

Mental health effects of domestic violence against women in Delhi: A community-based study

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ABSTRACT

Background: Domestic violence (DV) against women is an all-pervasive phenomenon considered to have serious health consequences for women. This study aimed to assess the association of DV against women with their mental health status. **Materials and Methods:** This community-based, cross-sectional study was carried out among 827 ever married women from Delhi selected through cluster sampling followed by systematic random sampling. Data were collected using structured and in-depth questionnaires. Mental health status was estimated using self-reporting questionnaire 20. **Results:** The prevalence of psychological, physical, sexual, physical, or sexual violence and any form of violence was very high. A quarter of the women (25.3%) reported unhealthy mental status (>8 score) in the past 4 weeks. Women who had experienced DV showed poor mental health status and more suicidal tendencies when compared with women who had not experienced violence. **Conclusion:** DV has significant effect on women's mental health underscoring the need to develop public health interventions.

Keywords: Domestic violence, mental health, women

Introduction

Domestic violence (DV) against women is an all-pervasive phenomenon worldwide. Declared as a “public health epidemic” by the World Health Organization (WHO), it continues to afflict more than one-third of the women globally.^[1,2]

DV refers to “any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women.” The act of violence may occur in family, general community, or even being perpetrated and condoned by state.^[3] It has serious health consequences – not just for women and children but also for their family. It is an important

contributor to global burden of ill health in terms of women's morbidity and mortality including psychological trauma and depression, suicide and murder, chronic pain, injuries, fractures, disability, unwanted pregnancy and inadequate contraceptive use, rates of HIV, and other sexually transmitted infections.^[4]

Mental health effects of violence against women can include behavioral problems, sleeping and eating disorders, depression, anxiety, posttraumatic stress disorder (PTSD), self-harm and suicide attempts, poor self-esteem, harmful alcohol, and substance use.^[1,4] There is growing evidence on mental health consequences of DV globally, and^[4-6] also at national level.^[7-9] However, there still is limited region-specific reliable data which are essential to planning meaningful intervention strategies.^[10,11]

This study was conducted to examine the association of DV with women's mental health status. The term domestic violence refers to any act of psychological, physical, or sexual violence (SV)

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Received: 28-05-2019 Revised: 06-06-2019 Accepted: 24-06-2019

Access this article online

Quick Response Code:



Website:
www.jfmipc.com

DOI:
10.4103/jfmipc.jfmipc_427_19

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How to cite this article: Sharma KK, Vatsa M, Kalaivani M, Bhardwaj D. Mental health effects of domestic violence against women in Delhi: A community-based study. J Family Med Prim Care 2019;8:2522-7.

against the “ever married woman” by her husband or other family members, within or beyond the confines of home.

Materials and Methods

A community-based, cross-sectional study involving mixed methods (both quantitative and qualitative) was conducted in urban and rural areas of Delhi. It included ever married women up to 60 years of age who were regular residents in the household or visitors for more than 4 weeks and understood Hindi or English.

The estimated population of Delhi (2001) was 13,850,507.^[12] The entire Municipal Corporation of Delhi (MCD) area constituted of 12 zones, with 118 Maternal and Child Welfare centers (units) under the MCD. Assuming a design effect of two, with an estimated prevalence of DV against women being 37.2%^[8] to be within 5% points with 95% confidence using cluster sampling survey, 800 women were required. Since 93% of Delhi's population is urban and 7% rural,^[12] 700 women from urban setting and 100 from the rural setting were calculated to be sampled.

Cluster sampling followed by systematic random sampling was used for drawing the study subjects. The sampling unit was household. For drawing the target women sample, 770 urban households and 108 rural households from selected areas were approached using systematic random sampling. The overall response rate was 96.3% (96.3% urban and 96.1% rural). From women who reported an experience of DV, in-depth interviews were conducted for a purposively selected subsample of 20 women (15 urban and 5 rural) as determined by data saturation.

Data were collected from September 2010 to December 2011 using a structured questionnaire and in-depth interview guide (Supplementary File 1 S1-S3 Annexures). The questionnaire included items on sociodemographic profile, that is, household characteristics, woman and husband characteristics (demographic, marital, and behavioral), DV experience, and health status of women. This questionnaire was partly adapted from WHO multicountry study on women's health and life experiences Questionnaire version 10, 2003.^[13] The in-depth interview guide had open-ended items on DV and its consequences with in-built triggers for probing.

