Original Article

doi:10.31674/mjn.2024.v15i04.019

MJN

Incidence of Violence and Sexual Dysfunction among Infertile Women Attending Women's Health Hospital, Assiut University

Aisha Abdelnaser Fawzy*, Manal Farouk Mostafa, Nadia Hussien Ahmed, Ahmed Mohamed Abbas

Faculty of Nursing, Assuit University, Assiut Governorate 71515, Egypt

**Corresponding Author's Email:draishaabdelnaser@aun.edu.eg*

ABSTRACT

Background: In the present day, people view infertility as a social issue that can result in psychological instability, relationship problems, and divorce. Consequences of infertility, such as low self-esteem, anxiety, and sexual relationship disturbances associated with failure in reproduction, have a major impact on sexual satisfaction. **Aim:** This study aims to assess the incidence of violence and sexual dysfunction among infertile women. **Methods:** A purposive sample of 60 infertile women was enrolled; a cohort design was used. The outpatient gynecological clinic and ART unit at Women's Health Hospital, Assiut University served as the study's sites. Data collection tools include a structured interview questionnaire, the Arabic version of the female sexual dysfunction index, and the WHO women domestic violence scale. **Results:** The study findings illustrate that the majority (85%) of infertile women experience violence, and a vast majority (93.3%) of them have sexual dysfunction. a highly statistically significant relationship between exposure to violence and occupation (p= 0.004) as well as type of family (p=0.001). Another highly statistically significant relationship exists between sexual dysfunction and occupation (p=0.004), in addition to educational level (p=0.009). **Conclusion:** Various forms of intimate partner violence and sexual dysfunction afflict infertile women. So, nurses should consider routine screening for domestic violence victims in infertility clinics. **Recommendation:** Providing marital counseling as a general course in higher institutions of learning to prepare couples to have positive sexual behaviour.

Keywords: Incidence; Infertility; Sexual dysfunction; Violence

INTRODUCTION

Infertility is now viewed as a social issue that can lead to psychological instability, relationship problems, and divorce. Consequences of infertility, such as low self-esteem, anxiety, and sexual relationship disturbance with failure in reproduction, have a major impact on sexual satisfaction (Sharifi *et al.*, 2021). Infertility leads individuals to feel inadequate, and societal or religious exclusion can trigger a crisis where women face instances of violence (Çalişkan, Balkan, & Kaydirak, 2023).

Nowadays, a significant number of married couples are affected by infertility and subfertility. Among many definitions of this term, the World Health Organization (WHO) defined it as a disease of the reproductive system in which a couple fails to get pregnant clinically after twelve months or more of frequent, unprotected sexual intercourse (WHO, 2023).

Female sexual function is multifactorial in nature, including hormonal, neurologic, and psychosocial processes. It is a continuum of psychosexual problems centered on sexual desire with interrelated disorders of arousal, orgasm, and dyspareunia, which affect the quality of life for many women (Dikmen & Çankaya, 2020). Infertility disproportionately impacts women socially, leading to increased risk of depression, anxiety, and reduced quality of life due to societal pressures surrounding childbearing (Afkhamzadeh *et al*., 2023). It is the impairment of any of three phases of normal sexual functioning, including loss of libido, disruption of physiological arousal, and loss or alteration of orgasm. Various factors, such as senility, medical and surgical illnesses, and drug and alcohol abuse, can affect each of these phases (Bahrami-Vazir *et al*., 2020).

Received: October 14, 2023 Received in revised form: February 24, 2024 Accepted: February 27, 2024

Violence is a worldwide problem that has a negative impact on public health. Domestic violence is a public health problem, which threatens physical and mental health considerably worldwide (Onat, 2024). It is defined as any behavior within an intimate relationship by an intimate partner that causes sexual, physical, or psychological harm to those in the relationship (Wali *et al.*, 2020). Partner-perpetrated violence against women is a worldwide issue that profoundly affects health outcomes (Mulyaningsih *et al.*, 2023). Intimate partner violence (IPV) stands as the prevailing manifestation of violence targeting women, encompassing various forms such as physical, psychological, emotional, or sexual abuse, alongside economic manipulation and controlling actions, perpetrated by a current or former male intimate partner within a relationship (Wang *et al*., 2022).

