

Research Report

DOMESTIC VIOLENCE, DEPRESSIVE AND ANXIETY SYMPTOMS AMONG PREGNANT WOMEN- A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Domestic violence (DV) is widespread across countries and cultures. DV can lead to various psychiatric problems in pregnant women. This study aims to assess the prevalence of domestic violence among pregnant women and to determine the anxiety and depression among them. **Materials and Methods:** A cross-sectional study was conducted by recruiting 232 pregnant women attending a tertiary care teaching hospital. Their socio-demographic and clinical parameters were recorded using a proforma. Domestic violence, depression, and anxiety were assessed using the Domestic Violence Questionnaire, Patient Health Questionnaire-9, and Generalized Anxiety Disorder-7 questionnaires, respectively. Data were analyzed using Jamovi version 2.3. **Results:** The prevalence of DV among pregnant women was estimated to be 11.2% (95% CI = 7.8% to 15.9%). Depressive symptoms were found in 63.8% (95% CI = 57.4% to 69.7%) and anxiety symptoms in 63.3% (95% CI = 57.0% to 69.3%) of the study population. A significant association was observed between domestic violence and depression and anxiety ($p < 0.001$). **Conclusion:** A significant proportion of pregnant women experience DV. Pregnant women who experience DV show significantly higher levels of depression and anxiety.

Key words: Domestic Violence, Pregnant Women, Anxiety, Depression, Intimate Partner Violence

INTRODUCTION

Domestic violence (DV) is a global social and public health issue where women are the common victims.¹ The United Nations defines violence against women as “any act of gender based violence that results in, or is likely to result in physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life”.² Domestic violence was defined as “physical, sexual and psychological violence occurring in the family, including battering,

sexual abuse of female children in the household, dowry-related violence, marital rape, female genital mutilation and other traditional practices harmful to women, non-spousal violence and violence related to exploitation”.² The term ‘domestic violence’ is used in many countries to refer to partner violence but the term can also encompass child or elder abuse, or abuse by any member of a household. Intimate partner violence (IPV) is the most common form DV among married women and hence this study considered it as DV for better clarity. This study also used both terms interchangeably.^{2,3}



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Pregnancy is often viewed as a vulnerable period for various physical and mental health problems. Depression and anxiety are common mental health disorders that affect pregnant women. In addition to these various mental health challenges, many pregnant women also experience domestic violence. The World Health Organization (WHO) in 2013 reported that approximately 30% of women worldwide have experienced physical and/or sexual intimate partner violence in their lifetime. In many countries, cultural, social, and economic factors contribute to the high prevalence of domestic violence, making it an issue of major public health concern.³

DV during pregnancy has been reported across countries and cultures, with varying prevalence rates ranging from 4% to 29%.^{4,5,6} An Indian study conducted by Babua et al observed a prevalence of 7.1% physical, 30.6% psychological and 10.4% sexual domestic violence during a recent pregnancy, and the lifetime prevalence for the same during all pregnancies was 8.3%, 33.4% and 12.6% respectively.⁷

Experiencing DV during pregnancy can have serious consequences on the health of mother and the unborn child.⁸ Furthermore, maternal mental health issues can interfere with the mother's ability to adhere to medical advice, which can compromise pregnancy outcomes.⁹ The impacts of domestic violence are profound and multifaceted. Victims often suffer from physical injuries, ranging from bruises and fractures to more severe injuries that can lead to long-term disability or death.¹⁰ Psychologically, victims may experience depression, anxiety, post-traumatic stress disorder (PTSD), and suicidal ideation.¹¹ A study by George et al. reported 7.4% prevalence of domestic violence among pregnant women in South India.¹² A systematic review and meta-analysis

estimated that the prevalence of antenatal depression ranges from 7% to 20% globally.¹³ In India also, the prevalence of antenatal depression was found to vary widely, ranging from 5.2% to 44%.¹⁴ In Kerala, 11.4% of pregnant women were found to have antenatal depression.¹⁵ Husain et al. found that low socioeconomic status, lack of social support, and domestic violence were significant predictors of antenatal depression.¹⁶

