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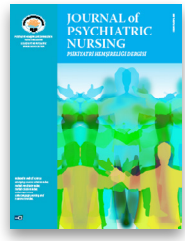

Original Article

Marital violence against infertile women and their coping strategies

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Abstract

Objectives: This study was designed to determine factors that contribute to marital violence against infertile women and to analyze the women's coping strategies.

Methods: A total of 175 women who visited the infertility polyclinic of a university hospital in the Western Black Sea region of Turkey were included in this descriptive, correlational study. The data were collected using a personal information form, the Scale for Marital Violence Against Women (SDVW) and the Coping Scale for Infertile Women (CSIW). The data were analyzed using descriptive statistics, the Student t-test, one-way analysis of variance and Spearman's correlation analysis.

Results: Infertile women were exposed to emotional, verbal, economic, and sexual violence. A statistically significant relationship was found between the participants' level of education, family type, place of residence, type of marriage, reason for infertility, age of the spouse, and SDVW score. The most frequently used coping strategies were hope, spousal relations, investment in personal wellness, seeking social support, acceptance, and spirituality. A statistically significant difference was found between the participants' age and duration of infertility and their scores on the CSIW. Participants' coping levels decreased as marital violence increased.

Conclusion: Given that women diagnosed with infertility may be exposed to violence and may use a number of coping strategies, healthcare professionals should take marital violence into consideration when providing infertile couples with care. They should support women and help to increase the use of positive coping methods using proven, effective methods.

Keywords: Coping; infertility; violence.

Infertility has been defined as the inability of couples to achieve a pregnancy despite a year of regular sexual intercourse without the use of contraceptive agents.[1,2] Reproduction and perpetuation of the species is essential and may be considered a basic instinct of all living things.[3,4] The ability to have a child is often important to social standing and conveys a confirmation of power and adequacy; it is often also seen as a responsibility. Though a failure to conceive may be due to either male or female infertility, most often, women are blamed in the event of the inability to produce children. Since maternity is often seen as a primary duty for women in many societies, women can feel great pressure. As a result, infertile women can experience internal psychological pain, as well as social stigma, injustice, and violence.[5–7]

Violence is a major public health problem commonly seen among all cultures around the world, regardless of economic development or education level.[8] Marital violence can be effected through physical, emotional, sexual, and economic acts committed by one individual against other members in the social structure defined as a family.[9]

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What is presently known on this subject?

- Marital violence and infertility are common and growing global health problems. Women are especially at risk as they often have less social and economic power, and are frequently held responsible for infertility, which can be a risk factor for exposure to violence.

What does this article add to the existing knowledge?

- The study results revealed a statistically significant relationship between the education level, family type, place of residence, type of marriage, reason for infertility, spouse's age, and scores on the Scale for Marital Violence against Women. The women most frequently used coping strategies of hope, spousal relations, investing in herself, seeking social support, acceptance, and spiritual coping. The level of coping decreased as marital violence increased.

What are the implications for practice?

- Nurses should be aware of and consider the various forms and effects of marital violence when treating infertile couples, and should help patients to strengthen their ability to cope with this challenging situation using stress-reduction and effective coping methods.

Several studies have investigated the relationship between infertility and marital violence: Bibi et al.[10] found that 20% of married women studied had experienced violence due to infertility, and Ameh et al.[11] reported that 41.6% of infertile women in their study had been subjected to violence. Kaur et al.[12] noted that infertility was a contributory factor to violence in 7% of married women. In Turkey, Öztürk et al.[13] reported that 32.5% of the infertile women studied had been exposed to violence at some point in their life, 4.7% of the women reported current violence, and 5.0% of women had been subjected to violence after a diagnosis of infertility. Yildizhan et al.[14] found that 33.6% of infertile women had experienced marital violence due to infertility, and 78% of these women had experienced marital violence for the first time in the relationship following a diagnosis of female factor infertility. Akyuz et al.[8] observed that infertile women had higher emotional, economic, and sexual violence scores than fertile women, and Çelik and Kırca[15] found that infertile women in their study had experienced a significant level of emotional, physical, sexual, and economic violence.

Infertility is often psychologically threatening and emotionally stressful, and treatment can be an expensive and physically painful experience, not only as a result of hopes and expectations, but the diagnostic and medical procedures. Infertility can also lead to violence and increased stress within the family.[3,4] Akyuz et al.[16] noted that women exposed to emotional and sexual violence demonstrated a high level of distress. Individuals make various emotional and behavioral efforts to manage or cope with problems.[17] The men and women of childless couples frequently experience different levels of stress and may also cope differently. Women frequently use coping methods like wishing, hope, and avoidance, communicating with their inner circle, joining groups where they can share their problems, talking, seeking support, reading, attending educational sessions about the subject, and taking responsibility.[18] Karaca and Unsal[19] observed that infertile women used a variety of methods to cope with the psychosocial difficulties they experienced, including discussing their problems with their spouse and other infertile women, spiritual coping, and social withdrawal.