One in seven couples suffers from infertility, according to NICE guidelines. As a result, infertility is considered a major marital crisis because it impedes the main marital goal, which is childbearing. As a result, infertility is believed to be a source of psychological and social stress. This would lead to a possible relationship between infertility and sexual dysfunction (Szamatowicza & Szamatowiczc, 2020). Domestic violence poses a significant societal and public health concern for women on a global scale (Lotfy *et al.*, 2019). According to WHO global data, spousal sexual or physical violence ranges from 15% in Japan to 70% in Ethiopia and Peru. Moreover, intimate partners murder 38% of women. Research from developing countries has shown that domestic violence against infertile women includes physical, psychological, and sexual abuse. Research has demonstrated that 1.8–61.8% of infertile women encounter various forms of violence (WHO, 2013, 2023). Disturbance in sexual life can lead to changes in marital relations that affect their harmony, and these changes may end in unfavorable circumstances such as exposure to violence (Velten *et al.*, 2021).

A study in Egypt assessed the prevalence of violence and sexual dysfunction among infertile Egyptian women in Ismailia. The study (Ghoneim *et al.*, 2021) revealed that the vast majority of the studied women suffered from sexual dysfunction and experienced violence. Nurses and midwives play a crucial role in assessing women's sexual health and providing counseling, clinical services, and referral to specialists as needed to ensure satisfactory sexual wellbeing (Azar *et al*., 2022). They also have a responsibility to recognize and respond to the signs of domestic abuse and sexual violence in order to address ongoing health inequalities, safeguard women, and ultimately save lives (Patrick & Jackson, 2022).

Aim of the Study

Infertility is a major health concern with a great psychosocial impact. Several studies have found that infertile women are particularly vulnerable to domestic abuse. The goal of this study is to find out how common violence and sexual problems are among infertile women who go to the outpatient gynecological clinic and Assisted Reproductive Technology (ART) unit at Women's Health Hospital, Assiut University.

Research Question

To study the incidence of violence and sexual dysfunction among infertile women attending the outpatient gynecological clinic and Assisted Reproductive Technology (ART) unit at Women's Health Hospital, Assiut University.

METHODOLOGY

Study Design

The current study used a cohort design.

Sample

A purposive sample of 60 infertile women was collected over seven months from January 2023 to July 2023 at the outpatient gynecological clinic and Assisted Reproductive Technology ART unit at Women's Health Hospital, Assiut University. The inclusion criteria included women complaining of infertility (primary or secondary infertility) aged 18–45 who were accepted to participate in the study. Women with irregular marital lives meet the exclusion criteria.

Tools of the Study

Tool I: A structured interview questionnaire is developed by the investigator after reviewing the related literature and used to obtain the following data:

Socio-demographic data of participating women, including: Patient name, telephone number, age, educational level, occupation, residence, age at marriage, duration of marriage, weight, height, body mass index, circumcision, and type of family.

Infertility-related data of women included: Duration, type, and cause of infertility, and duration of treatment.

Tool II: Arabic version of the Female Sexual Dysfunction Index (FSDI) (2000):

FSDI is an instrument for the evaluation of sexual function in women, developed by Rosen *et al.* (2000). It consists of 19 statements divided into 6 categories: satisfaction (3 items), pain (3 items), lubrication (4 items), orgasm (3 items), desire (2 items), and arousal (4 items).

Tool III: According to WHO (2005), the women domestic violence scale contains four parts:

The first subscale includes six items covering physical violence, such as slapping women, throwing something at her that could hurt her, etc.

The second subscale comprises four items that address emotional violence, such as experiencing insults or humiliations in public.

The third subscale contains seven items covering controlling behavior by husbands, which include keeping women from seeing friends, restricting contact with her family, etc.

The fourth subscale encompasses three items that address sexual violence, such as the physical coercion to engage in sexual activities against women.

Validity and Reliability

A group of five maternity nursing specialists examined the content's validity. Reliability was determined using the Alpha Cronbach's test for tool II ($r = 0.921$ for tool III, 0.887).

Procedure

The manager of Woman's Health Hospital, Assiut University, officially approved the study and data collection. The investigator greets the participating women and introduces herself to them, then explains the nature and aim of the study and gives the women the full description and information needed about the study. The investigator obtained written informed consent from each participant. The investigator conducted separate face-to-face interviews with each woman in the nursing office to gather socio-demographic and infertility-related data. The researcher used the Arabic version of the Female Sexual Dysfunction Index to measure the presence of sexual dysfunction, as well as the WHO women's domestic violence scale to assess women's exposure to violence. The investigator then provides women with sufficient time to report any problems or ask any questions. It took about 30 minutes to fill out the questionnaire. Then the investigator provides women with some instructions on how to improve sexual dysfunction and overcome violence. Finally, the investigator thanked each woman for their time and participation in the study.

