Intimate Partner Violence, Anxiety, and Depression in Women with Sexually Transmitted Infections—A Hospital-based Case Control Study

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Abstract

Background: Sexually transmitted infections (STIs) have complex relationship with mental health and intimate partner violence (IPV) causing community health concern among adolescents and young adults. Women encounter behavioral, psychological, and reproductive health consequences of violence affecting across their lifespan.

Aim: To determine IPV anxiety and depression in women with STIs.

Methods and materials: It is a hospital-based cross-sectional study. A total of 115 consecutive females between 18 and 45 years of age who attended STI clinic were enrolled. Sociodemographic details were collected by semi-structured pro forma. IPV was assessed by World Health Organization violence against women instrument; Hamilton Anxiety Rating Scale and Hamilton Depression Rating Scale were applied to assess severity of anxiety and depression.

Results: Mean age of subjects was 31.21 ± 9.08 years. About 55% of the patients had history of IPV. Psychiatric comorbidities noted in 66% of patients. The odds of IPV were more with history of child abuse, suicidal ideation, and substance abuse in husband.

Conclusion: IPV, anxiety, and depression in STI are in the primitive stage of validation due to associated stigma and lack of awareness. It is high time to divulge dormant triggering factors to protect vulnerable population. Current research should focus on education and women empowerment to prevent STI and mental health issues.

Keywords

Intimate partner violence, anxiety, depression, women, sexually transmitted infections

Introduction

Sexually transmitted infections (STIs) and intimate partner violence (IPV) with psychiatric comorbidities are delicate, abhorrent-entangled community issue. STIs are a group of contagious diseases in which the main mode of transmission is by sexual intercourse. STIs’ variable prevalence and mode of acquisition depend on various sociocultural and epidemiological factors prevailing in that respective topography. Over the years, STIs’ scenario is changing very rapidly. There is a decrease in bacterial STIs with the syndromic approach adopted by clinicians for effective management. On the contrary, viral diseases are recurrent and are widely spreading in the community, thus contributing to raising trend in STIs. According to The National Family Health Survey-3, 11.1% of women in India have STIs. They cause major public health concern among women due to their association with reproductive health morbidity. STI includes lower back pain, dyspareunia, urinary tract abnormalities, recurrent abortions, and infertility.
IPV is defined by World Health Organization (WHO) as physical violence, sexual violence, stalking, and psychological aggression (including coercive acts) by an intimate partner. IPV is a pattern that is difficult to break as women is the main target due to her emotional and economic dependence on spouse. Due to violent acts among couples, where one of the partners may compromise their physical and emotional health, succumb to STI. It is also possible that disclosure of STI diagnosis to their sexual partner leads to violence. This accounts for difficulty in managing sexual partners of STI patients. IPV exists in worldwide affecting women of all ages. It is one of the world’s most pervasive social and human rights problems, resulting in physical and mental health issues which vary from minor to fatal.

There is empirical evidence that STIs are more prevalent among mentally ill patients. So, it is important to analyze the relationship between STIs and psychiatric comorbidities taking dormant facets into consideration. These include various internalizing and externalizing disorders like mood disorders, anxiety disorders, substance abuse, and antisocial personality disorders. Mentally ill subjects can be sexually active and engage in precarious activities like sex trade for money, drugs, or goods which predispose them to STI.

In recent times, accreditation of potential health consequences of IPV, anxiety, and depression which impacts beyond physical illness is emerging. Previous studies have shown association between IPV and increased vulnerability to STI. IPV, anxiety, and depression in STI may be underreported as it is considered as social taboo, in turn contributing to significant breach in preventive measures and management. In this background, present study was carried out to determine association of IPV, anxiety, and depression in women with STI.