Violence against women is a significant public health problem and infertility increases the risk.[8,10–14] A woman who is infertile is likely to be even more psychosocially vulnerable to violence. Therefore, nurses should be mindful of the possibility of marital violence when working with couples and evaluating stressors and physical and mental changes they may observe.[8,20] Nurses have an important responsibility to help women cope with violence, raise their awareness, and increase their self-esteem. The important role of nurses includes detecting violence, providing victims with the necessary care, encouraging the use of positive coping methods, and providing counseling to help enable decision-making, problem-solving, and accessing appropriate resources.[21]

The present study was conducted to determine the level and type of marital violence experienced by women diagnosed with infertility and to analyze their coping methods.

Research questions:

- What is the status of infertile women experiencing marital violence?
- Do sociodemographic characteristics affect the marital violence scale scores of infertile women?
- What coping methods are used by infertile women?
- Is there a relationship between marital violence against infertile women and the coping methods used?

Materials and Method

Research Ethics

Ethics approval for this research was granted by the Non-Interventional Health Research Ethics Committee (no: 2018/145) and the institution where the study was conducted. Verbal and written consent was provided by the women participating in the study before the research began.

Research Universe and Sample

The data for this descriptive and correlational study were collected at the infertility polyclinic of a university hospital located in the Western Black Sea Region between January and June 2019. The research universe consisted of 1477 women who visited a single polyclinic between January 1 and December 31, 2018. The research sample consisted of 173 infertile women selected using the certain universe sampling selection formula ($n=Nt^2pq/ d^2(N-1)+t\ pq$). No sampling method was used to select the study participants; women who applied to the polyclinic, were literate, provided written consent to participate in the study, and had been diagnosed with infertility were included.[1,2]

Data Collection Tools

The data were collected by the researcher in a private room at the polyclinic, using the personal information form, the Scale for Marital Violence against Women (SDVW), and the Coping

Scale for Infertile Women (CSIW). The purpose of the study and the techniques to be used were explained to the participants. After a researcher filled out the personal information form in a face-to-face interview, the women were asked to complete the self-report scales, which took approximately 20-25 minutes.[22,23]

Personal Information Form: The information form used was developed based on the literature[8,13,15,18] and consisted of 18 questions to elicit data such as the woman's age, education level, marital status, occupation, the date of initial infertility diagnosis, type of marriage, and the cause of infertility.

Scale for Marital Violence against Women: The SDVW was developed by Kılıç in 1999 includes 50 items.[22] The instrument includes 5 subscales: physical violence, emotional violence, verbal violence, economic violence, and sexual violence. A 3-point, Likert-type scale is used to score the items (1=never, 2=sometimes, 3=always). Of the 50 items, 16 (2, 5, 7, 8, 9, 12, 14, 22, 28, 30, 32, 33, 38, 44, 47, 49) are scored in reverse. The minimum score is 50 and the maximum score is 150. Each subscale score can be used separately. There is no specific cutoff score to identify women who have experienced marital violence. The total score indicates the level of marital violence. A higher score reflects a greater level of violence. A statistical analysis of the validity and reliability of the instrument revealed an internal consistency level of 0.74 for physical violence, 0.81 for emotional violence, 0.84 for verbal violence, 0.73 for economic violence, 0.74 for sexual violence, and 0.94 for the total score. The internal consistency and total score correlations of the scale were high.[22] In this study, the Cronbach alpha value of the scale was 0.83, which was similar to the values reported by Kılıç.

Coping Scale for Infertile Women: The CSIW scale, developed by Karaca et al.[23] to explore the coping strategies used by women during the process of trying to have a child, comprises 50 items and 10 subscales/factors (preoccupation with thoughts, spiritual coping, denial, social withdrawal, negative self-perception, hope, social support seeking, acceptance, investing in herself, spousal relationship). Items 9 and 19 are encoded in reverse. The tool uses a 5-point, Likert-type scale (strongly agree, agree, undecided, disagree, strongly disagree) for self-assessment. The minimum score is 50 and the maximum score is 150. Each subscale score can be used separately. There is no specific cutoff score. A low subscale score indicates that the respondent uses that coping style more often. The Cronbach alpha coefficient of the scale was found to be 0.88 and the internal consistency of the factors was 0.93. In this study, the Cronbach alpha value of the scale was calculated to be 0.92.