Statistical Design

The collected data was coded, tabulated, and analyzed using the statistical package for social science programs (SPSS) version 26 statistical software for the assessment of data homogeneity. The descriptive analyses were used where the qualitative variables were described using frequency and percentages and the quantitative variables were described using frequency, percentage, and mean ± standard deviation (SD). The Pearson correlation coefficient was applied. Probability (*P*-value) less than 0.05 was considered significant, and less than 0.001 was considered highly significant.

Ethical Consideration

The ethical approval for this was obtained from the Research Ethics Committee in the Faculty of Nursing, Assiut University, Egypt with reference number 1120230493 on November 27th, 2022.

RESULTS

It reveals socio-demographic data of the participant; the mean age and standard deviation are 31.38±5.59. Regarding women's residence, 66.7 percent of them were from rural areas, and less than half of them had secondary school (41.6%). On the other hand, 80.0% were housewives. Furthermore, the mean of women's age at marriage and duration of marriage were 22.0±5.27 and 9.27±5.85 respectively. Additionally, 78.3% of them lived in extended families, and 95.0% of them declared that they were circumcised.

Table 1: Distribution of the Studied Women According to their Socio-Demographic Data (n=60)

Socio-Demographic Data	N	%
Age Groups/ Years		
<30 year	25	41.7
30-35 years	20	33.3
>35 years	15	25.0
Age mean±SD	**31.38±5.59**	
Residence		
Rural	40	66.7
Urban	20	33.3
Educational Level		
Illiterate but can read and write	13	21.7
Preparatory school	12	20.0
Secondary school	25	41.6
University	10	16.7
Occupation		
Worker	12	20.0
Housewife	48	80.0
Age at Marriage/Years		
<25 years	43	71.7
25 or more	17	28.3
Mean of Age at Marriage/Years	**22.0±5.27**	
Type of family		
Nuclear	13	21.7
Extended	47	78.3
Duration of Marriage/Years	**9.27±5.85**	
Weight/kg	**72.82±12.17**	
Height/cm	**161.67±6.14**	
BMI		
Normal weight	18	30.0
Overweight	26	43.3
Obese	16	26.7
History of Circumcision		
No	3	5.0
Yes	57	95.0

The table shows that 55.0% of women had primary infertility, 45.0% of them had secondary infertility, 58.4% of participants reported that the cause of infertility was due to female factors, 48.3% of them had more than five years' duration of infertility, and 46.7% of women received treatment for infertility for more than 5 years.

Table 2: Distribution of the Studied Women According to their Current Infertility Data (n=60)

Current Infertility Data	N	%
Types of Infertility		
Primary	33	55.0
Secondary	27	45.0
Cause of Infertility		
Female factor	35	58.4
Male factor	25	41.6
Duration of Infertility		
Less than 3 years	16	26.7
From 2 to 5 years	15	25.0
More than 5 years	29	48.3
Duration of Treatment		
Less than 3 years	18	30.0
From 2 to 5 years	14	23.3
More than 5 years	28	46.7

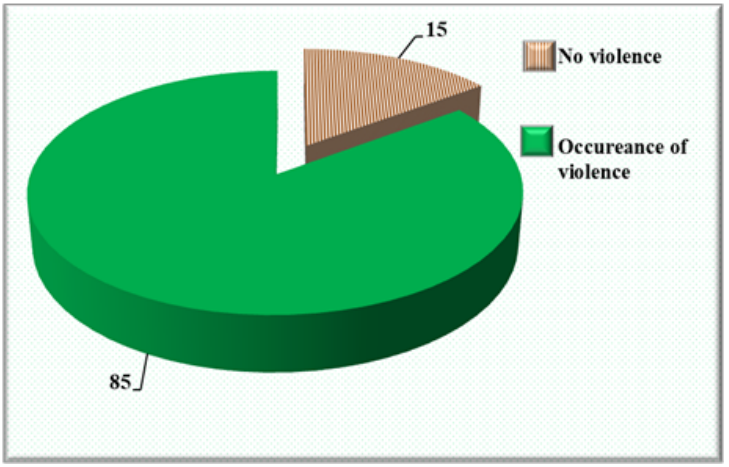

Figure 1: Distribution of the Studied Women According to Exposure to Violence (n=60)

It demonstrates that while only 16.7% of women experience physical or sexual violence, the vast majority (88.2%) are subject to emotional violence and are under the control of their husbands. The mean and SD of the total score regarding exposure to violence were 35.18±5.84.