Methodology

This was a hospital-based cross-sectional study conducted in The Oxford Medical College Hospital and Research Centre for 3 months duration in 2018. A total of 115 consecutive married female patients with STI between 18 and 45 years of age who attended STI clinic of Dermatology department were included. Individuals diagnosed with HIV/AIDS, same sex relationship, oral and anal intercourse, past history of mental illnesses, and without partner at the time of diagnosis were excluded. Participation in the study was voluntary with a written informed consent from subjects. They were administered a semi-structured pro forma to collect sociodemographic details of subjects and their spouses. They were interviewed in the absence of their spouse in a separate room, confidentiality regarding personal matter was maintained. STI was diagnosed by clinical examination and supportive microbiology investigations. IPV was assessed by WHO violence against women instrument. Questionnaire was self-administered and for illiterates, questions were translated to local language by the researcher. Psychiatric diagnosis was made by psychiatrist according to Diagnostic and Statistical Manual-5 criteria, severity of anxiety and depression was assessed using Hamilton Anxiety Rating scale (HAM-A) and Hamilton Depression Rating Scale (HAM-D), respectively. This study was approved by the ethical committee of the institute.

Measurements

**The WHO Violence Against Women Instrument**

This was developed for WHO multi-country study on women’s health and domestic violence against women. Questions 703 to 706 from Section 7 of WHO study questionnaire were incorporated in this study. These questions on partner violence explore controlling behaviors, emotional abuse, physical violence, and sexual violence aspects. For ease of communication, controlling behaviors and emotional abuse were clubbed as psychological violence; physical and sexual violence were clubbed together in this study.

**Hamilton Rating Scale for Anxiety**

HAM-A is the most frequently used instrument to evaluate anxiety. It contains 14 items; each item is rated on 0 to 4 scale. Score below 14 is normal, 14 to 17 is mild anxiety, 18 to 24 is moderate anxiety, and 25 to 30 is severe anxiety.

**Hamilton Depression Rating Scale**

HAM–D is an observer-rated scale on the basis of clinical interview to evaluate depression. Score norm: 7 and below is considered as normal, 8 to 13 is mild depression, 14 to 18 is moderate depression, 19 to 22 is severe depression, and 23 and above is very severe depression.

Statistical Analysis

The data was analyzed using SPSS Windows version 16.0 software (SPSS Inc, Chicago, IL, USA). Data was tested for normal distribution using Kolmogorov-Smirnov test. Results were analyzed using descriptive and inferential statistical methods. Chi-square test was used for categorical data, Student t test for continuous data, and Logistic regression to assess association.

Results

Mean age of patients visiting STI clinic was 31.21 ± 9.08 years, most of them were literate (80%) from rural background (57.4%). Majority were homemakers (68.7%) who belonged to nuclear family (58.5%). Mean duration of marriage was 12.19 ± 9.09 years and average age of spouse was 37.96 ± 10.94 (Table 1).
Genital ulcer disease was found in 35.6% of all STIs, Herpes genitalis (31.3%) was most common, followed by Chancroid (4.3%). Among the nonulcerative group, genital warts (21.7%), superseded by genital Molluscum contagiosum 8.7%. Total nonulcerative condition was in 37.81% and genital discharge diseases were seen in 33.9% of the all STIs. Viral STIs (Herpes genitalis, genital warts, and Molluscum contagiosum) accounted for 61.7% of cases (Table 2). About 55.6% of subjects were not using contraceptive methods, though contraception plays a crucial part in preventing STIs.

IPV was found in 55% of subjects, among them 65% had physical and sexual violence and 35% had psychological violence (Table 1). About 66% of patients had psychiatric comorbidities of which 59% had depression and 7% had anxiety disorder. Depressive and anxiety disorders were more in IPV group than in non-IPV and this difference was statistically significant. We observed that duration of marriage, suicide attempts, child abuse, HAM-D scores in subjects along with alcohol abuse, unemployment, illiteracy in spouse were more in IPV group than in non-IPV group (Table 3). The odds of IPV was more with history of child abuse (odds ratio [OR] = 3.2, \( P < .05 \), confidence interval [CI] = 95%, 0.106-0.919), history of suicidal ideas (OR = 1.205, \( P < .05 \), CI = 95%, 1.521-20.329), and substance abuse in husband (OR = 1.21, \( P < .05 \), CI = 95%, 0.427-3.447).

