ovulation infertility or sexual dysfunction (Deyhoul et al., 2017). When a couple experiences infertility, they experience changes in their family, social, and personal relationships. Infertile men and women are usually stigmatized, not allowed to participate in community activities, and have higher rates of divorce, marriage, and polygamy compared to fertile couples. In addition to feelings of alienation, they may experience sadness, depression, and low self-esteem at high levels (Stellar et al., 2016).

The negative reactions of the people around them can cause the health of infertile people to deteriorate (Newton et al., 1999). Individuals may be exposed to psychological violence through social isolation, stigma, humiliation with curious questions, and pressure from the family (Onat, 2014). Intimate partner violence has long-term negative health consequences for survivors, even after the end of abuse. The above-mentioned impacts may manifest themselves as poor health condition, low quality of life, and a high rate of using health services (Campbell, 2002). Women exposed to physical and/or sexual violence are at a considerably higher risk of contracting HIV and other sexually transmitted infections, having an abortion, and suffering from depression and other mental health disorders. Furthermore, it is four and a half times more possible that women exposed to violence commit suicide in comparison with women who have never experienced violence (Stellar et al., 2016). Furthermore, violence against infertile women has an effect on their psychological health and treatment outcomes (Hajizade-Valokolaee et al., 2017). Especially in patriarchal societies, women are regarded to be responsible for infertility. Therefore, it is thought that infertile women have higher rates of violence exposure (Öztürk, 2016). It is indicated that the rate of violence against infertile women is related to their partner's unemployment, forced marriage, partner's addiction, and age (e.g., when women are young) (Yazdi et al., 2020).

In accordance with the WHO guidelines, it is aimed to improve the quality of life of infertile couples by providing psychological intervention to alleviate the adverse effect of infertility in both women and men (Vayena et al., 2002). Violence against infertile women and the related stress also influence the outcomes of infertility treatment. It is stated that different cultural factors lead to violence in various societies. Thus, it is crucial for healthcare providers to take these factors into account in the infertility treatment process (Hajizade-Valokolaee et al., 2017).

It becomes important to evaluate the effect of psychological state and violence exposure in infertile women and to intervene with necessary midwifery interventions in case of a good health condition, in providing a successful infertility treatment, increasing the quality of life, using adequate healthcare services, and providing adequate social support. The current research was carried out to assess the psychological state and the levels of violence exposure in infertile women.

Methods

Study Design, Sample, and Setting

This research is a descriptive and relationship-seeking study. The population of the study consisted of 670 primary infertile individuals who applied to the IVF center for infertility treatment between April 2015 and October 2015. The sample size of the study was determined to be 185 people with 80% power and 0.05 error probability. To increase the power of the study, 240 primary infertile women determined by the improbable sampling method were included in the research. The study sample consisted of women ($n = 240$) who were diagnosed with primary infertility between April and October 2015, who met the inclusion criteria, and agreed to participate in the research. The study included literate individuals, who had no history of psychiatric disease, were diagnosed with primary infertility and underwent treatment, and had not been clinically diagnosed with any mental disease before.

Data collection was performed by conducting face-to-face interviews with individuals between April 2015 and October 2015, and the application was started by providing information about the study. Individuals who applied to the IVF Center of Research Hospital were invited to the study, and the information on the

Volunteer Consent Form was read. The consent of the individuals was obtained. An explanation was made about the content of the data collection forms. During the interviews, the Personal Information Form was applied for 5 minutes to each woman, and the scales were applied in 25 minutes. The total application time of the forms is approximately 30 minutes.

Instruments

The "Personal Information Form," "Infertility Distress Scale" (IDS), and "Infertile Women's Exposure to Violence Determination Scale" (IWEVDS) were utilized for data collection.

Personal Information Form

The form includes 15 questions about the sociodemographic characteristics of women and information about infertility.

The IDS is a scale developed by Akyüz et al. and used to identify the level of psychological affection in Turkish women by infertility treatment and infertility diagnosis. The IDS contains 21 items, including 16 positive and 5 negative (items 3, 10, 13, 14, and 21) statements. While positive statements are scored as 1 = never, 2 = rarely, 3 = frequently, and 4 = always, negative statements are scored in reverse. Cronbach's alpha value of the scale developed by Akyüz et al. was determined to be .89. In this research, Cronbach's alpha value was determined to be .93. The scale contains statements utilized to describe the emotional states of individuals and boxes indicating the frequency of experiencing emotions. The individual participating in the study reads the statements in the scale and indicates how he feels in the face of the feeling of not being able to have children by checking the boxes next to the statements. There are no subgroups in the scale. The minimum score that can be acquired from the scale is 21, and the maximum score is 84. The increase in the score obtained from the scale indicates that the level of being adversely affected by infertility increases (Akyüz et al., 2008).