Data were collected from women participants upon house-to-house survey. From the selected households, only one woman was chosen randomly and interviewed about her DV experiences, that is, presence of physical, sexual, and psychological violence. Physical violence (PV) included any act or conduct which may cause bodily pain, harm, or danger to life, limb, or health or impair the health or development of the aggrieved person and includes assault, criminal intimidation, and criminal force. SV referred to any conduct of a sexual nature that abuses, humiliates, degrades, or otherwise violates the dignity of woman. Psychological and

emotional violence referred to insults, ridicule, humiliation, name calling, and insults or ridicule specially with regard to not having a child or a male child; and repeated threats to cause physical pain to any person in whom the aggrieved person is interested. If a woman gave a positive response to any of the questions in a set, it was considered as violence of that category. In addition, the fourth variable, that is, any form of DV was derived. If at least one of the three forms of DV (physical and/or psychological and/or sexual) was present, it was considered as the presence of “any form” of DV. Mental health status of women was assessed by a self-reporting questionnaire (SRQ-20) comprising 20 listed symptoms.^[13] Women were asked whether during the past 4 weeks they had experienced any of these symptoms. Eight or more than eight questions answered in affirmative were taken as indicative of unhealthy mental status. Women were also asked whether they had ever thought of or attempted suicide.

In-depth interviews were conducted at women's convenience in terms of time and place and were audio recorded if permitted, otherwise notes were taken. To obtain honest responses during interview, care was taken to establish rapport with every participant prior to interviews assuring them of the confidentiality of their responses.

Ethical clearance was obtained from the Institute Ethics Committee. Informed consent was obtained from all participants including separate consent for audio recording of in-depth interviews. Quantitative data were entered in MS-Excel 2006 Microsoft Corporation, and statistical analysis was carried out using Stata 11.0 (College Station, TX, USA). Associations of violence and mental health status were tested using Chi-square or Fisher's exact test as appropriate. Univariate and multivariate analysis was done.

Qualitative (ongoing) data obtained on in-depth interview were analyzed using coding and categorization, searching for themes, validation of thematic analysis, and integration of themes into phenomenon under study.

Results

A sample of 827 women were recruited. The average age of the women was 37.1 ± 9.72 (15–60) years and it was 40.76 ± 10.35 (20–66) years for their husbands. Most of the women (63.2%) were in the age range of 21–40 years, were from urban locality (87.9%), belonged to Hindu (85.5%) religion, and had nuclear family (73.3%). The average monthly family income was Indian Rupee 46998.4 ± 42674.4 (1000–650,000) with 52.2% women having monthly family income over 40,000 rupees. Almost three-fourth (73.4%) of the women were housewives, 7.4% husbands were unemployed, and 17% of the women were illiterate. Furthermore, 22.6% women reported having three or more persons per room. Most (64.4%) were married for over 10 years, 64.1% had one to two children, whereas 8.1% had no child. Only 34.1% women reportedly had dependable family

support and 16.6% had high neighborhood support. More than half (51.1%) women had alcoholic husbands.

The women participants for in-depth interview ($n = 20$) were in 20–55 years age range. Sixteen women were currently married, three were widowed, and one had separated from husband. Six women had love marriage, and 16 lived in nuclear families. Monthly family income of the women ranged from rupees 2000 to 125,000. Nine women and three women’s husbands were unemployed.

The prevalence of psychological, physical, sexual, physical, or SV and any form of violence was 43.4%, 27.2%, 26.4%, 28.2%, and 43.4%, respectively, ever in life and was 37.6%, 19.3%, 20.3%, 22.6%, and 37.8%, respectively, in the past 12 months (current violence).

A quarter of the women (25.3%) reported unhealthy mental status in the past 4 weeks (SRQ ≥ 8 score). Twenty-one (2.5%) women reported having suicidal thoughts in the past 4 weeks and 8.2% ever in life, while seven (0.8%) women reported having attempted suicide ever in life [Table 1].

