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RESEARCH ARTICLE

ASSOCIATION OF DOMESTIC VIOLENCE WITH REPRODUCTIVE MORBIDITIES AMONG WOMEN IN URBAN SLUMS OF MUMBAI, INDIA

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ABSTRACT

Domestic violence has a negative impact on women's reproductive health. The objective of the paper is to find out the association between domestic violence and reproductive morbidities among women in urban slums of Mumbai, India. The data was collected from 901 currently married women aged 18 to 39 years, staying with their husbands in two slums, Kajupada and Tunga villages. Information on socio-economic and demographic, domestic violence and reproductive morbidities symptoms such as abnormal discharge from the vagina, pain during intercourse, itching in or around the vagina, genital lesions/sores/ulcers/warts, burning sensation during urination in the last 12 months before the survey was collected using structured questionnaire. Descriptive statistics and logistic regression analysis were carried out to find the association between domestic violence and reproductive morbidities. It was found that reproductive morbidities were 3.0 times higher among women who had experienced domestic violence than their counterparts (95% CI: 2.08-4.32). There is a need to prevent domestic violence and its associated reproductive morbidities in urban slums communities.

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INTRODUCTION

Domestic violence (DV) by husband has emerged as a public health problem since last few decades. Worldwide, one in three (35%) women has experienced either physical and/or sexual intimate partner violence or non-partner sexual violence in their lifetime (WHO, 2016). At the national level, the overall 28.8% ever-married women had experienced violence and 2.9% (urban), 3.5% (rural), and 3.3% (total) of ever-married women have experienced violence during any pregnancy (International Institute for Population Sciences, 2016). A systematic review has reported that higher frequency of domestic violence occurs among Indian women. The median and range of lifetime estimates of psychological abuse was 22% (range 2–99%), physical abuse was 29% (2–99%), sexual abuse was 12% (0–75%), and multiple forms of DV was 41% (18–75%) (Kalokhe *et al*., 2017). The violence has a multilevel impact on women's health. Empirical evidence states that violence negatively affects women's physical, mental, sexual, and reproductive health (WHO, 2016). It ranges from physical injuries, trauma and other mental health problems, reproductive tract infections, sexually transmitted diseases, unwanted pregnancies and low use of contraceptive methods (Anuk and Bahadır, 2017; Ziaei *et al*., 2016; Ferrari *et al*., 2016; Begum *et al*., 2015; Dufort *et al*., 2015; Sugg, 2015; Pewa *et al*., 2015; Bushra and Campbell, 2015; Kamimura *et al*., 2014; Kamimura *et al*., 2014a; Audi *et al*., 2012; Becker *et al*., 2010; Warshaw *et al*., 2009; Daruwalla *et al*., 2009; Chandra *et al*., 2009; Weiss *et al*., 2008; McCaw *et al*., 2007). The association between DV and gynaecological morbidities is a less explored area in the Indian context. Further, there is a scarcity of evidence from the community-based studies. Hence, the objective of the study is to examine the association between DV and gynaecological morbidities among women in urban slum communities, Mumbai.

Background

Domestic violence curbs the health and well-being of women in various ways. The association between such violence and gynaecological morbidities is an area where more and more insights are been explored. Globally, several studies have reported the association between spousal violence and gynaecological morbidities such as lower abdominal pain, dysmenorrhoea, dyspareunia, smear abnormalities (John *et al*., 2004; Johnson *et al*., 2007; Garg *et al*., 2002), backache, vaginal discharge, menstrual problems, urinary complaints, prolapse, infertility, genital ulcers (Garg *et al*., 2002), abdominal discomfort, vaginal pain, abnormal uterine bleeding, fertility problems, ovarian cyst (Johnson *et al*., 2007), chronic pelvic pain (Stephenson *et al*., 2006), overactive bladder