Table 3: The Distribution of The Studied Women According to Type of Violence (N=60)

Items	No Violence		Exposure to Violence	
	N	%	N	%
Physical violence	50	83.3	10	16.7
Mean ±SD	**7.12±2.83**			
Emotional violence	12	11.8	48	88.2
Mean ±SD	**8.90±1.63**			
Controlling behavior by husband	12	11.8	48	88.2
Mean ±SD	**15.88±2.06**			
Sexual violence	50	83.3	10	16.7
Mean ±SD	**3.28±0.78**			
Total violence score	**35.18±5.84**			

Figure 2 shows that the vast majority (93.3%) of the studied women had sexual dysfunction. While 6.7% of them had no sexual dysfunction.

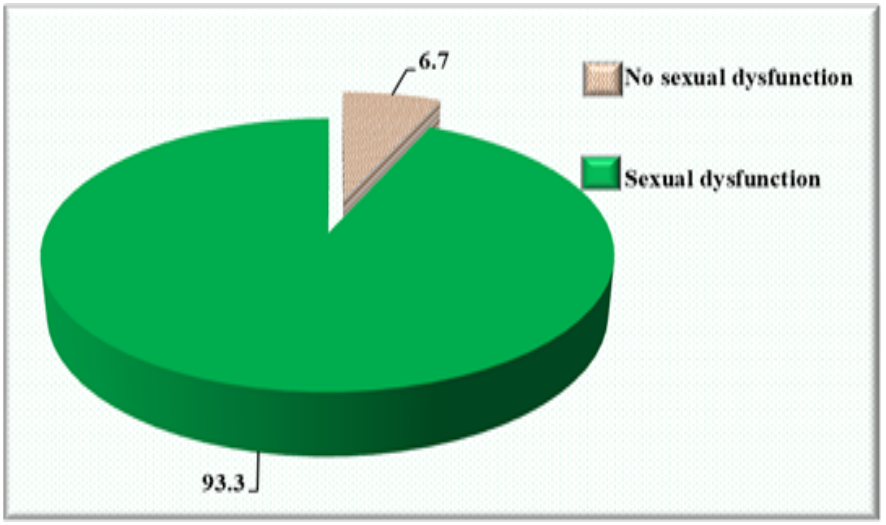

Figure 2: Distribution of the Studied Women According to Presence of Sexual Dysfunction (N=60)

It illustrates that mean and SD of total score regarding sexual dysfunction was 52.72±13.44.

Table 4: Distribution of the Studied Women According to Mean and SD of Total Score Regarding Sexual Dysfunction (n=60)

Items	**Mean ±SD**
Desire	5.03±1.46
Arousal	9.77±3.17
Lubrication	11.40±3.38
Orgasm	8.65±2.58
Satisfaction	9.55±3.31
Pain	8.32±2.01
Total Sexual Dysfunction Score	**52.72±13.44**

It shows a highly statistically significant relationship between exposure to violence and occupation (p=0.004) as well as type of family (p=0.001). Housewives were exposed to violence more than working women (86.3%). Also, women living in extended families (86.3) were exposed to violence more than women living in nuclear families. On the other hand, there is no statistically significant relationship between exposure to violence and age (p= 0.070).

Table 5: Relationship between Exposure to Violence and Socio-Demographic Data (n=60)

Socio-Demographic Data	**Exposure to Violence**				***P*-value**
	No		**Yes**		
	N (9)	**%**	**N (51)**	**%**	
Age Groups/ Years					
<30 year	2	22.2	23	45.1	0.070
30-35 years	2	22.2	18	35.3	
>35 years	5	55.6	10	19.6	
Residence					
Rural	7	77.8	33	64.7	0.443
Urban	2	22.2	18	35.3	

