

Intimate Partner Violence and Psychiatric Comorbidity in Infertile Women - A Cross-Sectional Hospital Based Study

Swapna Bondade, Rupa S. Iyengar¹, B. K. Shivakumar, K. N. Karthik

ABSTRACT

Background and Aim: In Asian countries, child bearing is a social obligation. Experience of infertility profoundly affects the personal well-being of women. Women with infertility are at a higher risk of anxiety, depression, and Intimate partner violence (IPV). In this background the present study was carried out to determine IPV and psychiatric comorbidity in women with infertility. **Methods:** Hundred consecutive women with primary infertility in the age group of 18 years to 45 years were included in the study. Psychiatric diagnosis was made according to DSM-5. Hamilton Anxiety Rating Scale (HAM-A) and Hamilton Depression Rating Scale (HAM-D) were used to assess the severity of the anxiety and depressive symptoms. IPV was assessed using WHO violence against women instrument. **Results:** The mean age of the 100 women was 26.73 ± 4.23 years, duration of marriage was 7.11 ± 4.177 years and duration of infertility treatment in years was 5.56 ± 3.89 . The prevalence of IPV among patients was 50% and psychiatric comorbidity was 46%. When we compared the women who experienced IPV and who did not, the prevalence of anxiety disorder and depressive disorder was high among IPV group. Anxiety, depressive scores in HAM A, HAM D were higher in IPV group compared to the other group and was statistically significant. **Conclusion:** A significant number of women who had infertility reported IPV. This emphasizes the importance of screening for IPV in these women. It is observed that women with IPV had higher psychiatric comorbidity and may require psychotherapeutic intervention.

Key words: Infertility, intimate partner violence, psychiatric comorbidity

INTRODUCTION


“Infertility is the inability of a sexually active, non-contracepting couple to achieve pregnancy in one year.”^[1] The World Health Organization (WHO) estimates that 60 to 80 million couples worldwide suffer

from infertility. Infertility has dissimilar prevalence across regions of the world and is estimated to affect 8 to 12% of couples worldwide, and in India, the prevalence of primary infertility is 3.9–16.8%.^[2-4] Intimate partner violence (IPV) is defined by WHO

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as physical violence, sexual violence, stalking, and psychological aggression (including coercive acts) by an intimate partner.^[5]

Having children is a social responsibility for a family. Inability to fulfil this responsibility adversely affects the social life, emotional status, marital relations, future plans, self-esteem, and body image of the couple.^[6,7] Couples live in fear and anxiety about infertility as well as the infertility diagnosis, treatment process, and treatment outcome.^[8] Each individual blames himself/herself and reflects his/her anger toward the other. This situation may cause conflict between the spouses, decrease in self-esteem, decrease infrequency of sexual intercourse, and the development of feelings of inadequacy. As a result, the bonds of marriage are put under psychological pressure: therefore, infertility can be a reason for marital incompatibility and also divorce.^[9] The factors that ruin marital harmony and satisfaction also cause domestic violence and are reported to increase the possibility of women being subjected to domestic violence more than twofold.^[10] Stress, anxiety, and depression scores among infertile couples are higher than in fertile population, and females are more psychologically affected than males.^[11,12]

In a male-dominated society, it is usual to believe that women are the cause of infertility, and subsequently, they have to go through emotional crisis and the domestic violence. Factors such as educational level, employment status, autonomy, status in the society also determine the risk for violence in infertile women.^[13] There are many studies done in the Middle East Asian countries and western countries regarding IPV in infertile women, and there is a paucity of literature in Indian population. In this background, the present study was carried out to determine the prevalence of IPV and psychiatric comorbidity in infertile women.

MATERIALS AND METHODS

This was a hospital-based cross-sectional study, conducted in The Oxford Medical College Hospital and Research Center, Bangalore in the year 2016 for a duration of three months. According to WHO, the prevalence of primary infertility in India is 3.9–16.8%. We took 7% prevalence. Using the sample size calculation formula:

$$\text{Sample size} = \frac{Z_{1-\alpha/2}^2 p(1-p)}{d^2}$$

Where $Z_{1-\alpha/2}^2 = 1.96^2$, P = Expected portion in the population based on a previous study (7%), d = Absolute error of precision (5%), a sample size of 100 was

obtained. Consecutive hundred patients who attended the infertility clinic of the department of OBG in the age group of 18 to 45 years were included. Those patients who were diagnosed to be having primary infertility according to WHO definition were included. According to WHO, “When a woman is unable to ever bear a child, either due to the inability to become pregnant or the inability to carry a pregnancy to a live birth she would be classified as having primary infertility”.^[14] Written informed consent was taken from all cases and were interviewed in a separate room. Participants were assured of confidentiality terms regarding their personal information. Participation in the study was voluntary, and the spouses of infertile women were not present at the time of interviews. They were administered a semi-structured proforma to collect socio-demographic details of the patient and their spouses.