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syndrome, stress urinary incontinence and mixed urinary incontinence (Ma and Pun, 2016), STIs (Campbell, 2002) including chlamydia, gonorrhoea, T. vaginalis (Seth *et al*., 2010). Studies have reported that DV was associated with increased risk for unintended pregnancies, multiple abortions, and unprotected intercourse (Sarkar, 2009). The unwillingness of husband in using a condom and setting up barriers to the usage of women's contraceptive, decision-making power over reproductive health matters were all positively associated with domestic violence (Miller *et al*., 2011; Gee *et al*., 2009). The unprotected sex may increase the risk of RTIs/STIs. The association between DV and gynaecological morbidities is not well explored in India. Jejeebhoy *et al*. have studied 12,220 married women (15-24 years) from six states and reported that women who had experienced physical, sexual or both forms of violence were more likely to report about gynaecological morbidities (Jejeebhoy *et al*., 2013). NFHS 3 data showed that verbal, or physical, or sexual violence has a significant independent effect on the reporting of gynaecological morbidities (Winter and Stephenson, 2013). Stephenson *et al* (2008) used the data from India's National Family Health Survey (1998-99) and its 2002-03 follow-up survey and reported that the women experiencing DV did not have decision-making power over reproductive health matters, and they less likely to adopt contraceptives and hence exposure to RTIs/STIs and unwanted pregnancy were reportedly higher (Stephenson *et al*., 2008). Garg *et al.* (2002), who studied 446 ever-married women aged 15-45 years residing in slums in Delhi using field enquiry and confirmatory lab tests, has further elaborated that those who had experienced both physical and sexual violence and those who had experienced sexual violence only had elevated odds of reporting gynaecological morbidity symptoms (Garg *et al*., 2002). The present study explores the association between DV and gynaecological morbidities among women living in slum communities, Mumbai. It will give more insights about the prevalence of DV and reproductive morbidities in the slum communities, and its association.

MATERIALS AND METHODS

Study setting

Mumbai is the most populous city in India, catering to almost 18 million populations. It is the most crowded city in India and slums areas are a normal part of the social geography. As per the urban health report, the majority of the poor live in slum areas of Mumbai (79%) (Khan and Kraemer, 2008). Slums have often been conceptualized as social clusters that give birth to a set of health problems (Mony *et al*., 2006). The poor environmental conditions along with high population density change it into a Pandora's box with a wide range of adverse health conditions (Stephenson *et al*., 2008; Mony *et al*., 2006; Agrawal and Bharti, 2006; Aggarwal *et al*., 2007; Chopra *et al*., 2012). Health indicators were reportedly unfavourable especially for women living slum areas. 10% of women within the age of 15-19 have begun childbearing (Stephenson *et al*., 2008). About 45% of the women had at least one problem during pregnancy (Sarode, 2007). Less than half of the women from the slum areas were currently using any contraceptive methods, and discontinuation rate was higher among these women (Hazarika, 2010). The health-seeking behaviour, especially among women is reportedly low. About 83% preferred government hospitals in case of major illness while 34% preferred home remedies and for minor illnesses, ¾ of them do not go for healthcare institutions (Patil *et al*., 2016). In the case of RTIs/STIs, only 47.6% of the women with STIs/RTIs symptoms sought health care (Shingade *et al*., 2015). Apart from the proximate factors, education and socio-economic factors influenced the health-seeking behaviour (Shingade *et al*., 2015; Singh and Kalaskar, 2017). Stigma, embarrassment, illiteracy, lack of privacy, cost of care were found to be barriers to seeking help for the gynaecological morbidities (Nagarkar and Mhaskar, 2015). A community-based survey was conducted in two slum communities, Kanjupada and Tunga in Municipal Corporation of Greater Mumbai. A total of 901 women aged 18-39 and having at least one child were surveyed using a structured questionnaire. Information socio-demographic characteristics, domestic violence, and reproductive morbidities were collected.

Variables

Dependent variable: The prevalence of reproductive morbidities was defined as reporting of at least one of the following symptoms such as abnormal discharge from vagina, increased frequency of urination, pain during intercourse, itching in and around the vagina, genital lesions/sores/ulcers/warts, burning sensation during urination, and lower abdominal pain in the last 12 months prior to the survey. A response to 'yes' in any of the above questions was considered as reproductive morbidity.