The presence of medical complications during pregnancy and a history of mental health disorders were also found to be associated with an increased risk of depression among pregnant women in India.¹⁴ Dennis et al. found that the prevalence of anxiety disorders in pregnant women ranges from 18% to 25%.^{17,18} A study by Patel et al. found that anxiety disorders affected approximately 25% of pregnant women in India.¹⁴ Similarly, research by Singh J et al. reported a prevalence rate of 31.2% for anxiety symptoms among pregnant women in urban India.¹⁹ Pregnant women in Kerala were also found to have a high rate of anxiety symptoms.^{20,21} Field et al. noted that maternal anxiety affects fetal neurodevelopment, potentially leading to long-term cognitive and behavioral problems.²² Furthermore, anxiety during pregnancy is a predictor of postpartum depression, complicating the mother's mental health post-delivery.²³ Despite the high prevalence and its impact on the mental health of pregnant women, DV remains under-recognized and undertreated. We conducted this study with an aim to estimate the prevalence of DV among pregnant women. The secondary objective of this study was to find out the prevalence of depression and anxiety

among pregnant women and the association of DV with depression and anxiety.

MATERIALS AND METHODS

This was a cross-sectional study conducted among 232 pregnant women who attended the Department of Obstetrics and Gynecology at a tertiary care center in Kerala. An overall prevalence of 30% of DV was reported in an earlier study.⁷ Minimum sample size was calculated as 224 with a precision of 6% at a confidence level of 95% using the formula $Z_{(1-\alpha)}^2 \times pq/d^2$. All consecutive pregnant women who attended the outpatient department on alternate days during May to November 2023 constituted the study population. All consenting pregnant women aged 18-45 years who had been living with their spouses for at least 3 months during the past 9 months were included in this study. Those pregnant women with a history of mental illness prior to marriage and those with intellectual disability were excluded from the study. This study was approved by the Institutional Ethics Committee for Research. Informed written consent was obtained from each of the participants. Sociodemographic details, including spouse's details and clinical details such as past history, family history, parity, etc., were collected using a specially designed proforma. Participants were also asked to rate the percentage of their marital satisfaction as they experienced it. After giving necessary instructions, all participants were screened for depression using regional language validated versions of Patient Health Questionnaire (PHQ-9) and anxiety using General Anxiety Disorder (GAD-7) scale.^{24,25} This was followed by a self-rating on the Domestic Violence Questionnaire (DVQ).²⁶ DVQ evaluates violence perpetrated by the intimate partner in a marital relationship.²⁶

The DVQ was validated in Malayalam, and it has 20 items, 13 items for psychological and 7 items for physical violence. Internal consistency reliability was 0.92. At a cut-off score of 5, sensitivity was 89.5% and specificity 87.2%.²⁶ PHQ-9 and GAD-7 scores of 5, 10, and 15 represented mild, moderate, and severe depression and anxiety symptoms, respectively. In this study, scores ≥ 5 on PHQ-9 and GAD-7 were considered as having a clinically significant level of depressive and anxiety symptoms.

Data were analyzed using Jamovi version 2.3 software. Quantitative variables, such as duration since marriage, are presented as mean (standard deviation), while qualitative variables are summarized as frequencies (percentages). Associations between categorical variables and DV gradients/ GAD categories and PHQ categories were examined using a chi-square test. A 'p' value of ≤ 0.05 was considered statistically significant.

