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Prevalence of violence among women suffering from infertility

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ABSTRACT

Background: Realizing the extent of violence among infertile women **Aim:** This study aim is to measure the prevalence of violence among women suffering from infertility. **Research design:** A cross-sectional descriptive research design will be used to carry out this study. **Setting:** the obstetrics and gynecology outpatient clinics at Beni Suef Hospital. University **Subjects:** the estimated sample size is 191 women. After adjustment for a non-response rate of about 20%, it will be increased to 220 women**. Tools for Data Collection:** The data for this study will be collected using a self-administered questionnaire. It will be prepared by the researcher. **Result: Figure (1)**: Distribution of the numbers of women in the study sample by centers (n=191) **Figure (2)** demonstrates that 135 from the total sample of 191 women were recruited from Beni-Suef settings **Table (2):** Correlations between violence (NorAQ), Battering (WEB), and abuse (WAST) scales' scores and women's characteristics **Conclusion:** In conclusion, a large percentage of infertile women suffer from intimate partner violence. Their exposure to violence is affected by the demographic characteristics of themselves and their husbands, as well as the characteristics of marriage and infertility. **Recommendations:** In the light of these study results, the following is recommended. Addressing the underlying factors: Education and awareness: promote public awareness about IPV, its signs, and consequences. Economic empowerment: provide economic support and opportunities for women at risk. Social norms: challenge and change harmful gender norms and stereotypes through community programs.

INTRODUCTION

Infertility is defined by the World Health Organization (WHO) as failure to achieve a pregnancy after 12 months or more of regular unprotected sexual intercourse ***(World Health Organization [WHO], 2018)***. It is one of the public health problems affecting a significant number of women in the reproductive age group ***(Roba et al., 2022)***. is estimated that around 48 million women

around the world are suffering from this problem ***(World Health Organization [WHO], 2020)***.

The prevalence of infertility in reproductive-aged women has been estimated to be 1 in every 7 couples in the Western world and 1 in every 4 couples in developing countries. In some regions of the world, including the Middle East and North Africa, infertility rates may reach 30% ***(Mascarenhas et al., 2012)***. Globally, the estimated age-standardized prevalence rate of female infertility increased by 0.37% each year from 1990 to 2017. The increasing global disease burden of infertility would not only increase the economic burden and psychological pressure on patients but would also affect the social population structure ***(Sun et al., 2019)***.

Infertility is classified as primary or secondary infertility. Primary infertility refers to women where conception has never occurred. Secondary infertility refers to cases where conception previously occurred at least once, but fails to repeat ***(Larsen, 2005)***. Primary infertility accounts for more than a half of the cases of infertility ***(Hazlina et al., 2022)***. Preconception and prenatal exposure to environmental contaminants, including heavy metals, endocrine-disrupting chemicals, and air pollution is associated with infertility and multigenerational effects ***(Segal and Giudice, 2019)***. Studies have also linked lifestyle, diet, obesity, and biochemical measures with infertility ***(Xu et al., 2022)***.

The stigma of not giving birth to children affects female infertility patients worldwide. It causes harm to the mental health of these infertility patients and affects their quality of life making them bear the adverse social consequences such as domestic violence, marriage breakdown, or even delay receiving the treatment ***(Xie et al., 2023)***. This would make these women more liable to domestic or intimate partner violence (IPV)

Intimate partner violence (IPV) is abuse or aggression that occurs in a conjugal relationship. “Intimate partner” refers to both current and former spouses. It can vary in how often it happens and how severe it is. It can range from one episode of violence that could have a lasting impact to chronic and severe episodes over multiple years. IPV can include physical violence is when a person hurts or tries to hurt a partner by hitting, kicking, or using another type of physical force; sexual violence is forcing or attempting to force a partner to take part in a sex act, sexual touching, or a non-physical sexual event when the partner does not or cannot consent; stalking is a pattern of repeated, unwanted attention and contact by a partner that causes fear or concern for one’s safety or the safety of someone close to the victim; psychological aggression is the use of verbal and non-verbal communication with the intent to harm a partner mentally or emotionally and/or to exert control over a partner ***(Leemis et al., 2022)***.

Population-level surveys based on reports from survivors provide the most accurate estimates of the prevalence of intimate partner violence and sexual violence. A 2018 analysis of prevalence data from 2000-2018 across 161 countries and areas, conducted by WHO on behalf of the UN Interagency Work Group on violence against women, found that worldwide, nearly 1 in 3, or 30%, of women have been subjected to physical and/or sexual violence by an intimate partner or non-partner sexual violence or

both. ***(World Health Organization [WHO], 2021)***.