The IWEVDS was developed by Onat to reveal exposure to violence in infertile women. The scale consists of 5 subscales and 31 items in total. The scale is a five-point Likert-type scale (1 = never, 2 = rarely, 3 = sometimes, 4 = usually, and 5 = always). Each item was scored between 1 and 5. The subscales of the scale consist of the domestic violence (11 items), social pressure (7 items), punishment (6 items), exposure to traditional practices (4 items), and exclusion (3 items) dimensions (Onat, 2014). Cronbach's alpha internal consistency coefficient of the scale was reported to be .96. Cronbach's alpha values of the subscales are as follows: .94 for domestic violence, .89 for social pressure, .91 for punishment, .81 for exposure to traditional practices, and .80 for exclusion. Cronbach's alpha coefficient of this study was determined to be .92. The minimum score that can be acquired from the scale is 31, and the maximum score is 155. An increase in the score obtained from the scale indicates that the level of exposure to violence is more frequent and severe (Onat, 2014).

Statistical Analyses

In the evaluation of the data, percentage distribution and mean tests were used. In the comparison of the groups in terms of independent variables, the analysis of variance was used for normally distributed data, and the Kruskal–Wallis and Mann–Whitney *U* tests were used for non-normally distributed data. Cronbach's alpha coefficient was used to calculate internal consistency between the scale items. While examining the difference between the groups, .05 was used as the level of significance, and it was stated that there was a significant difference between the groups when $p < .05$, and no significant difference between the groups was found if $p > .05$.

Ethical Approval

Before starting the study, written permission was obtained from the Ethics Committee of Erzurum Atatürk University, Faculty of Health Sciences (March 10, 2015, Number: 06) and the institution where the study would be conducted. Furthermore, verbal consent was received from the women who agreed to take part in the study. The study was carried out in accordance with the principles of the Helsinki Declaration.

Limitations of the Study

The study can be generalized to only 240 infertile women who applied to the IVF center in Erzurum province and agreed to participate in the research. The study limitations are the inclusion of only women in the sample due to the characteristics of the scales used, not monitoring step by step the degree to which infertility has affected an individual, the initial diagnosis, examination, treatment, treatment effects, and the treatment results.

Results

The mean total score of the IDS was found to be 60.91 ± 10.26. The mean score of the Domestic Violence Subscale was determined to be 30.53 ± 6.06, the mean score of the Social Pressure Subscale was found to be 19.49 ± 3.77, the mean score of the Punishment Subscale was found to be 16.10 ± 3.51, the mean score of the Exposure to Traditional Practices Subscale was found to be 11.12 ± 2.99, the mean score of the Exclusion Subscale was found to be 7.85 ± 2.05, and the mean total score of the IWEVDS was found to be 85.12 ± 15.37 (Table 1).

A statistically positive significant relationship was determined between the IDS score and the "Domestic Violence Subscale," "Social Pressure Subscale," "Punishment Subscale," "Exposure to Traditional Practices Subscale," "Exclusion Subscale," and "IWEVDS" mean total scores ($p < .001$) (Table 2).

It was determined that 37.1% of the infertile women included in the research were aged between 30 and 34 years, the arithmetic mean of their ages was 32.23 ± 4.72, 31.3% of them were university

Table 1.
Distribution of the Minimum, Maximum, and Mean Scores Obtained by Women from the IDS and IWEVDS

Scales		Minimum	Maximum	$\bar{X}$ ± SD
IDS total score		21	84	60.91 ± 10.26
IWEVDS subscales	Domestic Violence subscale	11	51	30.53 ± 6.06
	Social Pressure subscale	7	31	19.49 ± 3.77
	Punishment subscale	6	25	16.10 ± 3.51
	Exposure to Traditional Practices Subscale	4	16	11.12 ± 2.99
	Exclusion subscale	3	12	7.85 ± 2.05
IWEVDS total score		31	135	85.12 ± 15.37

Note: IDS = Infertility Distress Scale; IWEVDS = Infertile Women's Exposure to Violence Determination Scale; SD, standard deviation.

Table 2.
The Relationship Between the Mean IDS Scores and the Mean IWEVDS Scores

IWEVDS		IDS	
Subscales	Domestic Violence subscale	*r* *p*	.609** .000
	Social Pressure subscale	*r* *p*	.726** .000
	Punishment subscale	*r* *p*	.779** .000
	Exposure to Traditional Practices subscale	*r* *p*	.759** .000
	Exclusion subscale	*r* *p*	.892** .000
IWEVDS total score		*r* *p*	.864** .000

Note: IDS = Infertility Distress Scale; IWEVDS = Infertile Women's Exposure to Violence Determination Scale.
**$p < .001$.

graduates, 53.3% were employed, 46.7% were housewives, 52.1% had income equal to their expenses, and 53.3% resided in the province (Table 3).

Upon comparing the mean IDS scores of primary infertile women in terms of sociodemographic characteristics, it was determined that the mean scale scores were high to create significance in women who were primary school graduates, unemployed, housewives, who had income less than their expenses, lived in a village, whose husband was a primary school graduate, with the duration of marriage of 12 years and more, who experienced infertility for 11 years and more for reasons related to themselves and their spouse's, who could not have children for 5 years and more ($p < .05$), and the values of the differences between the women's and their husband's age, spouse's employment status, family type, and the duration of treatment, and the mean total IDS score were not statistically significant ($p > .05$) (Table 3).

When the mean IWEVDS scores of primary infertile women and their age were compared, it was found that women aged between 20 and 24 years had higher mean Domestic Violence Subscale, Social Pressure Subscale, Punishment Subscale, Exposure to Traditional Practices Subscale, Exclusion Subscale, and IWEVDS total scores compared to other groups, but such a high level was not statistically significant.