RESULTS

This study comprised 232 pregnant women with a mean gestational age of 27.5 weeks (SD 9.74). The majority of participants were multigravida (68.1%), and 31.9% were primigravida. Seventy-five percent (174) of participants and 43.5% (101) of the spouses were below 30 years of age. The mean age of participants was 27.2 years (SD 5.3), and that of spouses was 32.9 years (SD 5.8), with a mean duration of marriage of 5 years (SD 3.75). The mean duration of education of participants was 12.8 years (SD 2.1), and that of spouses was 11.5 years (SD 2.2). Other sociodemographic details of participants are summarized. (Table 1)

Table 1. Socio-demographic Characteristics of Participants

Parameter		Number	Percentage
Age group (years)	<20	14	6
	21-30	160	69
	31-45	58	25
Educational qualification	Primary	1	0.4
	Secondary/Higher secondary	150	64.3
	≥ Graduation	81	35.3
Occupation	Employed	46	19.8
	Unemployed	186	80.2
Job category	Unskilled	7	15.2
	Skilled	27	58.7
	Professional	12	26.1
Religion	Hindu	179	77.2
	Islam	37	15.9
	Christian	16	6.9
Place	Rural	227	97.8
	Urban	5	2.2
Monthly income (Rupees)	< 10,000	29	12.5
	≥ 10,000	203	87.5
Family type	Nuclear	49	21.1
	Joint/Extended nuclear	183	78.9

Marriage of 166(71.9%) participants was an arranged marriage, while the marriage of 65 (28.1%) participants was a love marriage. Pregnancy-related illnesses like gestational diabetes or hypertension were found in 30 (12.9%) of the participants. Seventy-nine (34.1%) of participants' spouses were reported to be alcohol or tobacco abusers. Depressive symptoms were found in 148 (63.8% (95% Confidence interval (95% CI) =57.4% to 69.7%)) and anxiety symptoms in 147 (63.3% (95% CI = 57.0% to 69.3%)) of the study population. (Table 2)

Table 2. Prevalence of Depression, Anxiety and Domestic Violence

Parameter	Subgroup	Number n=232	Percentage
Domestic violence	Present	26	11.2
	Absent	206	88.8
Depression	Minimal	84	36.2
	Mild-moderate	130	56
	Severe	18	7.8
Anxiety	Minimal	85	36.6

	Mild-moderate	127	54.7
	Severe	20	8.6

Presence of domestic violence was reported by 26 (11.2%; 95% CI = 7.8% to 15.9%), but only 7 (3%) had reported a marital satisfaction of less than 50%. Two participants had sought legal help for domestic violence.

Various socio-demographic characteristics of participants didn't show a significant association with domestic violence except religion ($p = 0.01$). Though Christians constitute only 6.9% ($n = 16$) of the study population, a significant proportion (31.2%) of them reported domestic violence compared to Hindu (11.2%) and Muslims (2.7%). There was no significant relationship between spouse's age ($p=0.49$), occupation ($p = 0.136$), and educational qualification ($p = 0.337$) with domestic violence. Though a higher proportion of individuals in the love marriage group (15.4%) reported the presence of DV, only 9.6% of individuals from the arranged marriage group reported DV. This was not statistically significant ($p = 0.214$).

Substance abuse in spouses was found to have a significant association with domestic violence, anxiety, and depression in pregnant women. (Table 3)

All participants who experienced domestic violence ($n=26$) were found to have significant levels of anxiety and depressive symptoms. Both anxiety and depression were found to have a significant positive association with domestic violence. (Table 4)

Table 3. Relationship of domestic violence, anxiety and depression with substance abuse in spouse

Parameter		Substance use in Spouse		p values
Domestic violence	Present	Yes (n=79) n(%)	No (n=153) n(%)	
		22(27.8)	4(2.6)	$\chi^2 = 33.3$ df=1 $p < 0.001$
	Absent	57(72.2)	149(97.4)	

Depression	Minimal	19(24.1)	65(42.5)	$\chi^2=13.9$ df=2 p = <0.001
	Mild-moderate	48(60.8)	82(53.6)	
	Severe	12(15.2)	6(3.9)	
Anxiety	Minimal	21(26)	64(41.8)	$\chi^2=7.71$ df=2 p = 0.021
	Mild-moderate	47(59.)	80(52.3)	
	Severe	11(13.9)	9(5.9)	