Data Analysis

Descriptive statistics of the numerical variables were presented as the mean±SD or the minimum and maximum values, and descriptive statistics of categorical variables were shown as numbers and percentages. The Student-t test was used to compare the normally distributed scale scores of 2 categorical variables. When comparing >2 categorical variables, one-way analysis of variance was used for those with normal distribution. Spearman correlation analysis was used to examine the relationship between total scores and subscales/factors of the 2 scales. IBM SPSS Statistics for Windows, Version 20.0 software (IBM Corp., Armonk, NY, USA) was used to analyze the data. Significance was established at $p<0.05$.

Results

The mean age of the women in this study was 31.89±6.74 years, the mean age of their spouse was 35.50±7.38 years, and the mean duration of marriage was 6.82±5.67 years. In all, 30.9% of the women had a university or higher degree, 55.4% were employed, 85.1% lived as a couple separate from other family members, 52.0% lived in an urban environment, and 67.4% were in a love marriage. Among the women's spouses, 36.4% had graduated from high school and 87.4% were employed. The duration of infertility for most of the women (77.1%) was 1-5 years. The reason for the inability to have a child was unknown in 36.6%, and female factor infertility had been identified in 32%. In all, 24% presented for diagnosis and treatment, 76% received treatment, and 65.1% had not received any treatment.

The findings indicated that the mean SDVW score was 65.62±0.5; emotional violence yielded the highest subscale score and the physical violence subscale score was the lowest (Table 1).

Table 1. Mean Scale for Marital Violence against Women (SDVW) Coping Scale for Infertile Women (CSIW) scores

	Mean±SD	Min-Max
SDVW		
Physical violence	10.22±0.0	10–15
Emotional violence	15.77±0.1	10–23
Verbal violence	13.71±0.1	10–24
Economic violence	13.64±0.1	10–22
Sexual violence	12.30±0.1	10–18
Total score	65.62±0.5	53–98
CSIW		
Preoccupation with thoughts	23.45±0.5	7–40
Spiritual coping	12.98±0.4	7–32
Denial	18.78±0.3	10–29
Social withdrawal	22.30±0.4	6–30
Negative self-perception	22.10±0.4	6–30
Hope	4.52±0.1	3–15
Seeking social support	9.95±0.3	2–20
Acceptance	11.06±0.3	2–25
Investing in self	6.71±0.2	3–15
Spousal relations	4.81±0.1	3–15
Total score	139.17±2.0	64–208

SD: Standard deviation.

One-way analysis of variance (ANOVA) post hoc tests used to investigate the difference between the sociodemographic characteristics of the women and SDVW scores revealed a statistically significant difference between education level of the women participating in the study and some marital violence subscales: emotional violence, verbal violence, economic violence, and sexual violence, as well as the total score. ($p<0.05$) (Table 2). The women who had no formal education beyond primary school were exposed to verbal and economic violence more often; women with a university or higher educational degree had a lower SDVW total score and lower economic, emotional, and sexual violence subscale scores.

A statistically significant difference was found between family type and the economic and sexual violence subscales ($p<0.05$). There was a significant difference between the women who lived with their husbands' family and women in couples living alone in terms of economic and sexual violence: the women living with extended family were exposed to economic and sexual violence more often. It was also revealed that emotional and verbal violence was significantly greater among those who lived in an urban environment than those living in a rural or a suburban area. The marriage type was also significant. Women with an arranged marriage reported a statistically significantly greater level of economic violence than those who had a love marriage ($p<0.05$). It was determined that spouses aged ≥43 years used physical violence more often than those between the ages of 25-30 and verbal violence more often than those aged 31-36 ($p<0.05$). The SDVW total score of women whose spouses highest level of formal education was primary school, those who lived with their husbands' family, and those who resided in a rural location were significantly higher ($p<0.05$).

There was a statistically significant difference between the education level of the women's spouses and the use of emotional, verbal, economic, and sexual violence ($p<0.05$). There was a difference between spouses with a university degree and spouses who had graduated from primary school and secondary school, and that spouses with a primary school education used emotional violence against infertile women more often. It was revealed that there was a difference between spouses who had graduated from primary school and those who had graduated from secondary school, high school, and university or higher education institutions, and that spouses who graduated from primary school used verbal violence against infertile women more often. A difference was also recorded between spouses with a university or higher educational degree and those who had graduated from primary school and secondary school, and spouses who had graduated from primary school used economic violence against infertile women more often. It was also determined that there was a difference between spouses with a university or higher degree and those who had graduated from primary school, and spouses who graduated from a primary school used sexual violence against infertile women more often.