It was determined that the mean Punishment, Exposure to Traditional Practices, and Exclusion subscale scores of secondary education graduates, and the mean Domestic Violence, Social Pressure Subscale, and IWEVDS total scores of primary school graduates were significantly higher. In the study, it was revealed that unemployed women had higher mean scores of all subscales and total scores of the IFEVDS compared to employed women. It was determined that housewives and women with income less than their expenses had statistically significantly higher mean scores of all subscales and total score of the IWEVDS in comparison with other groups.

The mean scores of all subscales and total scores of the IWEVDS of women residing in the village were higher compared to those residing in the province and district. It was found that the mean scores of all subscales and total scores of the IWEVDS of the women with the husband aged between 28 and 32 years and with the husband being a primary school graduate were statistically significantly higher ($p < .05$). In the study, the mean scores of all subscales and total scores of the IWEVDS of women with the unemployed husband were found to be higher compared to those with the employed husband. Women with the extended family structure had higher mean scores of all subscales and total scores of the IWEVDS compared to those with the nuclear family structure. Women experiencing infertility due to reasons related both to the woman and man were determined to have higher mean scores of all subscales and total scores of the IWEVDS.

Women with the marriage duration of 12 years and more, who wanted to have children for 5 years and more, with the infertility duration of 11 years and more were found to have statistically significantly higher means cores of all subscales and total scores of the IWEVDS ($p < .05$). Women undergoing treatment for 5 years and more had higher mean scores of all subscales and total scores of the IWEVDS (Table 4).

Discussion

In the study, it was determined that women were psychologically adversely affected by infertility at a high level (60.91 ± 10.26). In the study, the mean IDS score of infertile women in western regions of Turkey was found to be 37.4 ± 9.96 (Yilmaz et al., 2020). It was revealed to be 37.0 ± 9.7 by Dağ et al. (2015) in the Central Anatolia region in Turkey and 37.76 ± 10.53 by Akyüz et al. (2014). The mean IDS scores found in the present research were higher than the scores in the studies mentioned above. This shows that infertile women are affected by infertility at high levels, especially in the eastern region, according to the region.

The mean IWEVDS score was found to be 85.12 ± 15.37. However, the IWEVDS score in Iran was found to be 87.47 ± 41.88, and the mean IWEVDS score was found to be 73 ± 18 among infertile Egyptians (Lotfy et al., 2019; Mogadam et al., 2016). The IWEVDS sub-scale scores were found to be 30 ± 6, 19 ± 4, and 16 ± 3, respectively, in the domestic violence, social pressure, and punishment areas. Çelik and Kırca (2018) stated that 62% of the participants were exposed to emotional/psychological violence. In the study performed by Ozgoli et al. (2016), the prevalence of psychological intimate partner violence in infertile women was found to be 74.3%. In the study conducted by Yıldızhan et al. (2009), it was determined that 19.5% of abused women were also abused by the families of their spouses. As a result, domestic violence is common among infertile women, and reproductive failure is perceived as an embarrassing disability and creates a stigma (Onat, 2014).

According to the study results, it was revealed that when women were exposed to violence, they were affected more by infertility. The type of domestic violence against infertile women may vary between physical, psychological, and sexual (Hajizade-Valokolaee et al., 2017). Physical violence represents the type of violence hurting and damaging women and possibly causing physical damage. Injuries and trauma that are caused by physical violence adversely affect marital relationships and women's self-image. Infertile women may push their desire to have children to the background due to the physical violence they are exposed to. In other words, women exposed to physical violence can be less inclined to infertility treatment (Akyüz et al., 2014). A study

Table 3.
Distribution of Women's Socio-Demographic Characteristics and Comparison of the Mean IDS Scores by the Women's Socio-Demographic Characteristics