Table 4. Association of domestic violence with depression and anxiety

Parameter		Domestic Violence		p values
		Yes (n=26) n(%)	No (n=206) n(%)	
Depression	Minimal	0 (0)	84 (40.8)	$\chi^2=78.1$ df=2 p = <0.001
	Mild-moderate	13(50)	117(56.8)	
	Severe	13(50)	5(2.4)	
Anxiety	Minimal	0(0)	85(41.3)	$\chi^2=41.2$ df=2 p = <0.001
	Mild-moderate	16(61.5)	111(53.8)	
	Severe	10(38.5)	10(4.9)	

DISCUSSION

Domestic violence is a globally reported social and public health issue. Pregnancy is considered to be a crucial period in women's lives, and experience of DV has been found to have a negative impact on the mental health of the mother and child. This study found a prevalence of 11.2% domestic violence among pregnant women, which is comparable with the reports from previous studies.^{6,7} However, it is in contrast to the observation in a meta-analysis by James L et al who found a 23.93% prevalence of DV among Indian pregnant women.⁵ A study from India by Varma et al found that half of women who reported intimate partner violence experienced violence during pregnancy.²⁷ This discrepancy in prevalence of DV from other Indian studies

could be attributed to the socio-economic and educational differences of our population compared to other Indian states. National Family Health Survey-3 (NFHS-3) found 19.8% of ever-married women in Kerala were exposed to spousal violence.²⁸ Though the study by Varma et al reported a higher rate of women's abuse among Hindus than any other religion, our study found a higher rate of domestic violence among Christian women (31.2%) compared to Hindu or Islam, and this difference was found to be statistically significant.²⁷ However, this finding cannot be generalized due to the small number of Christian participants and hence is non-conclusive.

Though the socio-demographic factors such as income, age, and education were found to be predictive of DV during pregnancy, the relationship between various socio-demographic factors and DV has been found to be inconsistent.^{6,29,30} This study noticed no association between DV and socio-demographic factors. The presence of other family members may have a protective effect on DV.⁴ However, in our study, DV was similar in both nuclear and joint/extended nuclear families. This could be due to the probable protective effect on physical abuse rather than other kinds of abuse. Hence, this suggests exploration into the type of abuse, as the family members may not be aware of the emotional/ verbal abuse these women are undergoing.

Consistent with earlier studies, this study also noticed a significant positive association between substance use in spouse and DV, though no relationship was observed for other spousal variables such as age, education, and occupation.^{31,32} This reiterates that substance abuse in the spouse is a risk factor for DV in women. Substance abuse of the spouse, being a risk factor for violence, can have an impact

on the mental health of pregnant women.³³, and it showed a significant positive association with anxiety and depression among pregnant women in this study.

Exposure to violence by an intimate partner can adversely affect the mental health of women. In this study, all participants who reported DV were also found to have mild to severe depressive or anxiety symptoms. The relationship between DV and anxiety or depression was also noticed to be significant. Similar observations were made by Bonomi et al., Varma et al., and Devries M. K. et al. in their studies.^{27,29,34} This indicates that DV was associated with higher depressive and anxiety symptoms, particularly during pregnancy, which is the most vulnerable period in a woman's life. Moreover, experiencing DV during pregnancy can have an adverse impact on the unborn child.⁸ Hence, identifying and addressing DV and the various psychological problems related to it during pregnancy may also provide effective and quality health care for the developing child. This was a cross-sectional study in a tertiary hospital setting; therefore, the findings may not be generalizable. This study used screening tools rather than a diagnostic interview. Hence, the actual disease burden may differ from the reported rate of symptoms. As the domestic violence questionnaire is self-reported, there may be reporting biases due to fear of relationship problems and legal consequences.

CONCLUSION

A significant proportion of pregnant women experience domestic violence. Substance abuse in a spouse is found to be associated with DV. Depressive and anxiety symptoms are significantly high among pregnant women who are exposed to DV. Mental health

assessment during routine prenatal care may help in identifying DV and thereby mitigating the adverse effects of DV on pregnant women and the growing fetus. Appropriate mental health interventions may be incorporated in antenatal care to identify and manage these issues and to improve pregnancy outcomes in women.

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