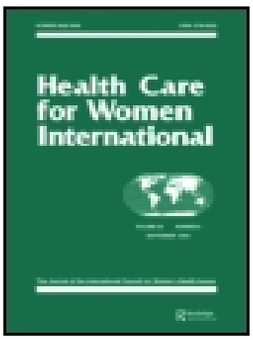

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An evaluation of the relationship between violence exposure status and personality characteristics among infertile women

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ABSTRACT

In this descriptive study, our aim was to examine the relationship between violence exposure status and personality characteristics among infertile women. The researchers collected data from 315 infertile women at an *in vitro* fertilization unit of the Woman and Child Disease Training and Research Hospital in Istanbul, Turkey. An introductory information form, the Eysenck Personality Questionnaire Revised-Abbreviated Form (EPQR-A), and the Infertile Women's Exposure to Violence Determination Scale (IWEVDS) were used as data collection tools. When the relationship between the IWEVDS and EPQR-A subdimension scores of the infertile women were examined, a positive relationship was found between the being-forced-into-traditional-practices subdimension of the IWEVDS and the neuroticism subdimension of the EPQR-A. In addition, a weak negative relationship was found between the being-forced-into-traditional-practices subdimension of the IWEVDS and the lying subdimension of the EPQR-A.

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Infertility is the inability of a reproductive-age couple to achieve pregnancy within 12 months of unprotected intercourse (Sami & Ali, 2012). There are 2 million infertile people in Turkey (Baydar & Yanıkkerem, 2016). Having a child is an effective way of gaining social status among the Turkish population. In Turkey, as in many societies around the world, a lack of pregnancy and the resulting childlessness are often highly stigmatized, leading to profound social suffering for infertile couples (Oztürk, Taner, Güneri, & Yilmaz, 2017). For this reason, infertility may increase women's exposure to violence. This stems from the cultural perception that infertility is the woman's problem alone, and thus, violence toward women is widespread in patriarchal societies (Onat & Beji 2012; Oztürk et al., 2017; Sis Çelik & Kırca 2018).

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In its 2014 report, the World Health Organization (WHO) reported that 475,000 people died in 2012 because of murders and that 2.5% of global deaths occurred due to violence (World Health Organization, 2014). Violence toward infertile women can cause serious problems with regard to their physical and mental health (Ulu, 2016). Aduloju, Olagbuji, Olofinbiyi, and Awoleke (2015) have found that women who are exposed to violence are predisposed toward suicide. For this reason, the violence encountered by infertile women is an important subject (Baydar & Yanıkkerem, 2016).

Another factor that can increase violence exposure is the presence of personality disorders (Ulu, 2016; Yöyen, 2017). According to many theorists, personality encompasses almost everything about an individual, including all of his or her mental, emotional, social, and physical qualities. Personality disorders refer to a permanent and continuous departure from the norms regarding these psychological characteristics (Taymur & Türkçapar, 2012). Theories on personality provide an opportunity to classify personality types, determine which personality characteristics are permanent via tests, and measure personality (Yöyen, 2017).

Rashidi, Hosseini, Beigi, Ghazizadeh, and Farahani (2011) have shown that personality is related to stress and the ability to cope with stress. People of different personalities use different coping methods in the face of stressful events and are affected differently by such events (Rashidi et al., 2011). Infertility is an important stressor for both men and women. In the same study, Rashidi et al. (2011) stated that the perception of a stressful event as a threat or loss was related to personality. Verhaak, Smeenk, van Minnen, Kremer, and Kraaimaat (2005) stated that personality characteristics determine the emotional response to infertility.

When the relationship between personality types and violence exposure was examined, three personality types—namely, extroversion, neuroticism, and psychoticism—were seen to become prominent. However, no broad studies on the relationship between the behaviors that cause violence and personality characteristics are extant (Ulu, 2016).

When we examined the literature with regard to the results of violence, we found that factors such as personality disorders, impulsiveness and hyperactivity, psychiatric disorders, personal factors including aggressiveness and substance abuse, family violence, child abuse and refusal, substance abuse in the family, ineffective child-rearing styles, marriage conflicts, and weak family ties were important (Ulu, 2016). In particular, researchers determined that antisocial and borderline personality disorders strongly associated with violent behavior (Fountoulakis, Leucht, & Kaprinis, 2008). A borderline personality disorder is defined as a pattern that emerges in young adulthood and shows itself through imbalances in interpersonal relationships, self-image, and mood, as well as impulsiveness (Fountoulakis et al., 2008).