ANOVA post hoc tests revealed that those diagnosed with male infertility used sexual violence more often.

The mean CSIW score was 139.17±2.0; the highest score was seen in the preoccupation with thoughts factor and the hope factor was the lowest (Table 1).

ANOVA post hoc tests indicated that there was a statistically significant difference between the mean age of the women and the coping factors of spiritual coping and hope ($p<0.05$). It was observed that women aged ≥43 used hope as a coping method less often. There was also a statistically significant difference between the spouse's age and the spiritual coping factor; the women whose spouses were aged 25-30 used spiritual coping more often. There was also a significant difference between the spouse's age and the hope factor; the women whose spouses were aged 25-30 were more hopeful than those whose spouses were aged ≥43 (Table 3).

ANOVA post hoc test results showed that there was a difference between the CSIW scores and the length of infertility. The women with a duration of infertility of 1-5 years were more hopeful than those with infertility of ≥11 years ($p<0.05$). There was a significant difference between the CSIW scores and the infertility duration and acceptance; women with infertility of 6-10 years were more accepting of the condition than those who had experienced infertility for 1-5 years (Table 4).

A small but significant negative relationship was seen between the SDVW and CWIS scores ($r=0.200$; $p<0.000$), a moderately negative significant relationship was observed between emotional violence and preoccupation with thoughts ($r=0.349$; $p<0.000$) and negative self-perception ($r=0.323$; $p<0.000$), as well as between verbal violence and negative self-perception ($r=0.411$; $p<0.001$). A moderately negative significant relationship was recorded between economic violence and preoccupation with thoughts ($r=0.358$; $p<0.000$) and negative self-perception ($r=0.355$; $p<0.001$), and between sexual violence and preoccupation with thoughts ($r=0.379$; $p<0,000$), social withdrawal ($r=0.338$; $p<0.000$), and negative self-perception ($r=0.367$; $p<0.000$). A low level negative significant relationship was also seen between economic violence and denial ($r=0.222$; $p<0.003$) (Table 5).

Discussion

The participants of this study had a low SDVW score of 53, a high score of 98, and a mean score of 65.62±0.5 (Table 1). In other studies carried out in Turkey, Akyuz et al.[8] reported a mean SDVW score of 67.23±8.037. Akyuz et al.[16] found a mean of 67.0±8.26 and noted that that the total SDVW score was higher in women who had been trying to have children for >6 years and those who had been treated for infertility for more than 3 years. Studies have also shown that infertility can be a factor that causes or increases marital violence.[8,10–14] The findings of our study are similar to previous results in the literature examining the relationship between infertility and marital violence. Bibi et al.[10] reported that infertility was an