IPV was assessed by WHO violence against women instrument. The questionnaire was self-administered for the cases who were literate, and for those who were illiterate, the questions were translated and read in the local language. The same researcher and the same wordings were used while asking the questions to all illiterate participants.

Psychiatric diagnosis was made according to Diagnostic and Statistical Manual-5 criteria (DSM-5), anxiety was assessed using the Hamilton Anxiety Rating Scale (HAM-A), and depression was assessed using Hamilton Depression Rating Scale (HAM-D). Collection of socio-demographic details and diagnosis of infertility were done by a Gynecologist; interviewing the patient for IPV, making the psychiatric diagnosis according to DSM-5, and application of HAM-A and HAM-D were done by a Psychiatrist. The women with IPV and cases having psychiatric comorbidity were given the option of psychiatric help. The study was approved by the ethical committee of the institute.

The WHO violence against women instrument

This was developed for use in the WHO Multi-country Study on Women’s Health and Domestic Violence against Women. In this study, questions 703-706 from section 7 of the WHO study questionnaire were used. These questions on partner violence explore aspects of controlling behaviors, emotional abuse, physical violence, and sexual violence (703-706).^[15] For the ease of communication, in this study, controlling behaviors and emotional abuse were clubbed as psychological violence, and physical and sexual violence were clubbed together.

Statistical analysis

The data were analyzed using SPSS for Windows version 16.0 software (SPSS.INC Chicago, IL,

USA). Data were tested for normal distribution using Kolmogorov-Smirnov test. Chi-square test and Fisher exact *P* test were used for categorical data, and the Student *t* test was used for continuous data. Logistic regression was used to assess the association between IPV (dependent variable) and duration of marriage, duration of infertility treatment, husband's age, and husband's alcohol use (independent variables).

RESULTS

The mean age of the patients visiting the infertility clinic was 26.73 ± 4.23 years. Most of the patients were literate and 20% had no education. Most of them were homemakers and belonged to a joint family. The mean duration of marriage was 7.11 ± 4.17 years, and duration of infertility treatment was 5.56 ± 3.89 years. The average age of the husband was 33.2 ± 5.65 years. Approximately, 46% of the patients had psychiatric comorbidities: 25% had a depressive disorder and 21% had an anxiety disorder. Approximately, 50% of the patients had a history of IPV: 34% had psychological violence and 16% had physical and sexual violence [Table 1].

When we compared the females who did not have IPV and those who had IPV, it was observed that duration of the marriage, duration of infertility treatment, HAM-D and HAM-A scores, the age of the husband, suicidal ideas, and alcohol abuse in the spouse were more in IPV group than in the non-IPV group. Depressive and anxiety disorders were more in the IPV group than in non-IPV, and this difference was statistically significant [Table 2]. The odds of IPV were more with increase in age (OR = 1.645, *P* < 0.05), duration of marriage (OR = 1.096, *P* < 0.05), duration of infertility (OR = 1.197, *P* < 0.05), and husband's age (OR = 0.633, *P* < 0.05) and the presence alcohol abuse in husband (OR = 1.246, *P* < 0.05) [Table 3].

DISCUSSION

In total, 50% of the infertile patients had suffered IPV: 34% had psychological violence, 11% had physical violence, and 5% had sexual violence. Different studies have reported 33.6–77.8% of infertile women to experience marital violence.^[9,16-20] Psychological violence reported in our study is 34%, whereas in other studies it was observed to be 33.8–74.3%.^[19,21-23] Physical violence in our study was 11%, whereas in the studies by Farzadi *et al.*^[22] and Ardabily *et al.*^[17] it was 45% and 14%, respectively. The 2005 WHO report had stated a worldwide rate of physical violence as high as 13–61% for women.^[23] Sexual violence in our

Table 1: Demographic details and clinical variables of females attending infertility clinic

Variables	n=100
Age	26.73±4.23
Education	
Nil	20
Primary	23
High school	28
Graduate	29
Place	
Rural	46
Urban	54
Occupation	
Housewife	92
Working	8
Duration of marriage	7.11±4.177
Type of marriage	
Arranged	95
Love	5
Socio-economic Status	
Low	32
Middle	50
High	18
Type of family	
Joint	65
Arranged	35
Age of menarche	12.61±1.46
Duration of infertility treatment	5.56±3.89
Psychiatric diagnosis	
Nil	54
Depression	25
Anxiety disorder	21
Suicidal ideas	
Nil	84
Present	16
HAM-A	13.25±4.08
HAM D	13.7±8.16
Husband age	33.2±5.655
IPV	
Nil	50
Present	50
Psychological violence	34
Physical violence and Sexual violence	16
Frequency	
Daily	29
Weekly	16
Monthly	5
After how many years of marriage	
Immediately	15
<1 year of marriage	26
>1 year of marriage	9
Age of first encounter	20.08±2.14
Last encounter	7.40±9.43
Husband education	
Nil	25
Primary	648
High school	21
Graduate	

Contd...