Today, violence, especially violence against women, is one of the most prevalent social issues in Turkey and throughout the world. Although there are many political, social, economic, cultural, psychological, and medical factors that produce and enable violence, it has not yet been possible to understand the mechanisms behind the types of violence that occur due to these variables. Researchers who study violence agree that violence is a very complicated and multidimensional concept. The reproductive problems of women living within the patriarchal structure of Turkish society place them at a high risk of violence. Being exposed to any type of violence is a psychosocial problem for infertile women. Psychosocial problems experienced by infertile women who receive healthcare services from a multidisciplinary team (doctor, nurse, embryologist, psychologist, laboratory assistant, etc.) negatively affect treatment outcomes. The healthcare team which provides services for infertile women should adopt a holistic assessment approach. However, no reports on the relationship between personality traits and violence exposure among infertile women have been previously published. Accordingly, our aim was to determine the status of infertile women regarding exposure to violence and examine the relationship between violent behavior and the personality characteristics of infertile women. Our study is different from other studies in the literature with regard to determining these relationships. The scales used in our study are being used together for the first time, which is another contribution of our study to the literature. Our study will provide needed data on violence based on a scan of a high-risk group in a clinical environment and help in providing psychosocial care that encompasses advanced counseling and support. We searched answers to the following questions in this study:

1. What is the rate of violence exposure among infertile women?
2. Is there a relationship between violence exposure and personality traits in infertile women?
3. Is there a relationship between treatment duration and violence exposure in infertile women?
4. Does the rate of violence exposure change based on factors related to infertility?

Methods

Design

A descriptive and cross-sectional design was used.

Participants

Our study was conducted on women presenting at the *in vitro* fertilization unit of the Woman and Child Disease Training and Research Hospital tied

to the Provincial Directorate of Health in the Anatolian side of Istanbul between January and June of 2017. The universe of the study consisted of 9148 women presenting at this *in vitro* fertilization center for infertility. Given a presumptive violence exposure prevalence of 30% (Yildizhan et al., 2009) among infertile women, with an error rate of 5% and a confidence interval of 95%, the needed sample size was calculated to be 311 participants. Women of at least 20 years of age who had been married for at least two years and diagnosed with primary or secondary infertility (primary infertility refers to not being able to get pregnant after having unprotected sex for at least one year, whereas secondary infertility refers to not being able to get pregnant after having unprotected sex for at least one year despite previous history of pregnancy) for at least a year and who had no psychiatric diseases, drug use, or chronic diseases; were literate; could speak Turkish; and agreed to participate in the study were included. All of the women who met these criteria were invited to participate in the study. The sample of the study consisted of 315 women who agreed to participate in the study.

Data collection

In our study, an introductory information form, The Eysenck Personality Questionnaire Revised - Abbreviated Form, and the Infertile Women's Exposure to Violence Determination Scale were used as data collection tools. To ensure the privacy of the women participating in the study and to increase data reliability, the author XX collected data in a closed interview room in the *in vitro* fertilization center via face-to-face interviews. Instead of collecting data in the first interview, we collected data in future interviews, after a relationship of trust was built.

Introductory information form

We created this form according to the literature and it consisted of 30 questions regarding the general characteristics of the participants (age, education, employment status, income, and family type), those of the spouse (age, education, smoking, alcohol use, and the presence of psychiatric or chronic diseases), sociodemographic characteristics, the characteristics of the marriage (age of marriage, duration, and type), the characteristics of the infertility (type, reason, and treatment duration), and the characteristics of the women's/participants' history of violence (childhood physical, psychological, or sexual abuse or physical, psychological, or sexual abuse while married).

The Eysenck Personality Questionnaire Revised-Abbreviated Form (EPQR-A)