Educational Level					
Illiterate but can read and write	1	11.1	12	23.6	0.602
Preparatory school	3	33.3	9	17.6	
Secondary school	3	33.3	22	43.1	
University	2	22.3	8	15.7	
Occupation					
Worker	5	55.6	7	13.7	0.004**
Housewife	4	44.4	44	86.3	
Age at Marriage/Years					
<25 years	7	77.8	36	70.6	0.659
25 or more	2	22.2	15	29.4	
Type of Family					
Nuclear	6	66.7	7	13.7	0.001**
Extended	3	33.3	44	86.3	
BMI					
Normal weight	3	33.3	15	29.4	0.304
Overweight	2	22.3	24	47.1	
Obese	4	44.4	12	23.5	
History of Circumcision					
No	0	0.0	3	5.9	0.455
Yes	9	100.0	48	94.1	

It represents a high statistically significant relationship between sexual dysfunction and occupation (p=0.004), in addition to educational level (p=0.009) as housewives suffered from sexual dysfunction more than working women (86.9%). Nevertheless, there is no statistically significant relationship between sexual dysfunction and age (p= 0.276).

Table 6: Relationship between Sexual Dysfunction and Socio-Demographic Data (n=60)

Socio-Demographic Data	**Sexual Dysfunction**				***P*-value**
	No		**Yes**		
	N (4)	**%**	**N (56)**	**%**	
Age Groups/Years					
<30 year	2	50.0	23	41.1	0.276
30-35 years	0	0.0	20	35.7	
>35 years	2	50.0	13	23.2	
Residence					
Rural	3	75.0	37	66.1	0.714
Urban	1	25.0	19	33.9	

Educational Level					
Illiterate but can read and write	0	0.0	13	23.2	0.009**
Preparatory school	1	25.0	11	19.6	
Secondary school	0	0.0	25	44.6	
University	3	75.0	7	12.5	
Occupation					
Worker	3	75.0	9	16.1	0.004**
Housewife	1	25.0	47	83.9	
Age at Marriage/Years					
<25 years	4	100.0	39	69.6	0.193
25 or more	0	0.0	17	30.4	
Type of Family					
Nuclear	1	25.0	12	21.4	0.867
Extended	3	75.0	44	78.6	
BMI					
Normal weight	1	25.0	17	30.4	0.537
Overweight	1	25.0	25	44.6	
Obese	2	50.0	14	25.0	
History of Circumcision					
No	0	0.0	3	5.4	0.635
Yes	4	100.0	53	94.6	

DISCUSSION

Sexual dysfunction has been described as being present among couples with infertility, possibly as a side effect of frustration regarding their inability to have children (Sood *et al*., 2022). Individuals who experience violence are at risk for physical and psychological trauma as well as bad obstetric and general health outcomes (Silwal & Thapa., 2020). The primary finding of the present study of great importance is that the majority of women are exposed to violence related to infertility. This finding agreed with Çelika and Kırca (2018), who found that 82% of women declared having been exposed to violence. While these results disagreed with those of Rijal and colleagues (2022), they reported that IPV was 12.5% among infertile women. Such differences among the population may be due to differences in cultural norms, values, and false beliefs, which play a significant role in violence among infertile women, or to the variable instruments used to assess violence.

The present study also revealed that the vast majority of women are exposed to emotional violence, and only a few of them are exposed to physical or sexual violence. These results are consistent with Diab and colleagues (2021), as their results showed that the following (81.2%) of women experience emotional violence. Furthermore, similar results were reported by Sheikhan and colleagues (2019), who reported that the incidence of physical violence was 5.3% and psychological violence was 74.3%. In contrast to these results, Hasan and colleagues (2017) demonstrated that 54% of women experience physical violence and 55% of them suffer from sexual violence. This could be attributed to the fact that having children is a highly desirable goal and a source of power and joy for women in family and community.

The present study found that the vast majority of the studied women had sexual dysfunction in the same vein. Leeners and colleagues (2023) conducted a similar study that demonstrated the prevalence of sexual dysfunction among the studied women. Different results were presented by Madbouly and colleagues (2020), who report that the great majority (88.5%) of research participants were satisfied with their sexual lives. Different groups of people may report different rates of female sexual dysfunction. This could be because of psychological and medical factors, racial and cultural differences, the socioeconomic and clinical definitions of sexual dysfunction, and the criteria used to look at the samples.

The current study demonstrates a statistically significant relationship between exposure to violence and type of family; these results come in line with (Çalişkan & Özkan, 2021). As these results come from most participants who lived in extended families, this could be explained as family may be considered an aggressor to violence due to family pressure. On the other hand, Keeling (2013) reports a significant relationship between women's age and violence.

