Sexual and Psychological Violence Among Pregnant Women in Tigray, Ethiopia

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Abstract: Background: Violence against women is a global concern and it is high in Africa particularly in Ethiopia. However, the attention given to this issue is less. This study aimed to assess sexual and psychological violence among pregnant women in Tigray, Ethiopia. Methods: Institutional based cross-sectional survey was done among 476 pregnant. Study participants were selected using a systematic random sampling technique. Pretested, structured, and interview was done using a standardized questioner. Logistic regression analyses (bivariable and multivariable) were done to identify associated factors. The odds ratio of 95% was used to show the strength and variables with p-value<0.05 were considered as statistically significant. Results: About 30.3% women were experienced sexual and psychological violence. Sexual violence (15.5%), and psychological violence (22.7%). Having alcohol drunker husband [(AOR=3.15, 95% CI: (1.92, 5.18)], undesired pregnancy by husband [(AOR=3.68, 95% CI: (1.54, 8.78)], having another wife [(AOR=4.87, 95% CI: (2.07, 11.5)], unplanned pregnancy [(AOR=3.46, 95% CI: (1.51, 7.95)], low decision making capacity of women [(AOR=2.99, 95% CI: (1.85, 4.82)] and having medium economic status [AOR=0.53, 95% CI: (0.31, 0.92)] were significantly associated factors. Conclusion: Near to one – third of pregnant women experienced sexual and psychological violence during a recent pregnancy. Strengthening women's, empowerment and encouraging inter-spousal communication to enhance relationships, and to make join reproductive decisions are crucial to reducing violence during pregnancy. Keywords: Sexual Violence, Psychological Violence, Pregnant, Tigray, Ethiopia

1. Background

Violence against women is any act of gender-based violence that results in or is likely to result in, physical, sexual, or psychological harm or suffering to women as well as controlling behaviors [1]. It is the most pervasive yet under-recognized human rights violation in the world [2]. In addition to causing injury, it increases women’s long-term risk of several other health problems, including chronic pain, physical disability, and depression [1].

Domestic violence ranges from 15% to 71% globally [3]. An estimated 30% of women who have had an intimate partner have suffered violence by their partner [4]. About two-thirds of women exposed to an intimate partner (IPV) at some point in their lives [3, 5]. Prevalence of violence against pregnant women in developing countries is estimated to be 4 to 29% [6].

A meta-analysis of 92 independent studies concerning domestic violence (DV) among pregnant women showed an average prevalence of 28.4% emotional abuse and 8.0% of sexual abuse [7]. The prevalence of intimate partner violence during pregnancy in a study conducted in 19 countries ranged that 2% to 13.5% [6]. Domestic violence during pregnancy in less developed countries is about 27.7% higher than in developed countries (13.3%) [7]. Violence against women in Africa is a high and systemic review in sub-Saharan Africa showed that 37% of women were experienced domestic violence with 9.6% sexual, and 24.6% psychological violence [8].

Even though Ethiopia ratifies rules and regulations with international agreements to tackle violence against women,
still it is a major problem in the country [9]. In Ethiopia, studies showed that 50 to 76.5% of women experienced intimate partner violence in their lifetime [10].

Violence during pregnancy can have serious health consequences for women and their children [4]. Effects such as delayed prenatal care, inadequate weight gain, smoking, substance abuse, sexually transmitted infections (STI), vaginal and cervical infections, kidney infections, miscarriages and abortions, premature labor, fetal distress, and bleeding during pregnancy and mental health problems and poor emotional well-being (emotional distress, depression, anxiety, low self-esteem, and poor attachment) are among the effects of violence during pregnancy [20-23]. Studies revealed that socioeconomic conditions, lower age, lower educational level, not living with the companion, childhood abuse, alcohol abuse and drug abuse by the partner are among the factors that increase the occurrence of violence against women [15].

The majority of studies on intimate partner violence during pregnancy measure physical violence, although sexual and psychological abuse during pregnancy is also considered as detrimental for women and their children’s well-being. Thus, this study aimed to assess sexual and psychological violence among pregnant women in Ofla, Tigray, Ethiopia.

2. Methods

2.1. Study Area and Period

The study was conducted in Ofla District, one of the districts in Tigray Regional State, Ethiopia. It is found 619 km away from Adis Ababa, the capital city of Ethiopia. Based on the 2007 census the District has a total population of 143,745, out of this number, 69,810 (48.6%) were male and 79,935 (51.4%) were females [16]. The study was conducted from October 1-30, 2019.