Francis, Brown, Philipchalk, and Philpchalk (1992) reviewed the long form of the questionnaire (48 items) to create the EPQR-A. This questionnaire has 24 items and evaluates personality in terms of three main factors: extroversion, neuroticism, and psychoticism. In the questionnaire, in which each factor is evaluated via six items, the participant is asked to answer each item with Yes (1) or No (0). When the Eynseck personality theory was first developed, it included the dimensions of neuroticism-stability and extroversion–introversion, while the psychoticism dimension was added later. Extroversion represents being social and impulsive, and people who have high scores in this dimension are defined as people who like communication with people, are enterprising, and prefer to be with other people rather than being alone. The neuroticism dimension indicates either emotional stability or excessive reactiveness, and people with high scores from this dimension were likely to be anxious, depressive, tense, shy, overly emotional people with low self-confidence. The psychoticism dimension mostly indicates unusual personality characteristics, such as being cold, distant, aggressive, insecure, emotionless, weird, guilt-ridden, insensible, or unable to feel empathy. Additionally, with the lying subscale, we aimed to prevent bias during application and control for reliability. The score that could be attained for each personality characteristic varied between 0 and 6. Francis et al. (1992) applied the EPQR 48 and the EPQR-A to university students in England, the US, Canada, and Australia, and found sufficient internal consistency for the three subscales. In these four countries, the internal consistency was 0.70–0.77 for neuroticism, 0.74–0.84 for extroversion, and 0.59–0.65 for the lying subscale. The consistency coefficient for psychoticism was found to be fairly low (0.33–0.52). Karanci, Dirik, and Yorulmaz (2007) translated the EPQR-A scale into Turkish and showed that the Turkish version of the scale was valid and reliable. The EPQR-A has been translated into many languages and applied in 50 societies (McCrae & Terracciano, 2005). Because the questions on the EPQR-A are answered in binary form and have no continuous variables, the Kuder-Richardson 20 method was used to measure reliability. In our study, the Kuder-Richardson 20 alpha values for the extroversion, neuroticism, psychoticism, and lying dimensions were 0.78, 0.65, 0.42, and 0.64, respectively.

Infertile Women's Exposure to Violence Determination Scale (IWEVDS)

The IWEVDS scale, developed by Onat in 2014, consists of 31 items regarding five subdimensions: domestic violence (11), social pressure (7), punishment (6), being forced into traditional practices (4), and exclusion

(3). The scale is a 5-point Likert-type scale scored as never (1), rarely (2), sometimes (3), mostly (4), and always (5). The minimum score that can be attained from the scale is 31, while the maximum is 155. A higher score on the scale means more exposure to violence. The Cronbach's alpha reliability coefficient of the scale was found to be 0.96 (Onat, 2014). In our study, the Cronbach's alpha value of the scale was found to be 0.85.

Ethical considerations

Before the study, we obtained the permission and approval of the ethics board of the institution (Date 23.01.2015, decision no: 5). We informed the women participating in the study of the aim of the study and followed the principle of voluntary participation. After we explained to the women that the obtained data would only be used for this study, we obtained their written consent. We explained that the identities of the participants would be confidential, and thus upheld the principle of "nonidentification and safety."

Analysis of the data

We performed statistical analyses using the SPSS 21.0 program. In the statistical analysis of the study data, we used percentages, mean values, and the Cronbach's alpha coefficient to determine the internal consistency of the violence scale. We evaluated whether the scale scores provided a normal distribution using the Kolmogorov–Smirnov test, and because a normal distribution could not be found, we used the Mann–Whitney *U* test for comparisons regarding the women's exposure to violence, the Kruskal–Wallis test to correlate the reasons for infertility and infertile women's exposure to violence, and the Spearman correlation test to investigate the relationships between the subdimension scores. The level of significance was set at $p < .05$.

Results

The sociodemographic characteristics of the infertile women participating in the study and their spouses are given in Table 1. The mean age of the participants was 32.41 ± 4.18 (min–max: 27–45), while the mean age of their spouses was 35.65 ± 4.95 (min–max: 27–55). Their mean marriage duration was 7.63 ± 4.30 (min–max: 3–25) years. It was found that 27.6% of the participants were elementary school graduates, 62.5% were housewives, and 63.8% had incomes equal to their expenses. When the spouses were evaluated, 38.4% were found to be high-school graduates, 12.1% used alcohol, and 45.7% smoked. A large majority of the participants had nuclear families (85.7%).

Table 1. The distribution of the sociodemographic characteristics of the infertile women and their spouses ($n = 315$).