Table 2. Relationship between SDVW scores and sociodemographic characteristics

Sociodemographic characteristics	Physical violence	Emotional violence	Verbal violence	Economic violence	Sexual violence	Total score
Education level						
Primary school	10.2±0.8	16.4±2.6[1]	14.8±3.3[1]	15.1±3.1[1]	12.9±1.8[1]	69.3±9.5[1]
Secondary school	10.2±0.8	16.4±2.1[2]	13.6±1.9	13.9±2.5[2]	12.8±1.8[2]	67.0±6.3[2]
High school	10.2±0.8	15.7±2.4	13.9±2.4	14.2±2.5[3]	12.4±2.1[3]	66.4±8.4[3]
University and higher	10.2±0.7	15.0±1.9[1,2]	13.0±1.6[1]	12.2±1.7[1,2,3]	11.5±1.3[1,2,3]	61.8±4.9[1,2,3]
Analysis results	F=0.022/P=0.995	F=3.986/p=0.009	F=4.400/p=0.005	F=11.962/p=0.000	F=6.516/p=0.000	F=8.358/p=0.000
Family type						
Couple living separately	10.2±0.8	15.6±2.3	13.6±2.3	13.4±2.4[1]	12.2±1.8[1]	65.0±7.5[1]
Live with husband's family	10.1±0.4	16.8±2.1	14.1±2.4	15.3±3.2[1]	13.3±1.8[1]	69.6±8.2[1]
Live with her family	10.4±0.9	15.6±1.7	14.8±2.5	14.8±1.3	12.4±2.1	68.0±4.0
Analysis results	F=0.423/p=0.656	F=2.572/p=0.079	F=1.059/p=0.349	F=6.060/p=0.003	F=3.659/p=0.028	F=3.736/p=0.026
Residence						
Rural	10.2±0.8	16.6±2.5[1]	14.2±2.4	14.0±2.3	12.7±2.1	67.7±7.6[1]
Suburban	10.2±0.6	16.2±2.4	14.5±2.4[1]	14.1±2.9	12.6±1.8[1]	67.5±8.1[2]
Urban	10.3±0.8	15.3±2.0[1]	13.1±2.1[1]	13.2±2.4	12.0±1.7[1]	63.8±7.0[1,2]
Analysis results	F=0.380/p=0.685	F=5.431/p=0.005	F=7.197/p=0.001	F=2.352/p=0.098	F=3.046/p=0.050	F=5.491/p=0.005
Type of marriage						
Love marriage	10.2±0.8	15.5±2.1	13.4±2.2	13.2±2.4[1]	12.1±1.9	64.5±7.2[1]
Arranged marriage	10.3±0.9	16.1±2.8	14.4±2.2	15.0±2.9[1]	12.6±1.6	68.3±7.9[1]
Companion marriage	10.2±0.8	16.3±2.4	14.0±2.6	14.2±2.6	12.7±1.7	67.5±8.8
Analysis results	F=0.243/p=0.866	F=1.578/p=0.196	F=2.113/p=0.100	F=.157/p=0.007	F=1.050/p=0.372	F=2.599/p=0.054
Spouse's age (years)						
19-24	10.8±1.1	15.8±1.6	12.0±1.2	13.0±1.7	12.6±1.5	64.2±3.7
25-30	10.0±0.3[1]	15.9±1.9	13.7±1.8	13.7±2.6	12.7±2.1	66.1±6.9
31-36	10.1±0.7	15.5±2.4	13.3 ±2.0[1]	13.2±2.2	11.9±1.5	64.1±6.5
37-42	10.1±0.4	15.3±2.2	13.6 ±2.4	13.8±2.8	11.9±1.7	64.7±7.7
≥43	10.6±1.3[1]	16.6±2.7	14.8 ±3.0[1]	14.1±2.7	12.8±1.9	68.8±9.9
Analysis results	F=3.766/p=0.006	F=1.821/p=0.127	F=2.927/p=0.023	F=0.689/p=0.600	F=2.747/p=0.030	F=2.242/p=0.067
Spouse's education level						
Primary school	10.5±1.2	17.0±2.8[1]	15.8 ±3.1[1,2,3]	14.9±3.5[1]	13.2±1.9[1]	71.3±10.3[1,2]
Secondary school	10.1±0.4	16.3±2.2	14.0±2.0[1]	14.2±2.2[2]	12.7±1.8	67.4±6.3[3]
High school	10.2±0.7	15.6±2.2	13.3±1.8[2]	13.6±2.3	12.1±1.7	64.7±6.3[1]
University and higher	10.2±0.8	15.1±2.0[1]	13.2±2.3[3]	12.7±2.4[1,2]	11.8±1.9[1]	63.0±7.9[2,3]
Analysis results	F=0.836/p=0.476	F=4.556/p=0.004	F=7.850/p=0.000	F=4.878/p=0.003	F=3.910/p=0.010	F=7.252/p=0.000

F: One-way analysis of variance. P: Significance at p<0.05. SDVW: Scale for Marital Violence against Women.

Table 3. Relationship between Coping Scale for Infertile Women and sociodemographic characteristics