### Discussion

IPV and psychiatric comorbidity in STI are sensitive, intimate facets posing public health concern. Although both men and

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**Table 1. Sociodemographic Details of Women Attending STI Clinic**

| Variables                  | N = 115 (%)          |
|----------------------------|----------------------|
| Age                        | 31.217 ± 9.081       |
| Education                  |                      |
| Nil                        | 23 (20)              |
| Primary                    | 40 (34.8)            |
| High school                | 31 (26.9)            |
| Graduate                   | 21 (18.3)            |
| Place                      |                      |
| Rural                      | 66 (57.4)            |
| Urban                      | 49 (42.6)            |
| Occupation                 |                      |
| Housewife                  | 79 (68.7)            |
| Working                    | 36 (31.3)            |
| Socioeconomic status       |                      |
| Low                        | 34 (29.5)            |
| Middle                     | 63 (56.5)            |
| High                       | 18 (14)              |
| Age of menarche            | 12.53 ± 1.55         |
| Husband age                | 37.9652 ± 10.941     |
| Husband education          |                      |
| Nil                        | 46 (39.8)            |
| Primary                    | 21 (18.2)            |
| High school                | 35 (30.4)            |
| Graduate                   | 13 (11.3)            |
| Duration of marriage       | 12.191 ± 9.09        |
| Type of marriage           |                      |
| Arranged                   | 90 (78.2)            |
| Love                       | 25 (21.8)            |
| Type of family             |                      |
| Joint                      | 48 (41.5)            |
| Nuclear                    | 67 (58.5)            |
| Contraceptive              |                      |
| Nil                        | 64 (55.7)            |
| Tubal ligation             | 43 (38.4)            |
| Barrier                    | 8 (7)                |
| MTP                        | 95                   |
| Present                    | 20                   |

**Table 2. Clinical Variables of Women Attending STI Clinic**

| Variables                  | N = 115 (%)          |
|----------------------------|----------------------|
| STI diagnosis              |                      |
| Genital wart               | 25 (21.7)            |
| Herpes genitalis           | 36 (31.3)            |
| Genital Molluscum          | 10 (8.7)             |
| Vulvovaginal candidiasis   | 12 (10.4)            |
| Chancroid                  | 5 (4.3)              |
| Vaginitis                  | 18 (15.7)            |
| Bacterial vaginosis        | 9 (7.8)              |
| History of child abuse     |                      |
| Absent                     | 94 (81.7)            |
| Present                    | 21 (18.3)            |
| Psychiatric diagnosis      |                      |
| Nil                        | 39 (33.9)            |
| Depressive disorder        | 68 (59)              |
| Anxiety disorder           | 8 (7)                |
| Suicidal attempts          |                      |
| Nil                        | 96 (83.5)            |
| Present                    | 19 (16.5)            |
| HAM A                      | 12.556 ± 4.716       |
| HAM D                      | 15.173 ± 6.721       |
| IPV                        |                      |
| Nil                        | 52 (45.2)            |
| Present                    | 63 (54.8)            |
| Types of IPV              |                      |
| Psychological violence     | 22 (35%)             |
| Physical + sexual violence | 41 (65%)             |
| Age of first encounter     | 20.428 ± 3.28        |