Characteristics	x±SD	Min–max
Age (year)	32.41 ± 4.18	27–45
Spouse age (year)	35.65 ± 4.95	27–55
Duration of marriage (Year)	7.63 ± 4.30	3–25
	n	%
Education level		
Primary school	87	27.6
Secondary school	78	24.8
High school	81	25.7
University	69	21.9
Employment status		
Unemployed	118	37.5
Employed	197	62.5
Economic status		
Low income	77	24.4
Middle income	201	63.8
High income	37	11.7
Spouses' education level		
Primary school	69	21.6
Secondary school	56	17.8
High school	121	38.4
University	69	21.9
Family type		
Nuclear family	270	85.7
Large family	45	14.3
Spouses' alcohol consumption status		
Yes	38	12.1
No	277	87.9
Spouses' cigarette smoking status		
Yes	144	45.7
No	171	54.3
Total	315	100.0

When the findings regarding infertility were evaluated, it was found that the participants had been treated for infertility for a mean duration of 3.50 ± 2.79 (min–max: 1–16) years. A large majority (80%) of the participants were found to have primary infertility, with 32.1% having female infertility, 28.9% having male infertility, 28.3% having unexplained infertility, and 10.8% having couple factor infertility.

The mean IWEVDS and EPQR-A scores of the participants are given in Table 2. The highest mean score was seen for the lying subdimension of the EPQR-A scale (4.95 ± 1.23). The extroversion (4.26 ± 1.61), psychoticism (3.39 ± 1.69), and neuroticism (1.24 ± 0.99) dimensions took second, third, and fourth places, respectively. When the relationship between the IWEVDS and EPQR-A subdimension scores were examined, a positive relationship was found between the being-forced-into-traditional- practices subdimension of the IWEVDS and the neuroticism subdimension of the EPQR-A ($r = 0.170$; $p < .05$).

The relationship between the treatment duration and violence exposure is provided in Table 3. Accordingly, no significant relationship could be found between the scale total or subdimension scores and infertility

Table 2. The mean personality characteristic values of the infertile women according to the Infertile Women's Exposure to Violence Determination Scale (IWEVDS) and The Eysenck Personality Questionnaire Revised-Abbreviated Form (EPQR-A).

Scales	*n*	Min–Max	*x*±SD
IWEVDS subdimensions			
Domestic violence	315	11–36	18.22 ± 5.47
Social pressure	315	7–33	14.64 ± 4.25
Punishment	315	6–29	9.19 ± 3.55
Exposure to traditional practices	315	4–20	9.04 ± 3.52
Exclusion	315	3–15	4.81 ± 2.16
IWEVDS total score	315	31–111	55.90 ± 12.75
EPQR-A	n	Min–Max	x ± SD
Extroversion	315	0–6	4.26 ± 1.61
Neuroticism	315	0–6	1.24 ± 0.99
Psychoticism	315	0–4	3.39 ± 1.69
Lying	315	0–6	4.95 ± 1.23

Table 3. The relationship between treatment duration and IWEVDS*.

IWEVDS	Treatment duration (years)
Domestic violence	$r = -0.076$; $p = .180$
Social pressure	$r = 0.103$; $p = .068$
Punishment	$r = 0.084$; $p = .135$
Exposure to traditional practices	$r = -0.077$; $p = .171$
Exclusion	$r = 0.114$; **$p = .043$***
IWEVDS total score	$r = 0.056$; $p = .324$

Bold indicates that $p < .05$.
*Difference is statistically significant; r = Spearman correlation.

treatment duration ($p > .05$). A positive weak relationship between treatment duration and only the exclusion subdimension of the IWEVDS was found ($r = 0.114$; $p = .043$).

When the domestic violence statuses of the participants were examined, it was found that 22.5% were exposed to physical violence and 44.8% were exposed to psychological violence by their families, with 1.3% having been sexually abused before marriage. When statuses regarding spouse violence were examined in this study, it was found that 7.6% of the women were exposed to physical violence and 47.3% were exposed to psychological violence.

A comparison of infertility factors and IWEVDS scores is provided in Table 4. Infertility factors (female, male, couple, and unexplained) were not significantly different according to experiencing domestic violence, social pressure, punishment, exclusion, and scale total scores ($p > .05$). However, a significant difference between the couple factor infertility group and the being-forced-into-traditional-practices subdimension was found ($p = .008$).

When the IWEVDS scores of participants with primary and secondary infertility were compared, no significant difference could be found.

A comparison of the IWEVDS scores of participants who were and were not exposed to violence is provided in Table 5. The being-forced-into-traditional-practices and exclusion scores of the women who were and were

Table 4. Comparison of infertility factors and IWEVDS* scores.