The current study showed a statistically significant correlation between sexual dysfunction and occupation, as well as educational level; Banaei and colleagues (2018) also reported similar results. On the other side, McCool and colleagues (2018) report a highly statistically significant relationship between sexual dysfunction, age, and residence. According to infertility data, the present study demonstrates that half of the participants had primary infertility. Half of the participants reported that the cause of infertility was due to a female factor. These results matched the results of Ghaly and colleagues (2019). Additionally, this finding contradicts the findings of Taebi and colleagues (2016), who clarified that male factors cause infertility.

The results of the present study regarding the socio-demographic data of participants showed that one-third of them were in the age group of 30-35 years with a mean age of 31.38±5.59 years. In terms of educational level, more than one-third of them had secondary education. Furthermore, most of them were housewives. This finding agrees with Elkhateeb (2018). Similarity in finding is due to convergence in sample size and the similarities of community features and characteristics. Regarding family type, three-quarters of women live in extended families. Rahebi and colleagues (2019) report different results where more than two-thirds of participants live in nuclear families.

CONCLUSION

The present study concluded that infertile women experience various forms of intimate partner violence, with emotional violence being the most common type, and that the vast majority of them experience sexual dysfunction. Also, there was a high statistically significant relationship between exposure to violence as well as type of family, and there was a high statistically significant relationship between sexual dysfunction and occupation in addition to educational level. So nurses should consider that routine screening for domestic violence victims in infertility clinics must be mandatory to provide them with appropriate health care and supportive services.

Recommendation

This study recommended providing marital counselling as a general course in higher institutions of learning to prepare couples to have positive sexual behavior. Future research is necessary to integrate post- and pre-registration courses and preparation programs related to Intimate partner violence (IPV) or domestic violence and abuse (DVA) against women into the nursing curriculum, thereby influencing nurse education.

Conflict of Interest

There is no conflict of interest corresponding to the authors

ACKNOWLEDGMENT

The authors would like to thank all the participants, as well as the nurses working in the ART unit and outpatient gynecological clinic. The authors are thankful to the director of the ART unit for facilitating the work with participants and data collection.

REFERENCES

Abdelhalim, E. H. N., Ibrahim, A. M., Hassan, H. E., Wahba, N. M., & Moawd, S. A. A. (2024). Silent struggles: Unveiling the unspoken epidemic of domestic violence against infertile women in Egypt. *International Journal of Africa Nursing Sciences, 20*, 100663. https://doi.org/10.1016/j.ijans.2024.100663

Afkhamzadeh, A., Mahmoodi, H., Rahmani, K., Mohammadi, S., Haghshenas, M., & Faraji, O. (2023). The association between emotional maturity and domestic violence among infertile women. *International Journal of Human Rights in Healthcare, 16*(2), 137-145. https://doi.org/10.1108/IJHRH-09-2021-0173

Alan Dikmen, H., & Çankaya, S. (2020). The effect of exposure to sexual violence on sexual dysfunction and sexual distress in pregnant women. *The Journal of Sexual Medicine, 17*(12), 2394-2407. https://doi.org/10.1016/j.jsxm.2020.09.006

Ardabily, H. E., Moghadam, Z. B., Salsali, M., Ramezanzadeh, F., & Nedjat, S. (2011). Prevalence and risk factors for domestic violence against infertile women in an Iranian setting. *International Journal of Gynecology & Obstetrics, 112*(1), 15-17. https://doi.org/10.1016/j.ijgo.2010.07.030

Azar M., Kroll T., Bradbury-Jones C., (2022). How do nurses and midwives perceive their role in sexual healthcare. *BMC Women's Health*, 22:330 https://doi.org/10.1186/s12905-022-01891-y

Bahrami_Vazir, E., Mohammad-Alizadeh-Charandabi, S., Kamalifard, M., Ghelichkhani, F., Mohammadi, A., & Mirghafourvand, M. (2020). The correlation between sexual dysfunction and intimate partner violence in young women during pregnancy. *BMC International Health and Human Rights, 20*(1), 1-9. https://doi.org/10.1186/s12914-020-00245-9

Banaei, M., Moridi, A., & Dashti, S. (2018). Sexual dysfunction and its associated factors after delivery: longitudinal study in Iranian women. *Materia Socio-Medica, 30*(3), 198. https://doi.org/10.5455/msm.2018.30.198-203