Intimate partner violence is connected to other forms of violence and is related to serious health issues and economic consequences. It is prevalent in all its physical, emotional, economic, and sexual violence forms regardless of the socioeconomic level ***(Wang and Sekiyama, 2023)***. However, nearly two-thirds of IPV against women remains undisclosed. This indicates a high level of stigma perceived around this type of violence. ***(Ahmadi Gohari et al., 2023)***.

Infertility and intimate partner violence (IPV) are of serious concern worldwide. Yet the prevalence of IPV against infertile women has not been quantified at the regional or global level. Yet, research demonstrated that IPV against infertile women is highly prevalent globally ***(Wang et al., 2022)***. is particularly evident in patriarchal societies where women are seen as responsible for infertility. As the exposure to such violence increases, the quality of life of infertile women decreases, and, they have less infertility treatment tolerance. (***Çambel and Akköz Çevik,2022)***.

Nurses have important roles in the provision of care to infertile women as well as those exposed to intimate partner or domestic violence. The nursing care may involve evaluating the couples with a bio-psychosocial approach and offering counseling services to them. A balanced conjugal power structure may effectively prevent domestic violence against wives in societies with traditional and modern influences ***(Li and Wang, 2022)***.

Significance of the study

Intimate Partner Violence (IPV) is a prevalent problem worldwide and Egypt is no exception. It has many untoward consequences on the women, families, and community at large. Women suffering from infertility could be more vulnerable to such violence given the negative impacts of infertility on them as well as their husbands. However, this relationship between infertility and exposure to IPV needs to be further studied to provide more evidence of its extent as well as the factors underlying it. The results of this study could help nurses in their care for such victimized women to be their advocates to prevent the recurrence of IVP through early identification of women experiencing or at risk of exposure to it and providing appropriate referral and support.

AIM OF THE STUDY

This study aimed to measure the prevalence of violence among women suffering from infertility.

Research questions

What is the prevalence of violence among women suffering from infertility?

SUBJECTS AND METHODS

Research design

A cross-sectional descriptive research design will be used to carry out this study:

Setting: The study was conducted at the Obstetrics and Gynecology outpatient clinics at Beni Suef University Hospital.

Subjects: all Women attending the study settings will be recruited in the study sample according to the following criteria,Woman in the reproductive age

(18-45),Married,With diagnosed primary of secondary infertility

Sample size: The sample size was calculated to determine a prevalence rate of violence of 76.8% according to Çambel and Akköz Çevik (2022) or more, with a 3% standard error at a 95% level of confidence. Using the calculation for a single proportion of dichotomous variables (Open-Epi software package), the estimated sample size is 191 women.

Sampling: The sample of women was recruited using a consecutive non-probability sampling technique according to the set eligibility criteria.

Data collection tools

The data for this study will be collected using a self-administered questionnaire.

Part I: Personal characteristics of the woman: as age, educational level, job status, residence, income, etc.

- Part II: Personal characteristics of the woman's husband and the marital history including the age at marriage, duration, previous marriage and divorce, number of children in case of secondary infertility, etc.
- Part III: Details of the diagnosis of infertility: type (primary or secondary), cause, duration, management, etc.
- Part IV: Exposure to domestic violence: This tool will be used to assess woman's exposure to domestic violence. It will develop by the researcher based on related literature (Brown et al., 2000; Coker et al., 2001; Haddad et al., 2011; Indu et al., 2011). The tool will cover all types of violence and abuse including physical, psychological, and sexual, as well as battering and neglect.

II. OPERATIONAL DESIGN

Preparatory phase

The researcher was reviewing current and past, local and international related literature using textbooks, and articles published in periodicals and peer-review journals and on the internet to be more acquainted with study topic.

Validity and reliability: The developed tool was measured face and content-validated by a panel of experts in community health and obstetrical and gynecological nursing. The reliability of was assessed through measuring the tool internal consistency.

Pilot study

A pilot study of (22 women) was carried out on 10% of the study sample with the purpose of testing the clarity and applicability of the data collection form. It also helps estimate the time needed for filling it. A necessary modification was done based on the results of the pilot study.

Fieldwork

Upon getting the official approvals for carrying lout the study, the researcher meets with the medical and nursing directors of the hospital to determine the suitable time to collect data. The researchers meet the women individually to explain the aim of the study and the data collection procedure. They interviewed by the researcher using the data collection form.

III. ADMINISTRATIVE DESIGN

To carry out the study at the selected setting, official letters was issued from the Dean of the Faculty of Nursing, Beni-Suef University to the hospital medical and nursing directors to get their permission to conduct the study. The letter was including a copy of the data collection form. The purpose of the study and its procedures will be explained to

them to get their agreement and cooperation.