Infertility factors IWEVDS Sub dimensions	Female factor(*n*: 101) Median (quartiles)*	Male factor(*n*: 81) Median (quartiles)*	Couple factor(*n*: 34) Median (quartiles)*	Unexplained (*n*: 89) Median (quartiles)*	*Z*/*Kw*χ^2	*p*
Domestic violence	18 (14–23.5)	17 (13–22)	19 (13.75–22.25)	18 (13–22)	2.116	.549
Social pressure	15 (11–17)	15 (12–17)	16 (12.75–18)	15 (11–17)	1.072	.784
Punishment	7 (6–11)	8 (6–11)	9 (8–11.25)	8 (6–12)	4.868	.182
Exposure to traditional practices	8 (6–10)	8 (6–10)	10 (8–14)	9 (7–11)	11.951	.008*
Exclusion	4 (3–6)	4 (3–6)	5 (3–6.25)	4 (3–6)	2.151	.542
IWEVDS Total score	55 (46.5–63)	53 (46–62)	59 (52–66)	56 (48–65)	4.452	.217

*Difference between group distributions is statistically significant *Z*/*Kw*^{2}: Kruskall–Wallis Test.

Table 5. The comparison of the IWEVDS* scores of women who were and were not exposed to violence.

IWEVDS subdimensions	Women who were exposed the violence (*n*: 149) **Median (quartiles)***	Women who were not exposed the violence (*n*: 166) **Median (quartiles)***	*p*
Domestic violence	18 (14–24)	17 (12.75–21.25)	**.009***
Social pressure	15 (13–18)	14 (11–16.25)	**.001***
Punishment	8 (7–12)	7 (6–11)	**.005***
Exposure to traditional practices	8 (7–11)	8 (6–11)	.107
Exclusion	4 (3–6)	4 (3–6)	.115
IWEVDS Total score	57 (50–67)	53 (45.75–61)	**.001***

Bold indicates that $p < .05$.
*Difference is statistically significant.

not exposed to violence were similar, with no significant difference being found ($p > .05$). The domestic violence, social pressure, punishment, and scale total scores of participants who were exposed to violence were higher than those who were not, and this difference was statistically significant ($p < .005$).

Discussion

Changing infertility reasons such as delay in the woman's fertility with social structures are also common. Infertility in women affects versatile as psychological, physiological, and social health problem. Especially in patriarchal society, seems that infertility is responsible for women. Therefore, some researchers believe that the rate of violence inflicted upon infertile women is higher in patriarchal societies (Oztürk 2016).

In our study, 315 participants with a mean age of 32.41 ± 4.18 (range 27–45) were found to be exposed to moderate levels of violence. The total mean score on the IWEVDS was 55.90 ± 12.75 (range 31–111). Our finding is similar to the findings of a study by Öztürk et al. (38.74 ± 11.48), which was performed in Turkey and was similar to our study with regard to

sociodemographic characteristics such as mean age, marriage duration, and treatment duration. The IWEVDS subdimension scores were found to be similar in both studies as well. According to a study conducted using 384 infertile women in Iran, which is also a patriarchal society, the mean IWEVDS score were determined to be 87.47 ± 41.88 (Tabrizi, Feizbakhsh, Sheikhi, & Lak, 2016). No studies researching the violence exposure of infertile women could be found in western societies. In fact, the lack of studies on the subject in western societies could be interpreted as a form of violence against women because infertility may be considered utopic in those cultures.

When spouse violence was examined in our study, it was found that 7.6% of the women were exposed to physical violence, 47.3% were exposed to psychological violence, and 0.6% were exposed to sexual violence. Aduloju et al. (2015) have determined the domestic violence rate of infertile women to be 31.6%. Sheikhan, Ozgoli, Azar, and Alavimajd (2014) conducted a study with 400 infertile Iranian women and found that 5.3% of the women were exposed to physical violence, 74.3% were exposed to psychological violence, and 47.3% were exposed to sexual violence. Ozturk et al. reported that 32.5% of women were exposed to violence at one point in their lives, with 4.7% currently being exposed to violence, and 5% having been exposed to violence after being diagnosed with infertility. Bibi, Ashfaq, Shaikh, and Quresh (2014) determined that the rate of exposure to violence because of infertility was 20%. Other researchers reported this rate to vary between 1.8% and 77.8% across the world.

Sonawalla, Parikh, and Parikh (1999) conducted a study using data from 30 infertile Indian couples and reported that 56.7% of these couples were under social pressure to have children. The authors found the IWEVDS subdimension score for social pressure to be similarly high (14.64 ± 4.25).