More women who reported experience of PV in the past 1 year and ever in life had unhealthy mental status (32.5% and 28.2%), respectively, and suicidal thoughts (63.2% each) [Table 2].

More women who experienced SV in the past 1 year and ever in life reported unhealthy mental status (35.4% and 43.1%), respectively, and suicidal thoughts (67.6% and 89.7%), respectively, when compared with those who did not report violence [Table 3].

More women who reported experience of “any form” of violence in the past 1 year and ever in life had unhealthy mental status (64.6% and 72.7%%, respectively) and suicidal thoughts (83.8% and 92.6%, respectively), than those who did not report violence [Table 4].

Tables 2-4 reveal that women who had the experience of physical, sexual, or any form of violence were significantly more likely to report unhealthy mental status and suicidal thoughts than women who did not report violence. On in-depth interviews, women reported mental effects such as suicidal thoughts/attempts, depression, forgetfulness, and sadness as evident from their verbatim [Box 1]. Loss of confidence/decision-making capacity was another fallout of the violence. It can be concluded that DV not only affects the mental well-being of women but also erodes their self-confidence.

Discussion

Often there are considerable variations in the methods used by different studies across the settings for assessing DV and mental health status. For attaining standardization of results, we adapted the questionnaire used in WHO multicountry study on women’s

Table 1: Self-reported mental health status of women (n=827)

Mental health status	Frequency (%)	Proportion 95% CI
Mental health (in past 4 weeks)	5.33±4.05 (0-20) [@]	
Healthy (<8 score)	618 (74.7)	
Not healthy (≥ 8 score)	209 (25.3)	25.3 (22.3, 28.2)
Suicidal thoughts (in past 4 weeks)		
No	806 (97.5)	
Yes	21 (2.5)	2.5 (1.5, 3.6)
Suicidal thoughts ever in life		
No	759 (91.8)	
Yes	68 (8.2)	8.2 (6.3, 10.1)
Attempted suicide ever in life		
No	820 (99.2)	
Yes	7 (0.8)	0.8 (0.2, 1.5)

CI=confidence interval; SD=standard deviation. [@]Data are presented as mean±SD (min-max)

Box 1: Mental health consequences of domestic violence against women

Verbatim

“But later ... after marriage I always started falling sick. For two years I received treatment for depression from ... hospital ... I even sustained injuries several times.” (Code 241)

“I used to get suicidal thoughts. ... Once his behaviour deteriorated to limits. (Ek baar kafi had tak bigar gaye the). He even beat me up and thrashed ... I landed in coma. I had attempted suicide, by consuming poison.” (Code 93)

“... I have lost confidence. I feel very weak, breathlessness and very uncomfortable. I am highly confused in decision making. For everything I look up to my husband.” (Code 87)

“What to say, the confidence goes down.” (Code 174)

health and DV against women.^[13] This study revealed that a quarter of the women (25.3%) in the past 4 weeks were not mentally healthy (SRQ ≥ 8). A considerably lower rate (12.0%) of unhealthy mental status, that is, SRQ ≥ 8 , was reported in urban women of reproductive age group in Delhi.^[10] This could be due to difference in sociodemographic status of study subjects. In this study, women age upto 60 years were selected both from urban and rural communities representing diverse strata of the society.

The effect of DV on health has been studied by considering the psychological, physical, sexual, and any form of violence; in the past 12 months as well as ever in life. Prevalence of psychological violence was identical to “any form” of violence probably because psychological violence invariably precedes any other form of violence, hence only the latter is presented in this article.

Our study found that women who had the experience of PV in the past 1 year were significantly more likely to report unhealthy mental status [odds ratio (OR) 2.52, 95% confidence interval (CI) 1.64–3.86] and suicidal thoughts ever in life [OR 10.31, 95% CI 4.93–1.59)]. A multicenter study in India^[7] also found that women reporting “any violence” (OR 2.2, 95% CI 2.0–2.5) or “all violence” (all physically violent behaviors) (OR 3.5, 95% CI

Table 2: Association of physical violence against women with their mental health status and suicidal thoughts (n=827)