Sociodemographic characteristics	Preoccupation with thoughts	Spiritual coping	Denial	Social withdrawal	Negative self-perception	Hope	Social support seeking	Acceptance	Investing in self	Spousal relations	Total score
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Age (years)											
19-24	24.84±7.0	13.3±5.5	20.4±4.2	22.0±6.4	22.1±6.6	5.6±3.0[1]	9.3±3.4	12.8±4.3	6.4±1.8	5.1±1.8	144.7±26.5
25-30	22.4±7.4	11.5±4.3[1]	18.7±3.9	22.5±6.0	22.7±5.8	3.6±1.3[1,2]	9.5±4.2	10.5±3.8	6.7±3.0	4.5±2.4	135.5±23.3
31-36	24.3±8.0	14.4±4.8[1]	17.6±3.7	21.7±6.1	21.4±5.8	4.3±1.5[3]	9.7±4.1	11.2±4.6	6.8±2.8	5.3±2.9	139.6±25.5
37-42	25.5±8.4	14.4±6.0	18.2±3.6	22.6±7.5	21.8±8.6	5.0±3.0	11.2±5.4	10.8±6.0	6.6±2.9	4.4±1.9	143.0±38.6
≥43	21.9±7.5	13.6±7.4	18.2±3.6	22.9±5.7	21.8±5.3	6.6±4.1[2,3]	11.1±5.4	11.6±4.7	7.1±3.5	5.2±2.9	141.5±29.5
ANOVA Results	F P	F P	F P	F P	F P	F P	F P	F P	F P	F P	F P
	1.257 0.289	2.637 0.036	2.198 0.071	0.183 0.947	0.306 0.874	8.434 0.000	1.099 0.359	1.094 0.361	0.185 0.946	1.028 0.394	0.675 0.61
Spouse's age											
19-24	23.4±7.3	16.0±2.6	5.0±2.5	20.4±7.1	19.0±7.7	6.2±3.0	11.2±4.4	10.8±5.1	6.6±2.2	5.0±2.5	141.8±16.5
25-30	22.7±7.3	11.2±2.9	4.9±2.8	23.1±5.6	22.5±6.2	4.0±1.91	9.1±3.8	11.9±4.3	6.9±3.0	4.9±2.8	138.5±23.5
31-36	23.9±7.4	13.1±5.5	4.5±1.8	21.0±6.1	21.9±5.4	4.2±1.72	9.2±3.8	11.4±4.1	6.6±2.5	4.5±1.8	136.4±23.1
37-42	23.7±8.6	13.5±5.7	4.9±2.8	23.9±6.1	22.9±6.4	4.2±2.33	11.5±5.5	9.3±5.0	6.7±3.1	4.9±2.8	143.1±32.3
≥43	23.8±8.2	14.3±7.0	4.9±2.6	21.8±6.9	21.4±7.2	6.1±3.71,2,3	10.3±4.6	11.5±4.3	6.8±3.3	4.9±2.6	139.7±33.8
ANOVA Results	F P	F P	F P	F P	F P	F P	F P	F P	F P	F P	F P
	0.231 0.921	2.457 0.048	2.082 0.085	1.589 0.179	0.635 0.638	5.448 0.000	2.169 0.075	2.026 0.093	0.068 0.991	0.227 0.923	0.349 0.844

F: One-way analysis of variance (ANOVA). P: Significance at p<0.05. SD: Standard deviation.

Table 4. Relationship between Coping Scale for Infertile Women scores and the characteristics of women's infertility

Sociodemographic characteristics	Preoccupation with thoughts	Spiritual coping	Denial	Social withdrawal	Negative self-perception	Hope	Social support seeking	Acceptance	Investing in self	Spousal relations	Total score
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Duration of infertility											
1-5 years	23.3 ± 7.5	13.0 ± 5.3	18.8 ±4.0	22.2 ± 6.2	22.0 ± 6.3	4.3 ± 2.2	9.9 ± 4.3	11.7 ± 4.5	6.8 ± 2.7	4.8 ± 2.4	139.6 ±27.7
6-10 years	23.5 ± 23.5	12.8 ± 4.6	19.0 ± 4.6	23.1 ± 5.5	23.0 ± 5.9	4.2 ± 1.4	10.2 ± 4.7	8.7 ± 3.9	6.4 ± 2.8	4.5 ± 2.2	137.2 ± 25.6
≥11 years	24.9 ± 8.9	13.0 ± 8.5	17.3 ± 4.7	21.5 ± 8.0	20.9 ± 7.2	8.1 ± 4.7	4.5 ± 2.5	10.2 ±4.4	6.2 ± 3.8	5.6 ± 3.7	138.8 ± 29.9
ANOVA Results	F P	F P	F P	F P	F P	F P	F P	F P	F P	F P	F P
	0.190 0.827	0.090 0.991	0.684 0.506	0.353 0.703	0.568 0.568	12.3380.000	0.055 0.947	5.990 0.003	0.427 0.653	0.709 0.494	0.980 0.906

F: One-way analysis of variance (ANOVA). P: Significance at p<0.05. SD: Standard deviation.