No significant relationship could be found between total IWEVDS scores and the reasons of infertility or marriage duration. This differs from the findings of Tabrizi et al. (2016). No significant relationship between age and either of the scales could be found.

In our study, a positive, weak relationship between the treatment duration of infertile women and the exclusion subdimension of the IWEVDS was found. No relationships with the other subdimensions or the total score could be found. In Tabrizi et al.'s (2016) study, violence exposure sores were reported to increase with years of infertility. Akyüz, Şahiner, Seven, and Bakır (2014) conducted a study with 139 women with a mean age of 37.76 ± 10.53. They administered the infertility distress scale (IDS) and the scale for marital violence against women (SDVW), and found positive relationships between treatment duration and IDS and SDVW scores. Similarly, Aduloju et al. (2015) found that lengthening infertility durations constituted a risk factor for violence. In our study, we found that

lengthening treatment durations increased violence exposure as a part of the exclusion dimension of the IWEVDS.

The highest mean score was that for the lying subdimension of the EPQR-A scale (4.95 ± 1.23). The extroversion (4.26 ± 1.61), psychoticism (3.39 ± 1.69), and neuroticism (1.24 ± 0.99) dimensions took second, third, and fourth places, respectively. We could only find a single study using the EPQR-A with infertile women in the literature (Sonawalla et al., 1999). However, because the scores from the scale were not included in the study, no comparisons could be drawn.

A positive relationship was found between the being-forced-into-traditional-practices subdimension of the IWEVDS and the neuroticism subdimension of the EPQR-A ($r = 0.170$; $p < .05$). As people who are highly neurotic are submissive and have low self-esteem, it is thought that they cannot resist traditional practices and are forced into them easily.

As a result, violence often does not come into light because of factors such as exclusion, shame, and condemnation. In patriarchal societies, where the status of a woman is often equated to her potential to reproduce, this makes infertile women a risk group. This is group that is often neglected in violence scans. For this reason, more focus should be placed on this group. As part of their role as defenders of women's rights, people who work in the field of women's health should scan for violence and refer women who need support to further counseling and psychosocial care (Aduloju et al., 2015; Ozturk et al., 2017; Sis Çelik & Kırca 2018). Additionally, determining the factors that cause violence in this group could provide an opportunity to help healthcare workers to prevent further violence (Tabrizi et al., 2016). Our study, which was performed to understand the relationship between violence toward infertile women and their personality characteristics, will form the basis for other studies.

Conclusion

The infertile women in this study reported that they mostly experienced psychological violence perpetrated by both spouses and families. We determined that women who had couple factor infertility were forced into traditional practices at higher rates. Also, we found that their rate of being forced into traditional practices increased with the associated personality trait of neuroticism. In addition, we determined that the women had a sense of stigmatization as infertility durations increased. Future researchers should investigate whether the participants with lengthened treatment sessions or participants who experienced negative outcomes after treatment continued to receive support from their spouses and families. It should also be kept in mind that these participants may have an elevated risk for being

exposed to violence. We think that health personnel evaluating the status of women regarding being exposed to violence because of infertility and developing coping strategies for this situation would be beneficial with regard to removing the negative effects of the psychological pressure these women experience because of violence on the treatment process.

Strengths and limitations of the study

The strengths of our study can be summarized as follows. The city of Istanbul is a multicultural city that receives immigration from all other cities in Turkey. The hospital at which the data were collected served heterogeneous patient groups. Data from our study are important because they demonstrate the general trends in Turkey. The number of studies conducted on this topic is limited, and the data are insufficient. Also, our study will provide important data for relevant studies in the future.

Our study has a number of limitations. First, the hospital at which we collected data is a unit serving families with low socioeconomic status. For this reason, our study data cannot be generalized. Second, we determined that certain personality characteristics of infertile women are associated with exposure to violence. We can speculate that women who scored high in neuroticism, which is characterized by timidity and low self-esteem, surrender to violent behavior, have limited coping resources, do not report violence, and think that they deserve the violence inflicted upon them because they are infertile. Thus, infertile women who scored high in neuroticism as a personality characteristic may have reported higher levels of violence exposure as they cannot adequately combat the violence. Another limitation of our study was that the data we used were based on subjective sources of information, such as the women's perceptions and emotions. Qualitative studies which use in-depth interviews to examine the personality characteristics and violence exposure of infertile women or case control studies which compare infertile women with fertile samples are needed.

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