Characteristics	*n*	%	IDS $\bar{X} \pm SD$	Test and *p* Value
Age				
20–24	10	4.2	63.30 ± 7.67	KW = 0.49,
25–29	62	25.8	61.85 ± 7.61	*p* = .92
30–34	89	37.1	59.98 ± 10.60	
35 and above	79	32.9	60.91 ± 11.89	
Educational status				
Primary school	30	12.4	64.93 ± 7.07	F = 13.41,
Secondary school	55	22.9	64.32 ± 10.55	***p* = .001**
High school	80	30.4	62.33 ± 8.04	
University	75	31.3	55.28 ± 10.99	
Employment status				
Employed	128	53.3	58.38 ± 10.21	*t* = –4.22,
Unemployed	112	46.7	63.80 ± 9.58	***p* = .001**
Profession				
Worker	68	28.3	60.02 ± 9.25	KW = 21.99,
Civil servant	51	21.3	56.98 ± 11.57	***p* = .001**
Self-employed	9	3.7	53.88 ± 6.47	
Housewife	112	46.7	63.80 ± 9.58	
Perception of income status				
Income less than expenses	83	34.6	63.83 ± 8.24	F = 20.21,
Income equal to expenses	125	52.1	61.42 ± 9.31	***p* = .001**
Income more than expenses	32	13.3	51.34 ± 12.91	
Place of residence				
Province	128	53.3	59.30 ± 9.98	F = 4.67,
District	78	32.5	61.76 ± 10.10	***p* = .01**
Village	34	14.2	65.00 ± 10.58	
Husband's age				
25–29	33	13.7	64.42 ± 6.95	F = 2.52,
30–34	84	35.0	60.96 ± 9.05	*p* = .08
35 and above	123	51.3	59.93 ± 11.56	
Husband's education				
Primary school	14	5.8	67.21 ± 14.62	KW = 28.50,
Secondary school	49	20.4	64.04 ± 9.43	***p* = .001**
High school	85	35.4	62.29 ± 7.96	
University	92	38.4	57.01 ± 10.58	
Husband's employment status				
Employed	227	94.6	60.76 ± 10.28	*t* = –0.94
Unemployed	13	5.4	63.53 ± 9.85	*p* = .34
Family type				
Nuclear family	180	75.0	60.16 ± 10.41	*t* = –1.96
Extended family	60	25.0	63.15 ± 9.54	*p* = .05
Duration of marriage				
2–6 years	77	32.1	60.19 ± 10.56	F = 6.81,
7–11 years	130	54.2	59.82 ± 9.49	***p* = .001**
12 years and above	33	13.7	66.87 ± 10.73	
Cause of infertility				
Reasons related to women	102	42.5	58.00 ± 10.03	KW = 20.15,
Reasons related to men	23	9.5	61.39 ± 14.54	***p* = .001**
Reasons related to both women and men	28	11.7	64.42 ± 5.58	
Unknown causes	87	36.3	63.06 ± 9.58	
Duration of infertility				
1–5 years	174	72.5	59.21 ± 9.87	KW = 25.98,
6–10 years	49	20.4	64.36 ± 11.03	***p* = .001**
11 years and above	17	7.1	68.35 ± 5.23	
Duration of treatment				
1–2 years	109	45.4	60.41 ± 9.63	F = 2.21,
3–4 years	92	38.3	60.17 ± 10.36	*p* = .11
5 years and above	39	16.3	64.05 ± 11.36	
Duration of wanting to have a child				
1–2 years	103	42.9	58.98 ± 10.69	KW = 19.85,
3–4 years	109	45.4	61.05 ± 8.82	***p* = .001**
5 years and above	28	11.7	67.46 ± 11.39	

Note: IDS = Infertility Distress Scale; IWEVDS = Infertile Women's Exposure to Violence Determination Scale; KW = Kruskal Wallis test; F = variant anlysis (ANOVA).

Table 4.
Comparison of the Mean IWEVDS Scores by the Women's Socio-Demographic Characteristics