Ethical considerations

An approval of the study protocol will be obtained from the Research Ethics Committee, Beni-Suef University. The researcher meet with the study subjects individually to explain the purpose of the study and to obtain their verbal informed consent to participate. They was reassured about the anonymity of any obtained information, and that it would be used only for the purpose of scientific research.

IV. STATISTICAL DESIGN

Data entry and statistical analysis will be on SPSS 20.0 statistical software package. Quantitative continuous data will be compared using Student t-test in case of comparisons between the intervention and control groups. Categorical variables will be compared using chi-square or Fisher exact tests as suitable. Statistical significance will be considered at p-value <0.05.

RESULTS

Figure (1): Distribution of the numbers of women in the study sample by centers (n=191)

Obstetric and medical history of women

Figure (2) demonstrates that 135 from the total sample of 191 women were recruited from Beni-Suef settings

Figure (3) illustrates that all the women with secondary infertility reported having previous pregnancy, and the majority had previous labor and have living children, 91.0% and 82.1% respectively. Slightly more than one-half of them had previous abortions (53.8%), with 32.1% having related complications. Meanwhile, one-fourth (25.6%) had labor complications.

Table (1) demonstrates that most women in the study sample were exposed to various types of abuse according to the NorVold Abuse Questionnaire (NorAQ). However, it was mostly moderate for the emotional (32.5%) and physical (33.5%) types, but mostly severe for the sexual type (25.1%).

As presented in Figure 7, according to the NorVold Abuse Questionnaire (NorAQ), slightly less than one-half of the women were exposed to violence/abuse (45.0%), mostly emotional (37.2%). However, the Women's Experience with Battering (WEB) tool indicates that slightly less than two-thirds of them (62.8%) were exposed to battering. Meanwhile, the Woman Abuse Screening Tool (WAST) identified only 9.9% of them to be exposed to abuse.

Table (2): Correlations between violence (NorAQ), Battering (WEB), and abuse (WAST) scales' scores and women's characteristics

As displayed in Table 26, all women' NorAQ, WEB, and WAST scores had statistically significant weak negative correlations with their own and husbands' educational levels, and husbands' age at marriage, and weak positive correlations with their crowding index and marriage age at diagnosis of infertility. Additionally, their NorAQ scores correlated positively with their age, husband age, and marriage and infertility years. Their WEB scores correlated negatively with their family income, age at marriage, couple age

difference, gravidity, and number of abortions. Their WAST scores correlated positively with their age, marriage and infertility years, and negatively with their family income.

Figure (1): Distribution of the numbers of women in the study sample by centers (n=191)

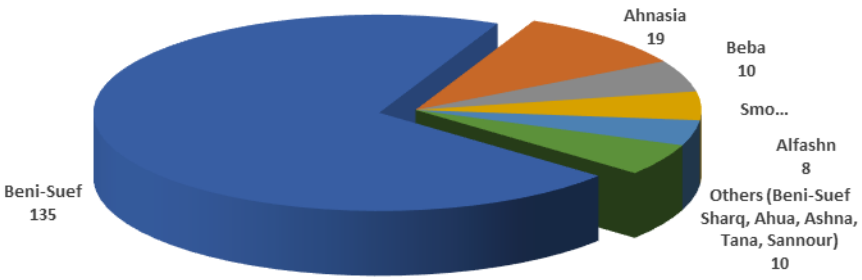

Figure (2): Obstetric history of women with secondary infertility in the study sample (n=73)