Table 5. Relationship between Scale for Marital Violence against Women (SDVW) and Coping Scale for Infertile Women (CSIW) scores

	Physical violence		Emotional violence		Verbal violence		Economic violence		Sexual violence		Total SDVW	
	r²	p-value	r²	p-value	r²	p-value	r²	p-value	r²	p-value	r²	p-value
Preoccupation with thoughts	-0.065	0.395	-0.349**	0.000	-0.290**	0.000	-0.358**	0.000	-0.379**	0.000	-.407**	0.000
Spiritual coping	0.005	0.950	-0.056	0.454	-0.109	0.151	-0.068	0.366	-0.102	0.177	-0.097	0.203
Denial	-0.007	0.929	-0.181*	0.016	-0.147	0.051	-0.222**	0.003	-0.132	0.080	-.205**	0.007
Hope	0.030	0.691	0.069	0.360	0.022	0.765	-0.054	0.477	0.012	0.873	0.015	0.840
Social support seeking	-0.014	0.854	-0.221**	0.003	-0.157*	0.038	-0.217**	0.004	-0.161*	0.034	-.225**	0.003
Social withdrawal	- 0.236**	0.002	-0.210**	0.005	-.221**	0.003	-0.248**	0.001	-0.338**	0.000	-.316**	0.000
Negative self- perception	-0.182*	0.016	-0.323**	0.000	-0.411**	0.000	-0.385**	0.000	-0.367**	0.000	-.454**	0.000
Acceptance	0.088	0.249	-0.061	0.418	-0.078	0.304	0.006	0.935	0.064	0.399	-0.016	0.836
Investing in self	0.143	0.060	0.280**	0.000	0.279**	0.000	0.295**	0.000	0.252**	0.001	.340**	0.000
Spousal relations	0.157*	0.038	0.301**	0.000	0.487**	0.000	0.376**	0.000	0.326**	0.000	.456**	0.000
Total CSIW	-0.073	0.334	-0.263**	0.000	-0.249**	0.001	-0.297**	0.000	-0.292**	0.000	-.329**	0.000

*Significant at 0.05; **Significant at 0.01. p: Significance level; r: Correlation coefficient.

instigating factor in 20% of married women exposed to violence, while Ameh et al.[11] found that 41.6% of infertile women had experienced violence due to infertility. In another study, Kaur et al.[12] observed that 7% of married women considered infertility a factor contributing to violence.

Among studies conducted in Turkey, Ozturk et al.[13] reported that 32.5% of the infertile women in the study had previously experienced violence, 6.6% were exposed to violence after being diagnosed with infertility, and 5% responded that the diagnosis of infertility had increased the violence. Yildizhan et al.[14] found that some one-third of the women in their study had suffered from marital violence due to infertility, and the first instance of violence occurred after the diagnosis in 78% of these cases. As seen in the literature,[8,10–14] infertility is a significant risk factor for marital violence, and may provoke the first act of violence in the relationship. Although having a child is often important for both men and women, women are still more often held responsible and face more pressure and the potential for violence when couples cannot have children.

This examination of violence against infertile women that included assessment of physical, emotional, sexual, economic, and verbal violence subgroups indicated that women were most exposed to emotional, verbal, economic, and sexual violence (Table 1). In another study conducted in our country, emotional, economic, and sexual violence scores were high in infertile women, which is consistent with our study results.[8] While Akyuz et al.[8] reported that infertile women were exposed to emotional, economic, and sexual violence more often than fertile women, Rahnavardi et al.[24] found that infertile women suffered from sexual violence more often than fertile women. Emotional/psychological violence has been reported to be the most frequent form of violence against infertile women: 73.4% was recorded by Yildizhan et al.,[14] 62% by Çelik and Kırca,[15] 54.4% by Aduloju et al.,[25] 74.3% by Sheikhan et al.,[26] and 33.8% by Ardabily et al.[27] Violence against women is an important problem all over the world, and infertility is clearly a factor that has the potential to increase violence against women. Though the level of emotional, verbal, economic, and sexual violence is influenced by the social and cultural structure of society, all health professionals should consider the potential of violence when offering care.

In the present study, the education level, family type, place of residence, and marriage type were factors related to marital violence (Table 2). We found that women with a primary school education were exposed to sexual, verbal, and economic violence more often than infertile women with a university or higher degree, while those with a university or higher degree were less often exposed to economic and emotional violence. Similarly, Akyuz et al.[8] suggested that infertile women with a low level of education were more likely to suffer from marital violence. It has often been reported in the literature that most of the women exposed to violence have less formal education.[8,22,28] This may be because they are more dependent on their spouses socially and economically.

The results of this study indicated that women living with their husbands' families were more often exposed to economic and sexual violence, women living in an urban area were exposed to emotional and verbal violence less often, and women who had arranged marriages were exposed to economic violence more often (Table 2). As in our study, researchers in Iran[27] concluded that violence was more common among infertile women who were forced to marry their husbands. Another study conducted in Turkey[15] also showed that violence was more common in infertile women with a low income and living in rural regions. Similar findings were reported in Egypt.[29] One factor that likely explains these results is the fact that women living in these circumstances are often not employed outside the home, the family has low socioeconomic status and a low education level, and these women have limited social and economic power.