Table 1: Contd...

Variables	n=100
Substance abuse in husband	
Nil	64
Present	36

#Sample size is 100, so n and % are same. HAM-A – Hamilton Anxiety Rating Scale, HAM-D – Hamilton Depression Rating Scale, IPV – Intimate Partner Violence

Table 2: Comparison of Non IPV and IPV infertile patients

Variables	IPV absent n=50	IPV present n=50	Statistical analysis P
Age	25.5±3.2	27.96±4.77	t=3.025 P=0.003*
Education			
Nil	15	5	x ² =12.409 P=0.006*
Primary	6	17	
High school	17	11	
Graduate	12	17	
Place			
Rural	25	21	x ² =0.644 P=0.422
Urban	25	29	
Occupation			
Housewife	45	50	P=0.006* (FET)
Working	5	0	
Duration of marriage	5.80±3.95	8.42±4.0	t=3.287 P=0.001*
Duration of infertility treatment	4.34±3.606	6.82±3.81	t=3.34 P=0.001*
Type of marriage			
Arranged	50	45	P=0.006* (FET)
Love	0	5	
Socio-economic status			
Low	15	17	x ² =3.405 P=0.182
Middle	29	21	
High	6	12	
Type of family			
Joint	35	30	x ² =1.099 P=0.295
Arranged	15	20	
Psychiatric diagnosis			
Nil	40	14	x ² =27.28 P<0.001*
Depression	5	20	
Anxiety disorder	5	16	
Suicidal ideas			
Nil	47	37	P=0.063 (FET)
Present	3	13	
HAM-D			
Total score	9.4±6.16	18.16±7.58	t=6.336 P<0.001*
Nil	36	12	P<0.001* (FET)
Mild	06	02	
Moderate	03	02	
severe	05	34	
HAM-A			
Total score	11.1±4	15.4±2.86	t=6.179 P<0.001*
Nil	34	09	P<0.001* (FET)
Mild	14	20	

Contd...

Table 2: Contd...

Variables	IPV absent n=50	IPV present n=50	Statistical analysis P
Moderate severe	01	17	
	01	04	
Husband age	32.4±5.01	34±6.177	t=1.422 P=0.158
Husband education			
Nil	5	20	P<0.001* (FET)
Primary	6	0	
High school graduates	24	24	
graduates	15	6	
Substance use in spouse			
Absent	45	19	x ² =29.34 P<0.001*
present	5	31	

FET – Fishers exact test, IPV – Intimate Partner Violence. *Significant

study was 5%, it was observed to be 8% by Ardabili *et al.*^[17] and 7.3% by Yildizhan *et al.*^[10] There is a huge variation in the prevalence of IPV and different types of violence as these studies are done in different societies and countries and in countries with different socio-economic status, and also owing to usage of different data collecting tools.

In our study, it was observed that there was an association of IPV with an increase in duration of marriage and an increase in duration of infertility, similar to Ozgoli *et al.*^[24] and Alazmy *et al.*^[25] As the duration of marriage increases, the duration of infertility increases and so do familial expectations/pressures and responsibilities, visit to physician, and investigations and waiting for the report, which may impair the quality of marital relationship and can lead to violence.

In our study, there was an association of IPV and alcohol use by spouse similar to the findings of Ozgoli *et al.*^[24] and Aklimunnessa *et al.*^[26] Use of substance is a behavioral risk factor, and under the influence of alcohol, the inhibitions are lost, and this can lead to aggressive behavior in the men.

In our study, psychiatric comorbidity was present in 46% of infertile women, out of which 25% had depression and 21% had an anxiety disorder. This finding was concordant with the findings of Chen *et al.*^[27] who reported that 40.2% of women had a psychiatric illness. They found anxiety disorder in 23.2% and depression in 26.8%. A study done in Saudi Arabia also mentioned that depression (26.2%) was more prevalent than the anxiety disorder (22%) in infertile female subjects, and the rates are similar to those of our study.^[28] Suicidal ideas were present in 16% in our study, which was similar to the study finding of Alosaimi *et al.*^[28] who reported around 17%.