	Infertile Women's Exposure to Violence Determination Scale					
	Subscales					
	Domestic Violence	Social Pressure	Punishment	Exposure to Traditional Practices	Exclusion	Scale Total
Characteristics	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$
Age						
20–24	32.20 ± 6.06	20.40 ± 3.27	16.40 ± 2.17	11.10 ± 2.13	8.50 ± 1.58	88.60 ± 12.59
25–29	31.67 ± 5.58	20.24 ± 3.83	16.01 ± 2.92	10.93 ± 2.42	7.91 ± 1.55	86.79 ± 13.56
30–34	29.44 ± 6.01	19.01 ± 3.66	16.34 ± 3.45	11.10 ± 2.96	7.86 ± 2.12	83.77 ± 14.51
35 and above	30.65 ± 6.35	19.32 ± 3.85	15.87 ± 4.13	11.31 ± 3.52	7.72 ± 2.35	84.89 ± 17.83
Test and *p* value	KW = 5.01, *p* = .17	KW = 3.08, *p* = .37	KW = 1.03, *p* = .79	KW = 1.07, *p* = .78	KW = 1.46, *p* = .69	KW = 1.04, *p* = .79
Educational status						
Primary school	34.00 ± 6.16	21.53 ± 4.19	16.53 ± 2.84	11.66 ± 2.38	8.43 ± 1.45	92.16 ± 13.79
Secondary school	32.76 ± 6.13	20.60 ± 3.33	17.45 ± 3.26	11.78 ± 2.44	8.54 ± 1.89	91.14 ± 14.22
High school	30.57 ± 5.14	19.57 ± 3.27	16.58 ± 2.66	11.55 ± 2.73	8.11 ± 1.72	86.40 ± 12.40
University	27.48 ± 5.48	17.77 ± 3.72	14.44 ± 4.12	9.98 ± 3.53	6.85 ± 2.31	76.53 ± 15.90
Test and *p* value	F = 14.08, ***p*=.001**	F = 10.91, ***p*=.001**	F = 9.94, ***p*=.001**	F = 5.66, ***p*=.001**	F = 10.34, ***p*=.001**	F = 15.20, ***p*=.001**
Employment status						
Employed	28.92 ± 5.37	18.60 ± 3.82	15.53 ± 3.91	10.89 ± 3.36	7.39 ± 2.10	81.35 ± 15.48
Unemployed	32.37 ± 6.30	20.50 ± 3.46	16.75 ± 2.88	11.40 ± 2.50	8.39 ± 1.85	89.42 ± 14.12
Test and *p* value	*t* = −4.57, ***p*=.001**	*t* = −3.99, ***p*=.001**	*t* = −2.71, ***p*=.007**	*t* = −1.32, *p* = .18	*t* = −3.88, ***p*=.001**	*t* = −4.19, ***p*=.001**
Profession						
Worker	30.17 ± 4.69	19.19 ± 3.97	16.30 ± 3.88	11.48 ± 3.51	7.64 ± 1.77	84.80 ± 14.71
Civil servant	27.11 ± 5.92	17.72 ± 3.73	14.70 ± 3.87	10.49 ± 3.15	7.17 ± 2.53	77.21 ± 16.26
Self-employed	29.77 ± 4.35	19.22 ± 2.10	14.44 ± 3.53	8.66 ± 2.06	6.66 ± 1.58	78.77 ± 10.96
Housewife	32.37 ± 6.30	20.50 ± 3.46	16.75 ± 2.88	11.40 ± 2.50	8.39 ± 1.85	89.42 ± 14.12
Test and *p* value	KW = 27.04, ***p*=.001**	KW = 20.98, ***p*=.001**	KW = 12.48, ***p*=.001**	KW = 10.67, ***p*=.01**	KW = 17.85, ***p*=.001**	KW = 19.70, ***p*=.001**
Income status						
Income less than expenses	32.96 ± 6.21	20.60 ± 3.87	16.91 ± 2.71	11.37 ± 2.30	8.36 ± 1.79	90.21 ± 13.83
Income equal to expenses	29.72 ± 5.89	19.32 ± 3.71	16.40 ± 3.31	11.60 ± 2.87	7.94 ± 1.89	85.01 ± 14.72
Income more than expenses	27.40 ± 3.67	17.25 ± 2.50	12.84 ± 4.34	8.62 ± 3.82	6.21 ± 2.44	72.34 ± 14.48
Test and *p* value	F = 13.26, ***p*=.001**	F = 10.07, ***p*=.001**	F = 18.86, ***p*=.001**	F = 14.51, ***p*=.001**	F = 14.25, ***p*=.001**	F = 17.81, ***p*=.001**
Place of residence						
Province	29.07 ± 5.37	18.74 ± 3.50	15.80 ± 3.74	10.89 ± 3.20	7.65 ± 2.08	82.16 ± 14.75
District	30.74 ± 5.88	19.39 ± 3.60	16.24 ± 3.20	11.38 ± 2.90	7.89 ± 2.01	85.66 ± 14.73
Village	35.58 ± 6.30	22.52 ± 3.69	16.94 ± 3.26	11.44 ± 2.29	8.52 ± 1.91	95.02 ± 15.20
Test and *p* value	F = 17.78, ***p*=.01**	F = 15.18, ***p*=.001**	F = 1.49, *p* = .22	F = 0.87, *p* = .41	F = 2.48, *p* = .08	F = 10.21, ***p*=.001**
Husband's age						
25–29	32.93 ± 6.64	21.27 ± 4.38	16.81 ± 3.03	11.54 ± 2.35	8.39 ± 1.43	90.96 ± 14.62
30–34	30.29 ± 5.34	19.30 ± 3.16	16.20 ± 3.08	11.22 ± 2.74	8.01 ± 1.82	85.04 ± 13.10
35 and above	30.05 ± 6.25	19.13 ± 3.87	15.85 ± 3.89	10.95 ± 3.30	7.60 ± 2.29	83.60 ± 16.68
Test and *p* value	F = 3.09, ***p*=.04**	F = 4.43, ***p*=.01**	F = 1.02, *p* = .36	F = 0.57, *p* = .56	F = 2.28, *p* = .10	F = 3.03, *p* = .05
Husband's education						
Primary school	36.21 ± 8.99	22.35 ± 6.29	17.71 ± 3.79	12.21 ± 3.26	8.78 ± 2.22	97.28 ± 21.41
Secondary school	32.44 ± 5.75	20.40 ± 3.17	16.95 ± 3.06	12.08 ± 2.30	8.44 ± 1.82	90.34 ± 13.04
High school	30.90 ± 5.84	19.77 ± 3.57	16.81±2.92	11.41 ± 2.69	8.14 ± 1.69	87.04 ± 13.69
University	28.31 ± 4.89	18.30 ± 3.37	14.76 ± 3.80	10.19 ± 3.30	7.14 ± 2.24	78.71 ± 14.48
Test and *p* value	KW = 30.98, ***p*=.001**	KW = 27.82, ***p*=.001**	KW = 20.87, ***p*=.001**	KW = 15.12, ***p*=.002**	KW = 21.39, ***p*=.001**	KW = 32.08, ***p*=.001**
Husband's employment status						
Employed	30.56 ± 6.16	19.45 ± 3.74	16.01 ± 3.56	10.96 ± 2.96	7.85 ± 2.07	84.85 ± 15.52
Unemployed	30.00 ± 4.08	20.07 ± 4.32	17.76 ± 2.16	14.07 ± 1.80	8.00 ± 1.68	89.92 ± 11.78
Test and *p* value	*t* = 0.32, *p* = .74	*t* = −0.57, *p* = .56	*t* = −1.75, *p* = .08	*t* = −3.74, ***p*=.001**	*t* = −0.25, *p* = .79	*t* = −1.15, *p* = .24

(*Continued*)

Table 4.
Comparison of the Mean IWEVDS Scores by the Women's Socio-Demographic Characteristics (Continued)