Health status	Physical violence			
	In past 1 year (n=827)		Ever in life (n=827)	
	No	Yes	No	Yes
Mental health [@]				
Healthy (<8 score)	526 (85.1)	92 (14.9)	481 (77.8)	137 (22.2)
Not healthy (≥8 score)	141 (67.5)	68 (32.5)	121 (57.9)	88 (42.1)
P	-	0.001*	-	0.001*
Unadjusted OR	1.0	2.75 (1.91, 3.96)*	1.0	2.55 (1.82, 3.56)*
Adjusted OR [§]	1.0	2.52 (1.64, 3.86)*	1.0	2.20 (1.47, 3.27)*
Suicidal thoughts ever in life				
No	642 (84.6)	117 (15.4)	594 (78.3)	165 (21.7)
Yes	25 (36.8)	43 (63.2)	8 (11.8)	60 (88.2)
P	-	0.001*	-	0.001*
Unadjusted OR	1.0	9.43 (5.55, 16.04)*	1.0	27 (12.65, 57.59)*
Adjusted OR [§]	1.0	10.31 (4.93, 21.59)*	1.0	23.28 (9.51, 56.95)*

*P<0.05; OR: odds ratio (95% confidence interval). [§]Adjusted for woman's age, residential locality, religion, woman education, husband education, woman occupation, husband occupation, monthly family income, type of family, person per room, years of married life, number of living children, and dependable family support. [@]In past 4 weeks

Table 3: Association of sexual violence against women with their mental health status and suicidal thoughts (n=827)

Health status	Sexual violence			
	In past 1 year (n=827)		Ever in life (n=827)	
	No	Yes	No	Yes
Mental health [@]				
Healthy (<8 score)	524 (84.8)	94 (15.2)	490 (79.3)	128 (20.7)
Not healthy (≥8 score)	135 (64.6)	74 (35.4)	119 (56.9)	90 (43.1)
P	-	0.001*	-	0.001*
Unadjusted OR	1.0	3.05 (2.13, 4.37)*	1.0	2.89 (2.06, 4.05)*
Adjusted OR [§]	1.0	3.11 (2.04, 4.74)*	1.0	2.68 (1.79, 4.02)*
Suicidal thoughts ever in life				
No	637 (83.9)	122 (16.1)	602 (79.3)	157 (20.7)
Yes	22 (32.4)	46 (67.6)	7 (10.3)	61 (89.7)
P	-	0.001*	-	0.001*
Unadjusted OR	1.0	10.91 (6.33, 18.80)*	1.0	33.41 (14.98, 74.48)*
Adjusted OR [§]	1.0	14.89 (6.91, 32.05)*	1.0	33.01 (12.77, 85.32)*

*P<0.05; OR: odds ratio (95% confidence interval). [§]Adjusted for woman's age, residential locality, religion, woman education, husband education, woman occupation, husband occupation, monthly family income, type of family, person per room, years of married life, number of living children, and dependable family support. [@]In past 4 weeks

2.94–3.51) were at increased risk of poor mental health. High prevalence ratios for depressive and severe depressive symptoms and physical intimate partner violence (IPV) (1.64 and 1.990) were reported from the United States.^[6]

In this study, women with experience of SV in the past 1 year were significantly more likely to report unhealthy mental status (OR 3.11, 95% CI 2.04–4.74) and suicidal thoughts (OR 14.89, 95% CI 6.91–32.05). A facility-based survey in Bangalore reported that sexual coercion correlated positively ($r = 0.39$) with PTSD severity.^[14]

The association between poor mental health and “any form” of violence (OR 4.94, 95% CI 3.31–7.36) seen in this study is also corroborated by existing literature.^[9,10,15-17] INCLEN study in India found that women who reported poor health were more likely to report both physical and psychological violence

compared with women reporting average or excellent health status.^[9] Varma *et al.* reported that depression, somatic, and PTSD symptoms were higher in those with a history of abuse or sexual coercion, and life satisfaction was poorer in those with any form of violence.^[15] Another study in India reported that DV in the past 12 months is strongly inversely related to rural women's mental health.^[16] A significant association of DV (physical/sexual) with adverse mental health status (OR 2.9, 95% CI 1.4–6.0) and highly significantly more common suicidal tendencies are also reported in Delhi.^[10] A study from Kerala found DV to be an independent risk factor for attempted suicide (OR 3.79, 95% CI = 1.35–10.62).^[17] In our study too, the odds of suicidal thoughts for women who experienced any form of violence in the past 1 year was high (OR 14.7, 95% CI 5.74–38.01). However, due to small numbers, we could not study the association of suicidal attempts with DV.