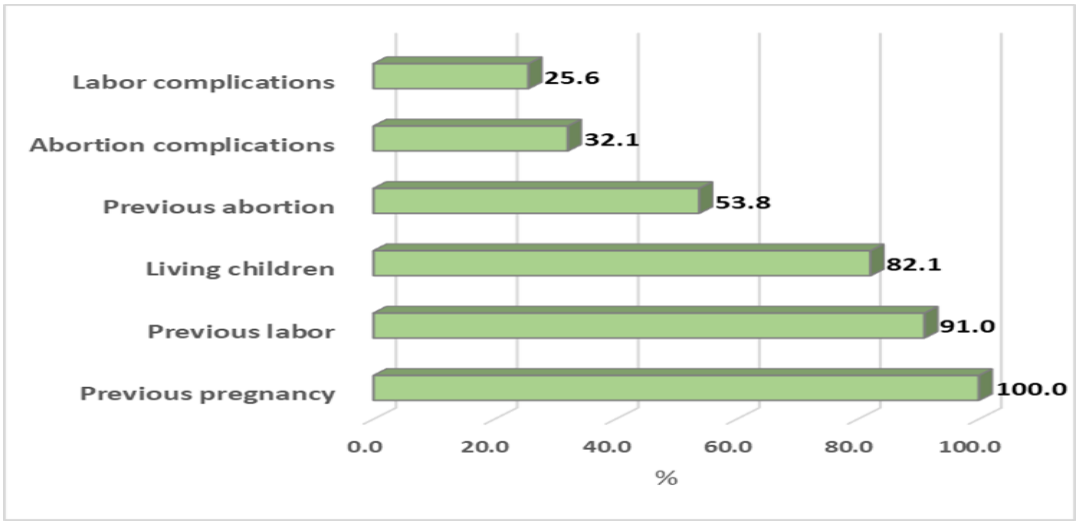

Table (1): Exposure to violence as reported by women in the study sample (n=191)

NorVold Abuse Questionnaire (NorAQ):	Frequency	Percent
Emotional violence:[@]		
Mild	59	30.9
Moderate	62	32.5
Severe	18	9.4
Physical violence: [@]		
Mild	49	25.7
Moderate	64	33.5
Severe	2	1.0
Sexual violence: [@]		
Mild without contact	29	15.2
Mild with contact	23	12.0
Moderate	45	23.6
Severe	48	25.1

(@) Not mutually exclusive

Figure (3): Exposure to violence NorAQ), battering (WEB), and abuse (WAST) among women in the study sample

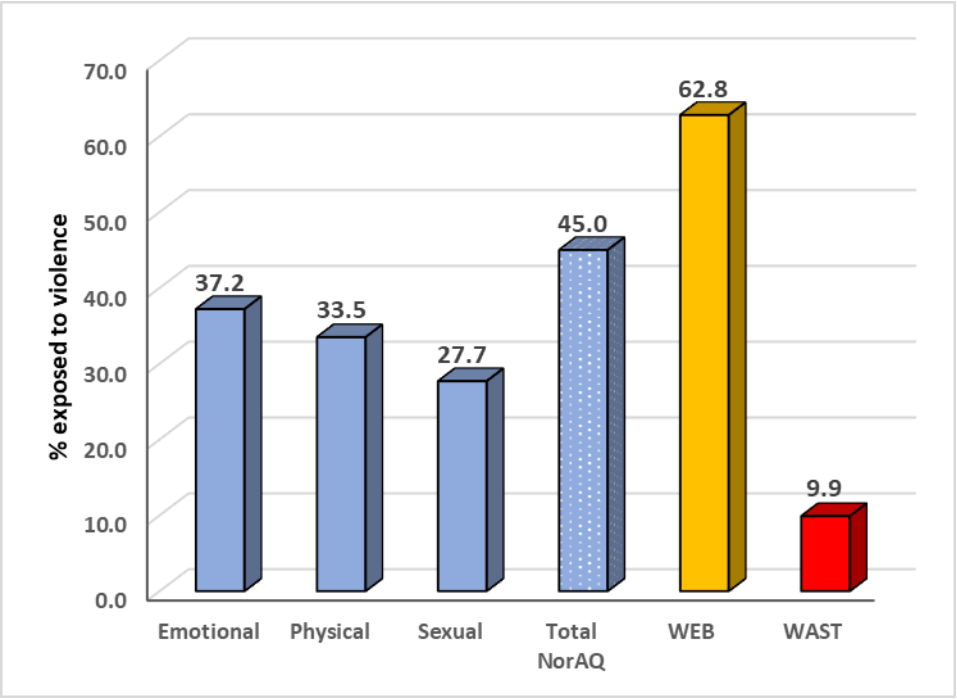

Table (2): Correlations between violence (NorAQ), Battering (WEB), and abuse (WAST) scales' scores and women's characteristics

	Spearman's rank correlation coefficient		
	NorAQ	WEB	WAST
Age	.206**	.056	.145*
Educational level	-.322**	-.282**	-.281**
Husband age	.190**	.033	.138
Husband educational level	-.364**	-.309**	-.341**
Family income	-.085	-.227**	-.208**
Crowding index	.254**	.319**	.317**
Marriage years	.235**	.136	.203**
Age at marriage	-.140	-.163*	-.121
Husband age at marriage	-.150*	-.210**	-.154*
Couple age difference	-.068	-.143*	-.073
Infertility years	.173*	.095	.160*
Marriage years at diagnosis	.208**	.176*	.229**
Gravidity (n=73)	-.059	-.227*	-.076
Parity (n=73)	.077	.023	.152
No. of abortions (n=73)	-.104	-.224*	-.132
No. of living children (n=73)	.123	.018	.140