Independent variables: Socio-demographic and reproductive characteristics were considered under independent variables. It includes age of women (≤25, >25 years) and husbands (≤30, >30 years), age difference between couples (≤5, >5 years), age at marriage (≤18, >18 year), marriage longevity (≤5, >5 years), educational status of women (literate, illiterate) and husbands (literate, illiterate), religion (Hindu, Others), social group (SC/ST/OBC, General), parity (1, 2-3, ≥4), history of induced abortions (Yes, No), alcohol use by husbands (Yes, No), experience of DV (physical or verbal or sexual) in the last 12 months (Yes, No). The domestic violence was measured based on a greatly shortened and modified Conflict Tactics Scale (CTS). The CTS has been found to be effective in measuring domestic violence in National Family Health Surveys (NFHS-3).

Statistical Analysis

Bivariate analysis and chi-square test were applied to see the significant association between independent variables with the dependent variable. The independent variables having $p<0.10$ during bivariate analysis were included in the logistic regression model. The unadjusted odds ratio (UOR) and adjusted odds ratio (AOR) with 95% confidence interval (CI) were calculated and presented in Table 3. All the analysis was done using SPSS version 19 (2016. IBM SPSS Statistics for Windows, Version 19.0. Armonk, NY: IBM Corp).

RESULTS

Overall, 23.4% of women had reported one or more signs and symptoms of reproductive morbidities in the past 12 months preceding the survey (Table 1). The most commonly reported problem was abnormal discharge from the vagina (10.3%) followed by itching in or around the vagina (8.3%), lower abdominal pain (7.5%) and burning sensation during urination (7.2%).

Table 1. Prevalence of reproductive morbidities

Signs and symptoms of Reproductive morbidities	%	N=901
Abnormal discharge from vagina	10.3	93
Increased frequency of urine	4.1	37
Pain during intercourse	4.8	43
Itching in or around vagina	8.3	75
Genital lesions/Sores/Ulcers/Warts	3.7	33
Burning sensation during urination	7.2	65
Lower abdominal pain	7.5	68
Any sign/symptoms of reproductive morbidities	23.4	211

According to selected socio-demographic characteristics (Table 2) variables such as the age of wife and husband, age at marriage, parity, the age difference between couples, educational status, social group, and husband's alcohol use have shown no significant relationship with the prevalence of reproductive morbidity. Majority of women having marriage longevity more than 5 years were reporting any sign and symptoms of reproductive morbidities experienced in the past 12 months. In addition, significantly higher percentage of women (37.1%) of women who had a history of induced abortion has reported reproductive morbidities than their counterparts. About 19% of women have reported DV in the past 12 months. Out of that significantly 43.2% women reported reproductive morbidities. About 27.9% of women whose husbands consume alcohol reported reproductive morbidities.

Table 2. Percentage of women having reproductive morbidities by selected socio-demographic characteristics

Selected socio-demographic characteristics	% of reproductive morbidities (n)	N=901	p-value
Age of women			
≤25 years	22.4 (93)	416	0.48
>25 years	24.3 (118)	485	
Age of Husbands			
≤30 years	24.1 (117)	486	0.61
>30 years	22.7 (94)	415	
Age difference between couples			
≤5 years	24.3 (155)	637	0.31
>5 years	21.2 (56)	264	
Age at marriage			
≤18 years	24.1 (104)	431	0.62
>18 years	22.8 (107)	470	
Marriage longevity			
≤5 years	19.0 (66)	348	0.01
>5 years	26.2 (145)	553	
Educational status (Women)			
Illiterate	21.8 (37)	170	0.57
Literate	23.8 (174)	731	
Educational status (Husbands)			
Illiterate	18.3 (19)	104	0.18
Literate	24.1 (192)	797	
Religion			
Hindu	21.1 (126)	598	0.01
Others	28.1 (85)	303	
Social group			
SC/ST/OBC	25.3 (125)	495	0.15
General	21.2 (211)	406	
Parity			
1	25.0 (67)	268	0.71
2-3	23.0 (118)	512	
≥4	21.5 (26)	121	
Ever had induced abortions			
Yes	37.1 (23)	62	0.00
No	22.4 (188)	839	
Alcohol use by husbands			
Yes	27.9 (56)	201	0.09
No	22.1 (155)	700	
Domestic violence			
Yes	43.2 (73)	169	0.00
No	18.9 (138)	732	