(Table 2 continued)
Table 3. Comparison of Non IPV and IPV Women STI Patients

| Variables                        | Non IPV N = 52 | IPV N = 63 | Statistical Analysis |
|----------------------------------|----------------|------------|----------------------|
| Age                              | 32.52 ± 10.51  | 29.63 ± 6.73 | t = 1.72             |
| Education                        |                |            | P = .09              |
| Place                            | Rural          | 18         | 48                   | x² = 20.136          |
|                                 | Urban          | 34         | 15                   | P < .001*            |
| Occupation                       | Housewife      | 38         | 41                   | x² = 0.8473          |
|                                 | Working        | 14         | 22                   | P = .357             |
| Socioeconomic status             | Low            | 16         | 17                   | x² = 6.3003          |
|                                 | Middle         | 32         | 30                   | P < .428             |
|                                 | High           | 4          | 16                   |                      |
| Menarche                         | 12.3 ± 1.35    | 12.73 ± 1.69 | t = 1.455            |
| Duration of marriage             | 14.9 ± 10.50   | 8.90 ± 5.51 | t = 3.71             |
| Type of marriage                 | Arranged       | 41         | 49                   | x² = 0.019           |
|                                 | Love           | 11         | 14                   | P = .89              |
| Type of family                   | Joint          | 21         | 27                   | x² = 0.72            |
|                                 | Nuclear        | 31         | 36                   | P = .85              |
| Contraception                    | Nil            | 32         | 32                   | x² = 6.237           |
|                                 | Tubal ligation | 14         | 29                   | P = .44              |
|                                 | Barrier        | 6          | 2                    |                      |
| MTP                              | Nil            | 43         | 52                   | x² = 0.0005          |
|                                 | Present        | 9          | 11                   | P = .983             |
| STI                              | Genital wart   | 11         | 14                   | x² = 6.837           |
|                                 | Herpes Genitalis | 18     | 18                   | P = .336             |
|                                 | Genital molluscum | 07  | 03                   |                      |
|                                 | Vulvovaginal candidiasis | 06 | 06               |                      |
|                                 | Chancroid      | 02         | 03                   |                      |
|                                 | Vaginitis      | 04         | 14                   |                      |
|                                 | Bacterial vaginosis | 04 | 05                 |                      |
| Child abuse                      | Nil            | 47         | 47                   | x² = 4.753           |
|                                 | Present        | 5          | 16                   | P = .029*            |
| Psychiatric diagnosis            | Nil            | 31         | 08                   | x² = 29.78           |
|                                 | Depressive disorder | 17  | 51                   | P < .001*            |
|                                 | Anxiety disorder | 04    | 04                   |                      |
| Suicidal attempts                | Nil            | 49         | 47                   | x² = 7.957           |
|                                 | Present        | 3          | 16                   | P = 0.005*           |
| HAM-D                            | Total score    | 11.57 ± 6.29 | 18.14 ± 5.53 | t = 5.948 |
|                                 |                |            |                      | P < .001*            |
| HAM-A                            | Total score    | 11.846 ± 13.14 | 6.384 ± 2.57 | t = 1.47 |
|                                 |                |            |                      | P = .143             |

(Table 3 continued)
women are considerably affected by STI, women tend to face long-term consequences on reproductive health. We observed women with IPV had symptoms of STIs more than women without IPV. These findings are in congruent with Loke et al wherein women with a history of IPV were more likely to have experienced domestic violence in their lifetime (OR = 2.39). Women with IPV are prone to STI as they do not implement safe sexual practices and lack of sexual autonomy for females.

The common method of contraception was female sterilization (tubal ligation) and condom usage was very minimal in our study group, analogous to findings of Shabnam. But condoms are the most effective method of contraception against STIs. Partner violence often makes women liable for unprotected coerced sex leading to STIs and unwanted pregnancies. We noted spouse’s relationship outside marriage in IPV group was more than in non-IPV group similar to a North Indian study, which increases risk of STI acquisition. Several studies have shown that women were apprehensive that their spouse might accuse them of infidelity and turn aggressive if they raised issue of contraception. STI and IPV may be underreported, as it is considered as a taboo in our topography.

In our study, 55% of STI patients had IPV, among them 65% had physical and sexual violence and 35% had psychological violence. Brazilian study quoted that 30.3% experienced violence, among which 27.6% of them experienced psychological violence, 7.2% sexual violence, and 5.9% physical. Similarly, Visaria reported, 42% of the women reported only psychological abuse and 23% of women reported psychological and physical abuse. WHO in 2005 reported physical violence among women as high as 13% to 61% worldwide, 61.7% in Bangladesh, and 15.4% in Japan experienced IPV in their lifetime. Domestic violence prevalence was 29.57% and 22% among rural women from India and Karnataka, respectively. The magnitude and type of IPV against women varies among countries depending on culture, socioeconomic status, and usage of different data collecting tools.

In the present study, it was observed that IPV was found in younger than in older females and this difference was statistically significant. Similarly, a study from rural area in India has observed that as age of the women increases, prevalence of domestic violence reduces. Dave and Solanki also observed 37.2% of victims falling within 25 to 34 years age group and 28.2% in 18 to 24 years have reported abuse. Only 4.9% were in the age group of 40 to 45 years. This is because, in India as women age, they gain more power and have increased access to resources. Gender power imbalance in our patriarchal society and lack of autonomy are the underlying factors for women’s vulnerability to STI and IPV in Asian countries. Emotional/economic dependence, concern for children, lack of family support, and social stigma often prevent women in abusive relationship from reaching out for help in IPV and STI.