	Infertile Women's Exposure to Violence Determination Scale					
	Subscales					
	Domestic Violence	Social Pressure	Punishment	Exposure to Traditional Practices	Exclusion	Scale Total
Characteristics	$\bar{X} \pm$ SD	$\bar{X} \pm$ SD	$\bar{X} \pm$ SD	$\bar{X} \pm$ SD	$\bar{X} \pm$ SD	$\bar{X} \pm$ SD
Family type						
Nuclear Family	29.45 ± 5.70	18.88 ± 3.62	16.10 ± 3.68	11.21 ± 3.16	7.76 ± 2.10	83.41 ± 15.26
Extended Family	33.80 ± 5.97	21.31 ± 3.64	16.11 ± 2.97	10.86 ± 2.43	8.15 ± 1.86	90.25 ± 14.64
Test and *p* value	*t*=−5.05, ***p*=.001**	*t*=−4.49, ***p*=.001**	*t*=−0.02, *p*=.93	*t*=−0.78, *p*=.43	*t*=−1.27, *p*=.20	*t*=−3.03, ***p*=.003**
Duration of marriage						
2–6 years	29.03 ± 6.97	18.94 ± 4.43	15.80 ± 3.39	10.84 ± 2.91	7.75 ± 2.02	82.38±16.53
7–11 years	30.81 ± 5.13	19.46 ± 3.43	15.82 ± 3.47	10.87 ± 2.93	7.59 ± 2.00	84.57 ± 14.10
12 years and above	32.93 ± 6.38	20.84 ± 3.05	17.93 ± 3.51	12.78 ± 2.97	9.15 ± 1.83	93.66 ± 14.77
Test and *p* value	F=5.26, ***p*=.006**	F=2.98, *p*=.05	F=5.37, ***p*=.005**	F=6.11, ***p*= .003**	F=8.22, ***p*= .001**	F=6.70, ***p*= .001**
Cause of infertility						
Reasons related to women	30.26 ± 5.19	18.72 ± 3.23	14.64 ± 3.61	9.95 ± 2.92	7.18 ± 2.09	80.77 ± 14.79
Reasons related to men	30.26 ± 7.58	20.30 ± 4.85	17.39 ± 3.55	11.95 ± 3.53	7.78 ± 2.55	87.69 ± 18.97
Reasons related to both women and men	31.78 ± 4.86	20.42 ± 3.81	17.78 ± 2.52	12.78 ± 2.21	8.46 ± 1.31	91.25 ± 11.19
Test and *p* value	30.52 ± 6.90 KW=3.51, *p* = .31	19.87 ± 3.92 KW=9.96, ***p*= .01**	16.94 ± 3.03 KW=37.33, ***p*= .001**	11.75 ± 2.65 KW=31.17, ***p*= .001**	8.47 ± 1.80 KW=23.60, ***p*= .001**	87.57 ± 15.02 KW=20.57, ***p*= .001**
Duration of infertility						
1–5 years	29.65 ± 5.88	19.07 ± 3.77	15.51 ± 3.44	10.55 ± 2.95	7.54 ± 1.99	82.34 ± 14.95
6–10 years	32.81 ± 6.66	20.28 ± 3.88	17.42 ± 3.48	12.34 ± 2.62	8.38 ± 2.10	91.26 ± 15.79
11 years and above	33.00 ± 3.16	21.47 ± 2.21	18.41 ± 2.34	13.47 ± 2.21	9.52 ± 1.32	95.88 ± 6.25
Test and *p* value	KW=14.32, ***p*= .001**	KW=14.04, ***p*=.001**	KW=20.17, ***p*= .001**	KW=25.51, ***p*= .001**	KW=21.36, ***p*= .001**	KW=26.33, ***p*= .001**
Duration of treatment						
1–2 years	29.64 ± 6.48	19.15 ± 4.07	16.05 ± 3.26	11.13 ± 2.76	7.82 ± 1.96	83.81 ± 15.24
3–4 years	30.57 ± 5.22	19.48 ± 3.48	15.70 ± 3.48	10.75 ± 3.04	7.69 ± 2.14	84.21 ± 14.71
5 years and above	32.94 ± 6.15	20.43 ± 3.47	17.20 ± 4.10	12.00 ± 3.38	8.33 ± 2.04	90.92 ± 16.30
Test and *p* value	F=4.39, ***p*= .01**	F=1.66, *p* = .19	F=2.53, *p*=.08	F=2.41, *p* = .09	F=1.35, *p* = .26	F=3.39, ***p*=.03**
Duration of wanting to have a child						
1–2 years	28.75 ± 6.48	18.52 ± 4.02	15.56 ± 3.49	10.64 ± 2.92	7.53 ± 2.09	81.01 ± 15.82
3–4 years	31.47 ± 4.98	19.98 ± 3.44	16.08 ± 3.31	11.10 ± 2.87	7.81 ± 1.89	86.45 ± 13.50
5 years and above	33.42 ± 6.52	21.14 ± 3.14	18.21 ± 3.71	13.03 ± 3.08	9.21 ± 1.96	95.03 ± 15.55
Test and *p* value	KW=18.35, ***p*= .001**	KW=17.07, ***p*= .001**	KW=13.19, ***p*= .001**	KW=14.52, ***p*= .001**	KW=16.81, ***p*= .001**	KW=21.17, ***p*= .001**

Note: SD = standard deviation. *F: variant anlysis (ANOVA); **t: student t test; ***KW: Kruskal Wallis test; $p < .05$.

revealed a higher possibility of women who were exposed to violence reporting poor quality marital relationships, higher levels of distress, and lower endurance in comparison with women who were not exposed to violence (Satheesan & Satyanarayana, 2018). It is important to fight violence against infertile women and identify the factors affecting it because the anxiety caused by infertility and its treatment process have behavioral and psychological consequences of violence, making the treatment of infertile women difficult for healthcare professionals (Hajizade-Valokolaee et al., 2017).