Table 4: Association of “any form” of violence against women with their mental health status and suicidal thoughts (n=827)

Health status	“Any form” of violence			
	In past 1 year (n=827)		Ever in life (n=827)	
	No	Yes	No	Yes
Mental health [@]				
Healthy (<8 score)	440 (71.2)	178 (28.8)	411 (66.5)	207 (33.5)
Not healthy (≥8 score)	74 (35.4)	135 (64.6)	57 (27.3)	152 (72.7)
<i>P</i>		0.001*	-	0.001*
Unadjusted OR	1.0	4.50 (3.23, 6.28)*	1.0	5.29 (3.74, 7.49)*
Adjusted OR [§]	1.0	4.94 (3.31, 7.36)*	1.0	5.29 (3.51, 7.96)*
Suicidal thoughts ever in life				
No	503 (66.3)	256 (33.7)	467 (61.5)	292 (38.5)
Yes	11 (16.2)	57 (83.8)	1 (1.5)	67 (98.5)
<i>P</i>	-	0.001*	-	0.001*
Unadjusted OR	1.0	10.18 (5.24, 19.75)*	1.0	107.15 (14.79, 776.04)*
Adjusted OR [§]	1.0	14.77 (5.74, 38.01)*	1.0	89.56 (11.69, 685.72)*

**P*<0.05, OR: odds ratio (95% confidence interval). [§]Adjusted for woman's age, residential locality, religion, woman education, husband education, woman occupation, husband occupation, monthly family income, type of family, person per room, years of married life, number of living children, and dependable family support. [@]In past 4 weeks

The WHO multicountry study too confirmed that women who reported partner violence at least once in their life reported significantly more emotional distress, suicidal thoughts (adjusted OR 2.9, 95% CI 2.7–3.2) and attempted suicide (adjusted OR = 3.8, 95% CI 3.3–4.5).^[18] Similarly, Naim Nur found that in Turkey women exposed to IPV were more likely to have mental distress and a bad self-perceived health status.^[19] Chhabra in a review provided evidence that PV and SV are associated with psychiatric problems, depression, anxiety, phobias, posttraumatic stress disorder, and suicidality.^[20]

In our study, the trend for effect of DV during the past 1 year on women's mental health was similar to violence ever in life. Overall, the present study findings mostly echo the work of other investigators as specified above, reaffirming the adverse mental health outcomes of DV. These findings extend beyond the reproductive period thus enhancing the generalizability and defying the common notion that women over 50 years are largely immune to DV. They also provide the differential effect of DV on mental health.

Limitations

Since the data were mainly collected through self-reports, there might be recall bias. Considering the highly sensitive nature of the topic of interview, there is scope for underreporting. The cross-sectional design precludes the ability to assign causality to violence in leading to poor mental health.

Conclusion

DV against women is inversely associated with their mental health. A multisectoral approach is needed to address this problem. In India, most services currently available for victims of DV are on the legal front including “The Dowry Prohibition

Act/s and Section 498A to the Indian Penal Code (1983)” and so on. The new “protection of women from domestic violence Act 2005” allows women to seek injunctions and protective orders and covers all women in abusive relationships, regardless of the relationship of the perpetrator.^[21] Healthcare providers especially the primary care physicians have a special opportunity to identify, intervene, and support survivors of violence given that most women visit these settings at some point in their lifetime. They ought to be sensitized to the issues of DV and be trained adequately to recognize it early. The need of the hour is to screen women for abuse, integrate gender-sensitive approach in healthcare services and generate community awareness. Future research should focus on developing and testing public health interventions.