We observed 18% of our STI patients had history of child abuse. Wilson and Widom found victims of child sexual abuse were twice likely to report having had an STI compared to controls. Similarly, previous cross-sectional studies have described associations between self-reports of childhood abuse and a reported history or biological markers of STI among adolescents or adults. Victims of child abuse may be at increased risk for STIs because of several factors: (a) direct exposure through child sexual abuse, (b) increased rates of risky sexual behavior among victims, (c) earlier initiation of sexual activity, and (d) sexual activity with risky partners.

Child abuse was more in IPV than in non-IPV group, analogous to other studies. According to Dutton and colleagues observations, childhood neglect disrupts child’s affection to parental figures leading to insecure adult attachment styles, ultimately marital violence in an attempt to control partner, and prevent threats of abandonment. This emotional deregulation may make person culpable to be an IPV victim.
The association between alcohol addiction in husband and vulnerability of women to domestic violence was highly significant (OR = 1.21, P < .05, CI = 95%, 0.427-3.447). In congruent to current study, Gaikwad et al and Martin et al have found that alcohol consumption increases occurrence, severity of domestic violence, and is a strong determinant of IPV. A number of studies have shown that increased rates of alcohol consumption are associated with risks of STI acquisition. Similarly, a substantial proportion of association between alcohol and STI was observed in the present study. This may be due to general predisposition to recklessness rather than a direct causal association. Alcohol is a psychopharmacological inhibitor, hence reduces self-control with cognitive and physical function impairment. This alters sexual behavior with unsafe sexual practices and compromises an individual’s ability to resolve relationship conflicts without violence.

We observed that majority of spouses were illiterate and unemployed in IPV group than in non-IPV group; this difference was statistically significant. IPV experience is strongly and consistently associated with depression and 18% prevalence of suicide attempts among the abovementioned three mechanisms. We observed IPV lead to stress, fear of isolation, which in turn caused psychiatric comorbidity.

 Conversely, other studies suggest that women are more likely to experience violent victimization if they have mental health disorders. Subjects with depressive symptoms may accept partners with poor impulse control, conduct disorders, and substance abuse that may influence partner selection. IPV and depression has a bidirectional relationship; women who are victims of IPV are at risk of developing psychological symptoms and vice versa. Previous studies have reported only role of sociodemographic and/or mental disorders as risk factors for suicidal behavior. But early exposure to violence and/or trauma may reduce coping skills with life stressors and in turn increases depression and suicidal outcomes.

Validated scoring system was used by trained faculty to interview subjects on IPV and psychiatric comorbidity. Thus, it was able to document dormant and sensitive variables. There are certain limitations in this study. Study was conducted in female subjects visiting STI clinic of a general hospital, so findings cannot be generalized to the community. Psychological evaluation of spouse with regard to STI and IPV was not done. Other forms of penetrative and nonpenetrative sexual contact were not considered. It is a cross-sectional study which hinders casual associations between predictors and outcome variables. There is further scope for longitudinal study to know the relationship among STI, IPV, and psychiatric comorbidity in different sociocultural background.

It is high time that current research and clinical practice should focus on broad and dormant factors having detrimental effects on physical and mental health while discussing STI prevention. According to our study, intervention policies need to focus on alcoholic husbands and literacy rate in lower economic strata among rural populations. Similar variables were found as IPV risk factors in various cultures across the world. Thus, international collaboration among policymakers would help to further outline preventive strategies in multicultural background. In this context, interventions include awareness programs in formal and informal sectors, educating women about gender equality, and awareness about the hazardous effects of IPV on mental health. Women empowerment with education and job opportunity in society may help in protecting them from STI and IPV. Training of community and NGO volunteers may help in delegating these services to vulnerable victims.

To conclude, this study shows that significant number of female STI patients had IPV and psychiatric comorbidity. The robustness of the STI and IPV relationship suggests the need to acknowledge IPV as an STI risk factor for women on par with other recognized risk factors such as multiple sexual partners and unprotected sexual intercourse. Hence, identification and prevention of it is crucial with effective psychological interventions integrated with STI management. Further, coordinated efforts of various spheres like creating awareness on human rights, legal formalities, sex education, medical, and psychological interventions are essential to combat adverse consequences of STI, IPV, and improve victims’ quality of life.

Declaration of Conflicting Interests

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