(*) Statistically significant at p<0.05 (**) Statistically significant at p<0.01

DISCUSSION

The primary objective of this research was to gauge the prevalence of violence experienced by women grappling with infertility. The study findings unveiled a high occurrence of intimate partner abuse among these women, with varying degrees of emotional, physical, and sexual violence. Notably, while emotional and physical violence tended to be moderate, instances of severe sexual violence were more pronounced. Factors such as demographic characteristics, marital dynamics, and infertility status significantly influenced the likelihood of exposure to violence within couples.

The results of this study indicated that nearly half of the women surveyed had encountered different forms of violence, as assessed by the NorVold Abuse Questionnaire (NorAQ). This aligns with a systematic review that reported a prevalence rate of 47.2% of intimate partner violence against infertile women in low- and middle-income countries (Wang et al., 2022). However, a more recent meta-analysis suggested a slight decline in prevalence, with a rate of 31.0% (White et al, 2024).

Regarding the types of violence reported, physical violence at a moderate level was most common, followed by emotional abuse. The prevalence rates varied across different regions, with cultural and societal norms playing a significant role. For instance, while Iranian women reported a lower rate of physical violence (18.0%), Indian women reported a much higher rate (60.0%) (Raziani et al., 2024; Manna et al., 2024).

The study also evaluated the women's exposure to battering using the Women Exposure to Battering (WEB) scale, revealing that nearly two-thirds of the participants reported high levels of exposure to such abuse. This kind of violence, characterized by repeated physical attacks and psychological degradation, can have profound psychological consequences for the victims. Studies have linked exposure to battering with increased vulnerability to conditions like depression (Jiwatram-Negrón et al., 2022).

In conclusion, the findings underscore the pressing need for targeted interventions and support systems to address the pervasive issue of violence against women experiencing infertility. Understanding the nuances of these dynamics across different contexts is crucial for developing effective strategies to protect and support vulnerable individuals.

In a recent study examining factors influencing women's exposure to intimate partner violence, several key socio-demographic, marital, and infertility-related factors were identified. Notably, the age of both the woman and her husband emerged as a significant demographic factor affecting exposure to intimate partner violence. Initially, there was a positive correlation indicating increased exposure as both partners aged, potentially linked to concerns about fertility and pregnancy opportunities diminishing with age, leading to heightened tensions and aggression.

However, upon further multivariate analysis, a surprising reversal was observed. It was found that a woman's age acted protectively against abuse, and her husband's age was protective against violence towards her. This shift suggested that the initial correlation was

influenced by other confounding factors. The protective effect of age could be attributed to increased maturity and potentially closer, more compassionate relationships as couples age, aligning with findings from a similar study in Ethiopia.

Another significant factor considered was the age difference between partners. While initially a smaller age gap was associated with higher rates of intimate partner violence, this effect did not hold in the multivariate analysis. This disparity might stem from assertiveness dynamics within relationships.

Educational levels of both partners were also found to impact exposure to intimate partner violence, with lower education levels correlating with higher instances of abuse. Higher education seemed to correlate with lower exposure, likely due to the positive influence of education on behaviors and attitudes, a trend supported by research in Kenya.

The study also explored socioeconomic status, revealing that middle-class households with stable incomes and lower crowding indices experienced lower levels of domestic violence. This finding resonates with a study in the United States emphasizing the role of income and household crowding in domestic violence rates.

Additionally, the type of family structure and place of residence were found to play a role, with urban dwellers and those in extended families experiencing lower rates of intimate partner violence. Urban norms and the presence of extended family members were thought to act as protective factors, as seen in studies from the United States and Pakistan.

The impact of a woman's employment status on intimate partner violence was nuanced. While the bivariate analysis did not show a significant effect, the multivariate analysis revealed that working women were less susceptible to general violence but potentially more vulnerable to specific forms of abuse. This contradiction suggests a complex interplay between financial independence and potential threats to traditional gender roles, as observed in a study from India.

CONCLUSION

this study underscores the multifaceted nature of factors influencing women's exposure to intimate partner violence, highlighting the importance of considering various socio-demographic, relational, and contextual elements in understanding and addressing this pervasive issue.

RECOMMENDATIONS

1. Screening and early intervention: regularly screen for signs of IPV in healthcare settings.
2. Education and training: educate women about IPV and provide resources for support.
3. Further research is proposed to assess the effectiveness of intervention programs in decreasing IPV and its negative consequences.

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