We found that the age and education level of the woman's spouse were factors that affected the use of violence, and that spouses aged ≥43 used physical violence more often than spouses aged 25-30 and verbal violence more often than spouses aged 31-36, and that spouses with a primary school education used emotional, verbal, economic, and sexual violence against infertile women more often (Table 2). Çelik and Kırca[15] found no significant relationship between the age of the woman's spouse and the use of violence, but a significant relationship was found between education level and the use of violence. The socioeconomic status and the education level of women is often a relevant factor. The use of violence appears to increase as the education level and socioeconomic power of men decreases. In a study conducted in Egypt, more than 45% of infertile women stated that the most important reason for marital violence was financial problems. The study suggested that the rate of marital violence increased as education level and socioeconomic status decreased.[29]

Male infertility can also be a predisposing risk factor for sexual violence. This is particularly true in patriarchal societies where fathering children is associated with strength and success. The inability to demonstrate this power can provoke violence.

In the present study, it was found out that women mostly used hope, spousal relations, investing in herself, seeking social support, acceptance, and spiritual coping to cope with the problem of infertility (Table 1). Women aged ≥43 used hope as a coping method less often, while those with spouses aged 25-30 were more hopeful (Table 3). The decrease in reproductive potential with age may explain this finding. Women with infertility of 1-5 years were more hopeful than women with infertility lasting ≥11 years, and women with infertility of a duration of 6-10 years were more accepting than women with infertility of 1-5 years (Table 4). Women who are younger and have just been diagnosed with infertility and started the treatment process may retain more hope of having a child, but hope may decline with age, the duration of infertility, and unsuccessful treatment. As the length of time after the diagnosis of infertility increases, hope may decrease and acceptance of the condition may increase. In our literature review, we found no results directly comparable to the findings of our study. However, women who were infertile for ≥11 years scored higher on the "rejection of childless life" factor in the research conducted by Karaca and Ünsal[30] This was interpreted as an indication that women react in different ways to childlessness, and that the stress levels of some women who have been trying to cope with this problem for a long time may remain high and they may not yet have accepted an inability to bear children.

Yılmaz and Oskay[18] found that the infertile women mostly used the coping methods of wishing, hope, avoidance, communicating with their inner circle, attending groups where they can share their problems, talking, searching for support, reading and learning about the subject, and taking responsibility. Karaca and Ünsal[19] described coping methods such as discussing their problem with their spouse and other infertile women, using spiritual coping methods, and social withdrawal. In a systematic review, Yılmaz and Şahin[31] found that the most common methods of coping with infertility stress were related to religion and spirituality, social isolation, ignoring or diverting attention from the issue. In the literature, it has been reported that women often continue to hope to have children, expect support from their spouses and their environment, and often use spiritual coping techniques. Although individual methods of coping vary, it has been reported that women frequently use emotional coping methods. In Turkey and other communities, faith and spirituality are frequent resources for coping.[19,32–34] It is not surprising that it would be employed as a means of coping with infertility.

Evaluation of the relationship between the SDVW and the CSIW results obtained in our study suggested that as marital violence against women increased, the level of coping decreased (Table 5). Similarly, Gümüş et al.,[35] found that women exposed to physical, sexual, and economic violence used effective coping methods such as being self-confident and optimistic, and seeking social support less often than those who had not experienced violence, and that women exposed to emotional violence used ineffective coping methods, such as a passive approach, more often than women who had not experienced violence. Infertility can be quite stressful, and marital violence due to infertility only makes it more difficult for women to cope.

Conclusion

In this study, the findings indicated that infertile women were most often exposed to emotional, verbal, economic and sexual violence; that the education level, family type, place of residence, type of marriage, and age of the spouse were factors that increased marital violence; and that spouses diagnosed with male infertility used violence more often. It was also observed that the women in this study mostly used hope, spousal relations, investing in herself, seeking social support, acceptance, and spirituality as coping methods. Infertility is

clearly a factor that may cause or increase marital violence. As the severity of marital violence increased, women had more difficulty coping with infertility.

In order to protect community mental health, nurses and other healthcare professionals who work with infertile couples must be able to provide the appropriate support, and particularly to be aware of all forms of violence that may occur and the effects it may have. While education and other factors may be risk factors, it is also important for medical staff to remember that marital violence occurs among all social and economic strata.

The possibility of marital violence should be a consideration during routine screening in infertility clinics. Guidance on stress-reduction and effective coping techniques and counseling as needed should be provided to couples, as well as the opportunity for victims of violence to access the appropriate health and support services.

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