Çalışkan, A., & Özkan, F. S. (2021). Marital violence against infertile women and their coping strategies. *Journal of Psychiatric Nursing/Psikiyatri Hemsireleri Dernegi, 12*(4). https://doi.org/10.14744/phd.2021.46503

Çalişkan, E., Balkan, E., & Kaydirak, M. M. (2023). Violence Exposure of Infertile Couples: A Systematic Review. *CURARE Journal of Nursing,* (2), 41-47. https://doi.org/10.26650/CURARE.2023.1270076

Çelik, A. S., & Kırca, N. (2018). Prevalence and risk factors for domestic violence against infertile women in a Turkish setting. *European Journal of Obstetrics & Gynecology and Reproductive Biology, 231*, 111-116. https://doi.org/10.1016/j.ejogrb.2018.10.032

Elkhateeb, R. (2018). *Domestic violence against infertile women, Evidence Based Women's Health Journal, 8*(1), 12-15. https://doi.org/10.21608/ebwhj.2018.5639

Ghaly, A. S., Essa, R. M., & Yassin, S. T. (2019). Intimate partner violence against infertile women. *IOSR Journal of Nursing and Health Science, 8*, 10-25. https://doi.org/10.9790/1959-0804051025

Ghazy Diab, M., Abd El hakeem Hasneen, S., Ouda AbdElmoniem, S., & Abdel Wahab Afify, O. (2021). Assessment the Domestic Violence among Infertile Women at Benha University Hospital. *Journal of Nursing Science Benha University, 2*(2), 841-856. https://doi.org/10.21608/jnsbu.2021.195263

Ghoneim, H. M., Taha, O. T., Ibrahim, Z. M., & Ahmed, A. A. (2021). Violence and sexual dysfunction among infertile Egyptian women. *The Journal of Obstetrics and Gynaecology Research, 47*(4), 1572–1578. https://doi.org/10.1111/jog.14689

Keeling, J. (2013). Violence against women: Current theory and practice in domestic abuse, sexual violence and exploitation. *The British Journal of Social Work, 43*(6), 1249–1250. https://doi.org/10.1093/bjsw/bct148

Leeners, B., Tschudin, S., Wischmann, T., & Kalaitzopoulos, D. R. (2023). Sexual dysfunction and disorders as a

consequence of infertility: a systematic review and meta-analysis. *Human Reproduction Update, 29*(1), 95-125. https://doi.org/10.1093/humupd/dmac030

Lotfy, M., Hamdy, M. A., Mansour, A. F. I., Gharib, W. F., Ghoneim, H. M., Abbas, A. M., Sayed Ahmed, W. A., & Ibrahim, Z. M. (2019). Prevalence and risk factors for domestic violence among infertile Egyptian women: a cross-sectional study. *The European Journal of Contraception & Reproductive Health Care: The Official Journal of the European Society of Contraception, 24*(5), 362–367. https://doi.org/10.1080/13625187.2019.1642467

Madbouly, K., Al-Anazi, M., Al-Anazi, H., Aljarbou, A., Almannie, R., Habous, M., & Binsaleh, S. (2021). Prevalence and predictive factors of female sexual dysfunction in a sample of Saudi women. *Sexual Medicine, 9*(1), 100277-100277. https://doi.org/10.1016/j.esxm.2020.10.005

McCool-Myers, M., Theurich, M., Zuelke, A., Knuettel, H., & Apfelbacher, C. (2018). Predictors of female sexual dysfunction: a systematic review and qualitative analysis through gender inequality paradigms. *BMC Women's Health, 18*, 1-15. https://doi.org/10.1186/s12905-018-0602-4

Mulyaningsih, E. A., Juwita, S., Argaheni, N. B., & Ningtyas, S. F. (2023). The Impact of Reproductive Health on Female Victims of Violence by Partners. *Malaysian Journal of Medical Research (MJMR), 7*(3), 21-26. https://doi.org/10.31674/mjmr.2023.v07i03.004

Onat, G. (2014). Development of a scale for determining violence against infertile women: A scale development study. *Reproductive Health, 11*, 1-8. https://doi.org/10.1186/1742-4755-11-18

Patrick, L., & Jackson, L. (2022). The role of nurses in recognizing and responding to violence against women. *Journal of Clinical Nursing, 31*, e8–e10.https://doi.org/10.1111/jocn.16147