All the independent variables ($p<0.10$) were included in the logistic regression model. After controlling all the other variables in the logistic regression analysis, domestic violence showed a significant association with the reported reproductive morbidities (Table 3). It was found that women who had experienced domestic violence were 3.0 times more likely to report reproductive morbidities than women who had not experienced any domestic violence (AOR: 3.00; 95% CI: 2.08-4.32). Compared to women belong to other religion (non-Hindu), those belong to Hindu religion were significantly 43% more likely to report reproductive morbidities (AOR: 1.43 ((95% CI: 1.02-2.01)). Women having a history of induced abortion were 2.0 times more likely to report reproductive morbidities than their counterparts (AOR: 2.03; 95% CI: 1.16-3.56). Women whose husband consumed alcohol were 25% significantly more likely to report reproductive morbidities as compared to women whose husbands did not consume alcohol.

Table 3. Odds ratio of reproductive morbidities

Variables	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Domestic violence		
Yes	3.27 (2.29-4.67)	3.00 (2.08-4.32)
No	1.00	1.00
Marriage longevity		
>5	1.51 (1.09-2.10)	1.34 (0.95-1.88)
≤5	1.00	1.00
Religion		
Others	1.46 (1.06-2.00)	1.43 (1.02-2.01)
Hindu	1.00	1.00
Induced abortion		
Yes	2.04 (1.19-3.50)	2.03 (1.16-3.56)
No	1.00	1.00
Alcohol use by husbands		
Yes	1.35 (0.95-1.93)	1.25 (0.86-1.83)
No	1.00	1.00

DISCUSSION

The present study showed the prevalence of DV (19%) and reproductive morbidities (23.4%) in the slum communities. Significant influence by domestic violence on reproductive morbidities was noted in the present study. The national and international studies also showed similar findings (Johnson *et al*., 2007; Garg *et al*., 2002; Stephenson *et al*., 2006; Ma and Pun, TC. 2016; Campbell, 2002; Seth *et al*., 2010). The elevated risk of reproductive morbidities was found to be associated with physical and sexual violence (Stephenson *et al*., 2006). The longevity of marriage was also significantly associated with the risk of reproductive morbidities. Contrary to what was reported by other studies (Stephenson *et al*., 2006; Urquia *et al*., 2013), we found that increasing longevity of marriage was associated with an increase in reporting of reproductive morbidities. The number of reproductive morbidities was more reported from women married for more than five years. Women with a marital duration of five years and lesser were less likely to report domestic violence and reproductive morbidities than their counterparts (Begum *et al*., 2015). Religion plays a significant role in reporting of reproductive morbidities. In the present study, women were categorized into Hindu and other religious groups, which include Muslims, Christians, Buddhists, Sikh and Parsis. A Ghana-based study reported women from the Christianity background were having severe reproductive morbidities (79.4%) (Damalie *et al*., 2014). In Kerala, the findings were lesser reproductive morbidities were reported among Muslim women compared to non-Muslim women (Sajna *et al*., 2017)

and in Maharashtra, more prevalence of reproductive morbidities among 40.1% Hindus and 0.9% among Muslims and 1.1% among the other groups (International Institute of Population Sciences, 2017) were reported. The history of induced abortion was found to be a significant risk factor associated with reproductive morbidities. Similar findings were observed in other studies (Damalie *et al*., 2014; Ikeako *et al*., 2014; Emechebev *et al*., 2016; Kumari *et al*., 2016), which showed a significant association between induced abortions and consequent reproductive morbidities. The present study has a few limitations. The present study is based on self-reporting of reproductive morbidities and domestic violence, there may be chances of under-reporting of domestic violence and reproductive morbidities may be due to various reasons. Additionally, there may be recall bias because of the reference period of 12 months preceding the survey for reproductive morbidities and domestic violence.

Conclusion

DV is significantly associated with the reproductive health of women. Proper steps may be needed to prevent DV to reduce the risk of reproductive morbidities among women.

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