In their study, Yılmaz et al. (2020) found the IDS scores of illiterate individuals to be higher than those of high school, university, and above graduates. Ünal et al. (2010) identified that the IDS scores were significantly higher in individuals with primary school education. Likewise, in our study, it was found that primary school graduates and those whose spouses were primary school graduates were more affected by infertility. This result can be interpreted as education helps to increase the capacity of women to cope with infertility.

In the study, it was determined that women who were unemployed, housewives, and whose income was less than their expenses were more affected by infertility. In the research performed by Yılmaz et al. (2020), the IDS scores of unemployed women with income less than their expenses were revealed to be higher compared to women with income equal to their expenses. In their study, Fang et al. (2020) determined that participants with higher psychological distress were women, unemployed, and those with lower monthly income. Government financial support can prevent or decrease psychological distress related to low income (Takaki & Hibino, 2014). Working can create a social

environment, which facilitates coping and supports women with infertility problems (Akyüz et al., 2014).

In the study, it was determined that the violence rate in primary school graduates, the unemployed, housewives, and women whose income was less than their expenses was high. In the study performed by Sheikhan et al. (2014), it was found that there was a positive relationship between low income and domestic violence. Kaur et al. (2014) determined in their study that the inadequate economic situation contributed to violence. The direct relationship between poverty and domestic violence is expressed as an important factor underlying domestic violence against women (Sheikhan et al., 2014). In the research conducted by Aduloju et al. (2015), it is stated that the impact of employment status on violence exposure is related to the dependence of unemployed women on their husbands for their financial needs and, therefore, their vulnerability to being abused (Aduloju et al., 2015). Nevertheless, it is stated that infertility influences the lives of millions of women around the world, regardless of their socioeconomic and educational level (Öztürk, 2016).

It was determined that the violence rate was high in women who had a cause of infertility (for reasons related to both women and men), whose duration of infertility was 11 years and more, and whose duration of treatment was 5 years and more. In contemporary pronatalist societies, motherhood and childbearing are constructed as the inevitable fulfillment of female identity, which results in the stigmatization of women not conforming to the said feminine "ideals" (Wells & Heinsch, 2020). In a study, it was stated that women were held responsible for infertility between spouses, and they were treated badly by mothers-in-law who wanted grandchildren (Tabong & Adongo, 2013). In a study conducted by Moghaddam Tabrizi in 2016, it was determined that the period of infertility exposed infertile women to the risk of domestic violence (Mogadam et al., 2016). The reason for this situation is that it is associated with a number of problems in the infertility process. The high duration of infertility leads to some dissatisfaction in marriage, interpersonal problems, and violence (Hajizade-Valokolaee et al., 2017). In the research performed by Coşkuner et al. (2019), it was found that the prolongation of treatment durations as a part of the Exclusion Subscale of the IWEVDS increased exposure to violence (Coşkuner et al., 2019). Furthermore, it is stated that long-term infertility and unsuccessful treatment cycles increase the stress that can cause marital violence (Akyüz et al., 2013).

Conclusion and Recommendations

In the study, it was determined that women were psychologically adversely affected by infertility at a high level. Therefore, it is thought that psychological interventions, particularly stress management and coping skills training, will have beneficial impacts for infertility in women.

It was determined that the mean total scores of the IWEVDS were at a medium level. Therefore, routine screening for domestic violence in infertility clinics should be provided to women exposed to violence with the opportunity to access suitable healthcare services and support services.

In accordance with the study findings, it was revealed that when women were exposed to violence, they were affected more by infertility. Providing more education to spouses, families, and the community on the causes and risk factors of infertility and understanding that women alone are not responsible for infertility can reduce the risk of women being exposed to violence.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Erzurum Atatürk University, Faculty of Health Sciences (Date: March 10, 2015, No: 06).

Informed Consent: Written informed consent was obtained from all participants who participated in this study.

Peer-review: Externally peer-reviewed.