Rahebi, S. M., Rahnavardi, M., Rezaie-Chamani, S., Nazari, M., & Sabetghadam, S. (2019). Relationship between domestic violence and infertility. *Eastern Mediterranean Health Journal, 25*(8). https://doi.org/10.26719/emhj.19.001

Rijal, A., Sharma, Ch., Thapa, R. (2022). Experience of Domestic Violence among Infertile Women Attending a Clinic of a Tertiary Level Hospital, Kathmandu, Nepal. *American Journal of Nursing Research, 10*(2), 41-45. https://doi.org/10.12691/ajnr-10-2-1

Rosen, C. Brown, J. Heiman, S. Leiblum, C. Meston, R. Shabsigh, D. Ferguson, R. D'Agostino, R. (2000). The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. *Journal of Sex & Marital Therapy, 26*(2), 191-208. https://doi.org/10.1080/009262300278597

Sharifi, F., Jamali, J., Larki, M., & Roudsari, R. L. (2022). Domestic violence against infertile women: a systematic review and meta-analysis. *Sultan Qaboos University Medical Journal, 22*(1), 14. https://doi.org/10.18295/squmj.5.2021.075

Sheikhan, Z., Ozgoli, G., Azar, M., & Alavimajd, H. (2014). Domestic violence in Iranian infertile women. *Medical Journal of The Islamic Republic of Iran, 28*, 152.https://www.semanticscholar.org/reader/3f72edf35e5a9d0b5c5f61921321e6c72d3635ac

Silwal, A., & Thapa, B. (2020). Prevalence of domestic violence among infertile women attending subfertility clinic of a tertiary hospital. JNMA: *Journal of the Nepal Medical Association, 58*(226), 372. https://doi.org/10.31729/jnma.4886

Sood, R., Kuhle, C. L., Thielen, J. M., Kapoor, E., Vencill, J. A., Mara, K. C., & Faubion, S. S. (2022). Association of mindfulness with female sexual dysfunction. *Maturitas, 161*, 27-32. https://doi.org/10.1016/j.maturitas.2022.02.002

Szamatowicz, M., & Szamatowicz, J. (2020). Proven and unproven methods for diagnosis and treatment of infertility. *Advances in Medical Sciences, 65*(1), 93-96. https://doi.org/10.1016/j.advms.2019.12.008

Taebi, M., Gandomani, S. J., Nilforoushan, P., & GholamiDehaghi, A. (2016). Association between infertility factors and non-physical partner abuse in infertile couples. *Iranian Journal of Nursing and Midwifery Research, 21*(4), 368. https://doi:10.4103/1735-9066.185577

Velten, J., Milani, S., Margraf, J., & Brotto, L. A. (2021). Visual attention and sexual arousal in women with and without sexual dysfunction. *Behaviour Research and Therapy, 144*, 103915. https://doi.org/10.1016/j.brat.2021.103915

Wali, R., Khalil, A., Alattas, R., Foudah, R., Meftah, I., & Sarhan, S. (2020). Prevalence and risk factors of domestic violence in women attending the National Guard Primary Health Care Centers in the Western Region, Saudi Arabia, 2018. *BMC Public Health, 20*, 1-9. https://doi.org/10.1186/s12889-020-8156-4

Wang, Y., Fu, Y., Ghazi, P., Gao, Q., Tian, T., Kong, F., Zhan, S., Liu, C., Bloom, D. E., & Qiao, J. (2022). Prevalence of intimate partner violence against infertile women in low-income and middle-income countries: a systematic review and meta-analysis. *The Lancet. Global Health, 10*(6), e820–e830. https://doi.org/10.1016/S2214-109X(22)00098-5

World Health Organization (WHO) (2013). Global and regional estimates of violence against women. Prevalence and health effects of intimate partner violence and non-partner sexual violence. *Geneva*: https://www.who.int/publications/i/item/9789241564625. Accessed date on 19th July, 2023. .

World Health Organization (WHO) (2005). WHO multi-country study on women's health and domestic violence against women: summary report. https://www.who.int/publications/i/item/9241593512. Accessed date on 20th January 2023.

World Health Organization (WHO) (2023). International Classification of Diseases, *11th Revision (ICD-11) Geneva.* https://icd.who.int/en. Accessed date on 14th December, 2022.