Table 3: Logistic regression and predictors of intimate partner violence variable

	B	SE	Wald	P	Exp (B)	95% CI of Exp (B)
Age	0.498	0.154	10.428	0.001	1.645	1.216-2.225
Duration of marriage	0.092	0.038	5.987	0.014	1.096	1.018-1.180
Duration of infertility treatment	0.180	0.59	9.356	0.002	1.197	1.067-1.344
Husband's age	0.262	0.100	6.882	0.009	0.770	0.633-0.936
Husband's alcohol use	0.220	0.87	6.360	0.012	1.246	1.050-1.478

SE – Standard error, df – Degree of freedom, CI – Confidence interval

Although the prevalence of clinically relevant mood disorders in infertile women before infertility treatment remains debatable, the diagnosis of infertility undoubtedly poses considerable stress. Psychosocial factors associated with infertility can play a significant role in the development of mood symptoms following such a diagnosis. However, the likelihood of infertility causing clinically significant depressive symptoms is less clear and is confounded by numerous variables. Some of these variables include, but are not limited to, a history of pre-existing mood disorder, the stage of treatment, and the coping skills and attitudes of the individual. Most research to this point has yielded equivocal results on whether there is a generalized increased rate of new-onset depression in women diagnosed with infertility.^[29]

In the present study, psychiatric comorbidity was observed to be more in cases having IPV than the non-IPV group, and this difference was statistically significant. Depressive disorder, anxiety disorder, and suicidal ideas were more in the IPV group than the non-IPV group, and this difference was statically significant.

IPV experience is strongly and consistently associated with depression, including depressive symptoms and depressive disorders, and suicide in cross-sectional studies of women in both high- and lower-income settings.^[30,31] Although it is easy to assume that IPV is causally related to subsequent depression and suicidal behavior, evidence suggests a more complex relationship. There are three modes of association, which are possible in any combination: (1) IPV exposure causes subsequent depression and suicide attempts, (2) depression and/or suicide attempts cause subsequent IPV, and (3) there are common risk factors for both IPV and depression and suicide attempts that explain the association between them.^[32]

Traumatic stress is the main mechanism by which IPV might cause subsequent depression and suicide attempts. Traumatic events can lead to stress, fear, and

isolation, which in turn may lead to depression and suicidal behavior.^[33]

Conversely, other studies suggest that women with severe mental health difficulties are more likely to experience violent victimization.^[34,35] It is plausible that depressive symptoms may influence partner selection, such that young men and women are more accepting of partners with poor impulse control, conduct disorders, or other factors that predispose partners to use violence. Developmental and early life exposures to violence and other traumas may also play a role in predicting both violence and depression, for example, by contributing to the formation of insecure or disorganized attachment styles, which are associated with both increased IPV and depression risk.^[36] In summary, it seems that the relationship between IPV and depression is bidirectional, with women who are exposed to IPV being at increased risk of depression symptoms, and women who report depressive symptoms being more likely to subsequently experience IPV.

Although a single causal link between depression, anxiety, infertility, and IPV is yet to be identified, there are several studies that correlate depression, anxiety, and IPV; and infertility and IPV, but there is a paucity of literature on how these factors influence each other. Arcuri *et al.*^[37] stated that stress hormones and their effect on sex hormones and ultimately fertility. They identified an association between the activity of 11 β -hydroxysteroid dehydrogenase, the ovarian enzyme that catalyzes cortisol, and fertility. Schenker *et al.*^[38] proposed that stress hormones interfere with gamete transport through the fallopian tubes by interacting directly with receptors in the fallopian tubes, diminishing blood flow to these structures.

Although the nature of the relationship between depression and infertility is yet to be elucidated, few would argue that they affect each other. A causal link between infertility and clinically significant depression and IPV is likely to have direct and indirect aspects. Additional research in this area is indicated to further clarify this multifaceted relationship.

There are certain limitations in this study. Study was conducted in the infertility clinic in the general hospital set up, so the findings cannot be generalized to the community. The type of treatment for infertility and the number of cycles of treatment in the individual were not discussed, and these can influence the psychological state of the women. Except for alcohol use, other psychological conditions in the husband were not evaluated.

To conclude, the study shows that significant number of infertile women have IPV and psychiatric comorbidity. Therefore, identification and prevention of this IPV are important. Several factors influence IPV that in turn adversely influence the mental health of infertile women. The relationship between infertility and IPV should be investigated in different cultural contexts. IPV is a major risk factor to the mental health of an individual, and these individuals require special attention to overcome possible mental disorders. Mental health is inherent to the well-being of the members of a community. Therefore, effectual psychological interventions should be integrated for the treatment of infertility. In this regard, use of complementary approaches such as relaxation techniques, stress management, coping skill training, and group support; medical therapy for emotional disorders; and psychiatric consultation could alleviate the adverse consequences of violence and improve the quality of life of the victims.^[24]

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Conflicts of interest

There are no conflicts of interest.

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