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Genişletilmiş Özet

İnfertilite, nedeni ve önemi coğrafi konuma ve sosyo-ekonomik duruma göre değişiklik gösterebilen, tüm dünyada insanları etkileyen küresel bir sorundur. İnfertilite çiftleri anksiyete, depresyon ve zihinsel baskı gibi zihinsel ve psikolojik sorunlara yatkın hale getirir ve bu da zaman zaman aile içi şiddet gibi sosyal sorunlara yol açar. Bir çift infertilite deneyimlediğinde ailevi, sosyal ve kişisel ilişkilerinde değişikliklerle karşılaşır. İnfertil erkek ve kadınlar genellikle damgalanır, toplum faaliyetlerine katılmalarına izin verilmez ve fertil çiftlere göre daha yüksek boşanma, evlenme ve çok eşlilik oranlarına sahiptirler. Çevredeki insanların olumsuz tepkileri infertil kişilerin sağlığının bozulmasına neden olabilmektedir. Dünya Sağlık Örgütü (DSÖ) klavuzuna göre, hem kadınlarda hem de erkeklerde, infertilitenin olumsuz etkisini hafifletmek için psikolojik müdahale sağlanması yoluyla infertil çiftlerin yaşam kalitesini iyileştirmek amaçlanmaktadır. İnfertil kadınlara yönelik şiddet ve buna bağlı stres, infertilite tedavisinin sonuçlarını da etkilemektedir. Çeşitli kültürel faktörlerin farklı toplumlarda şiddete neden olduğu belirtilmektedir. Bu nedenle sağlık hizmeti verenlerin, infertilite tedavisi sürecinde bu faktörleri dikkate alması çok önemlidir. Bu çalışma infertil kadınlarda psikolojik durum ve şiddete maruz kalma düzeylerinin değerlendirilmesi amacıyla yapılmıştır.

Bu araştırma tanımlayıcı ve ilişki arayıcı nitelikteki bu araştırma olup Nisan-Ekim 2015 tarihleri arasında Atatürk Üniversitesi Aziziye Araştırma Hastanesi Tüp Bebek Merkezinde yapılmıştır. Atatürk Üniversitesi Aziziye Araştırma Hastanesi Tüp Bebek Merkezine belirtilen tarihler arasında başvuran çiftler araştırmanın evreninin oluştururken araştırmanın örneklemini araştırmaya katılmayı kabul eden 240 kişi oluşturmuştur. Verilerin toplanmasında "Kişisel Bilgi Formu," "İnfertilite Etkilenme Ölçeği" ve ''İnfertil Kadınlarda Maruz Kalınan Şiddet Belirleme Ölçeği'' kullanılmıştır. Verilerin değerlendirilmesinde grupların bağımsız değişkenler acısından karşılaştırılmasın da normal dağılım gösteren veriler için varyans, normal dağılım göstermeyen veriler için Kruskal–Wallis ve Mann–Whitney U testi kullanılmıştır. Araştırmaya başlamadan önce araştırmanın yapılacağı hastaneden izin alınmıştır. Çalışma sırasında katılımcılardan sözlü onamları alınmış ve Helsinki deklarasyonunun ilkelerine uyulmuştur.

Araştırmada kadınların infertiliteden psikolojik olarak olumsuz etkilenme düzeyinin (60,91 ± 10,26) yüksek olduğu belirlendi. Çalışmada, Türkiye'de Marmara bölgesinde İstanbul'da infertiliteye sahip kadınların ortalama İEÖ skoru 37,4 ± 9,96 olduğu bulundu. Bu sonuç kadınların bölgelere göre özellikle Doğu Anadolu bölgesinde infertiliteden yüksek oranda etkilendiklerini göstermektedir. İKMKŞBÖ puan ortalaması 85,12 ± 15,37 olduğu bulunmuştur. Bununla birlikte İran'da IWEVDS puanı 87,47 ± 41,88 olduğu İnfertil Mısırlı kadınlar arasında IWEVDS'nin ortalama puanı 73 ± 18 olduğu bulunmuştur. İKMKÇBÖ puanlarının alt ölçekleri sırasıyla 30 ±6, 19 ± 4 ve 16 ± 3 ile aile içi şiddet, sosyal baskı ve ceza alanlarında bulunmuştur. Çelik ve Kırca, katılımcıların %62'sinin duygusal/psikolojik şiddete maruz kaldığını bildirmişlerdir. Sonuç olarak infertil kadınlarda aile içi şiddet yaygın olarak görülmektedir.Araştırma bulgularına göre kadınların şiddete maruz kaldıklarında infertiliteden daha fazla etkilendikleri belirlenmiştir. Fiziksel şiddetin yol açtığı yaralanma ve travma, evlilik ilişkilerini ve kadının öz imajını olumsuz etkilemektedir. İnfertil kadınlar, maruz kaldıkları fiziksel şiddet nedeniyle çocuk sahibi olma isteklerini arka plana itebilirler. Yani fiziksel şiddete maruz kalan kadınlar infertilite tedavisine daha az meyilli olabilir. İnfertil kadınlara yönelik şiddetle mücadele etmek ve etkileyen faktörleri belirlemek önemlidir, çünkü infertilitenin neden olduğu kaygı ve bunun tedavi süreciyle birlikte şiddetin davranışsal ve psikolojik sonuçları vardır, bu da infertil kadınların tedavisini sağlık çalışanları için bir zorluk haline getirir.

İnfertilite kliniklerinde aile içi şiddete yönelik rutin tarama yapılması şiddet gören kadınlara uygun sağlık hizmetlerine ve destek hizmetlerine erişme fırsatının sağlanması gereklidir. Eşlere, ailelere ve topluma infertilitenin sebepleri ve risk faktörleri ile ilgili olarak daha fazla eğitim verilmesi, kadınların tek başına infertiliteden sorumlu olmadığının anlaşılması, kadınların şiddete maruz kalma risklerini azaltabilir.