Acknowledgement

The authors thank the study participants for sharing their life experiences.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Supplemental File 1

S1 Annexure: Domestic violence questionnaire

Psychological violence

- Belittled or humiliated in front of others
- Insulted or made to feel bad or scared purposely
- Taunted for not bearing a child/or a male child
- Taunted for bringing no dowry/inadequate dowry
- Threatened (with objects like belt, stone, knife, etc.)
- Threatened to be sent or were actually sent to parents home
- Ignored or neglected
- Denied enough money for housekeeping
- No freedom to use own salary/earnings
- Denied basic necessities
- Prevented from taking up/continuing employment

Physical violence

- Moderate:
 - Slapped, thrown something that could hurt, pushed, shoved, or pulled hair

Severe:

- Hit with fist or with something else
- Kicked, dragged, or beaten up
- Choked or burnt on purpose
- Actual use of a weapon

Sexual violence

- Forced sexual intercourse
- Degrading/humiliating sexual act
- Willfully denied or avoided sex

S2 Annexure: Mental health status questionnaire (WHO)

9 SRQ 20	The next questions are related to other common problems that may have bothered you in the past 4 weeks. If you had the problem in the past 4 weeks, answer yes. If you have not had the problem in the past 4 weeks, answer no.			
	Do you often have headaches?	HEADACHES	YES 1	NO 2
	Is your appetite poor?	APPETITE	1	2
	Do you sleep badly?	SLEEP BADLY	1	2
	Are you easily frightened?	FRIGHTENED	1	2
	Do your hands shake?	HANDS SHAKE	1	2
	Do you feel nervous, tense or worried?	NERVOUS	1	2
	Is your digestion poor?	DIGESTION	1	2
	Do you have trouble thinking clearly?	THINKING	1	2
	Do you feel unhappy?	UNHAPPY	1	2
	Do you cry more than usual?	CRY MORE	1	2
	Do you find it difficult to enjoy your daily activities?	NOT ENJOY	1	2
	Do you find it difficult to make decisions?	DECISIONS	1	2
	Is your daily work suffering?	WORK SUFFERS	1	2
	Are you unable to play a useful part in life?	USEFUL PART	1	2
	Have you lost interest in things that you used to enjoy?	LOST INTEREST	1	2
	Do you feel that you are a worthless person?	WORTHLESS	1	2
	Has the thought of ending your life been on your mind?	ENDING LIFE	1	2
	Do you feel tired all the time?	FEEL TIRED	1	2
	Do you have uncomfortable feelings in your stomach?	STOMACH	1	2
	Are you easily tired?	EASILY TIRED	1	2
10	Just now we talked about problems that may have bothered you in the past 4 weeks. I would like to ask you now: In your life, have you ever thought about ending your life?	YES	1	
		NO	2	
		DON'T KNOW/DON'T REMEMBER		8
		REFUSED/NO ANSWER	9	
11	Have you ever tried to take your life?	YES	1	
		NO	2	
		DON'T KNOW/DON'T REMEMBER		8
		REFUSED/NO ANSWER	9	

⇒12

Key:

Q.9. Mental health status (SRQ-20). Each of the 20 items is scored as 0 or 1. A score of 1 indicates that the symptom was present during the past month; a score of 0 indicates that the symptom was absent. The maximum score is therefore 20.

S3 Annexure: In-depth interview guide for women known to have experienced domestic violence

1. Can you please tell me a little more about yourself?
How do you normally spend your days?
What things do you like to do?

 2. A. Tell me about your husband. How did you first meet?
B. When did you get married?
C. When did you have Gauna?
E. How does he treat you?
 1. How often does he take you out for an outing?
 2. How much is he concerned about you?
 - a) Your basic needs
 - b) Your health and well being,
 - c) Your prestige etc?

 3. Do you feel comfortable about talking to your husband about all matters?
 4. a. When did your problems (that you just told me) with your husband/his family start?
b. How long has this been going on for?
c. Are there times when this has improved, or got worse? When does that happen?
d. Was it less during your pregnancy or more than your pre-pregnancy state?
- (if reports pregnancy)
5. a. Has it had any effect on your physical well-being?
In what sort of ways did it affect?
b. How has it affected your feelings about yourself?
c. Do you think that it is having an effect on your children? In what ways?
d. Has it affected your ability to provide for the family or go to work?
e. Has it made it difficult for you to meet friends or relatives? How?