2.2. Study Design and Population

A facility-based cross-sectional survey was conducted among pregnant women. All pregnant women attending ANC in the public health facilities of Ofla were the source population. Pregnant women attending ANC during the data collection period constituted the study population. Pregnants who were unable to interview due to severe medical problems were excluded.

2.3. Sample Size Calculations and Sampling Procedures

The sample size was calculated using simple population formula \( n = \frac{z^2 \cdot p \cdot (1 - p)}{d^2} \), where \( z \) is the normal standard deviation set at 1.96, confidence level specified at 95%, and margin of error \( d \) 5%, 10% nonresponse rate and prevalence of domestic violence \( p \) 44.5% from a previous similar study conducted in Abay Chomen [17]. The calculated sample size for this was 379 and by adding 10% (nonresponse rate) it gives 417. The sample size was also calculated for factors by using Epi-info version-7 with the assumption of a 95% confidence interval, 80% power, 5% degree of precision, and a 10% non-response rate. By using this assumption the calculated sample size was 476. Since the sample size of the second objective (476) was higher than the first objective (417) thus, the final sample was taken 476. All public health facilities were included and population proportion allocation to sample size was done. Pregnants were selected systematically based on their visiting order until the required sample size met.

2.4. Data Collection Procedure and Measurement Tool

Standardized and structured WHO Multicountry study questionnaire for assessing women’s health and violence was used for data collection [18]. The questionnaire was translated into the local language (Tigrigna) and pretested in 24 respondents (5% of the sample size) at Alamata which is out of the study area. The questionnaire includes sociodemographic characteristics (age, ethnicity, educational status, religion, residence, economic status), acceptance of IPV by women (argues with him, burns the food, goes without telling him, failing to complete housework and refusal of men’s request for sex), reproductive health characteristics (the plan of pregnancy, the desirerness of pregnancy, sexual partner status), Decision-making capacity of women at the household issue (on how to use the money, healthcare, major household purchases, and visiting her family or relatives). The questionnaire has three items of psychological violence (insult, humiliation, intimidation, or scared on purpose), and it also includes three items of sexual violence (forced sex without the consent of the woman, having sex when women do not want, having an unusual type of sex that hurts her). The prevalence of violence is the proportion of pregnant women reporting at least one act of sexual and/or psychological violence during the current pregnancy by her husband. Data were collected by 12 midwives (degree holders) who were all females which creates an opportunity for disclosure of violence by the women. Two public health professionals and the principal investigator supervised the data collection procedure. Two days of training was given to data collectors and supervisors.

2.5. Data Processing and Analysis

First, the collected data were coded, checked, and entered into the Epi-data version 4.1 statistical software version and then exported into SPSS version 20 for analysis. Descriptive statistical analyses such as simple frequencies, percentages, measures of central tendency, and measure of variability were used to describe the characteristics of participants and their husbands. Information was presented using narratives, frequencies, summary measures, tables, and figures. The principal component analysis was used to produce wealth quintiles. The bivariable analysis was carried out to see the association of each independent variable with the outcome variable. Variables that have an association with the outcome variable at a p-value of less than 0.25 were selected as candidates for multivariable analysis. The multivariable analysis was performed in the logistic regression up on controlling for the possible confounding factors. Hosmer-
2.6. Ethical Considerations

Ethical clearance was secured from Haramaya University College of Health and Medical Sciences Institutional Health Research Ethics Review Committee. A letter of permission was obtained from Ofa district health office. Informed, written, voluntary, and signed consent was obtained from each head of the health facilities, and each participant after clearly informing them about the purpose, risk, and benefit of the study, the interview was conducted in a separate and calm room in each public health facility.

3. Result

3.1. Background and Other Characteristics of Participants

About 476 respondents were interviewed making a response rate of 100%. The mean age of the participants was 27.5 (SD ±6.3) years. Near to half, 229 (48.1%) of the participants were between the age of 25 and 34 years old. The majority, 326 (68.5%) of the participants were rural dwellers, about 441 (92.6%) were Orthodox Christian and 471 (98.9%) were Tigray in their ethnicity. More than half of the study, the interview was conducted in a separate and calm room in each public health facility.

| Characteristics | Categories          | Frequency | Percentage (%) |
|-----------------|---------------------|-----------|----------------|
| Age             | 15-24               | 166       | 34.9           |
|                 | 25-34               | 229       | 48.1           |
|                 | 35-49               | 81        | 17             |
| Religion        | Orthodox            | 441       | 92.6           |
|                 | Muslim              | 35        | 7.4            |
| Ethnicity       | Tigray              | 471       | 98.9           |
|                 | Amhara              | 5         | 1.1            |
| Residence       | Rural               | 326       | 68.5           |
|                 | Urban               | 150       | 31.5           |
| Educational     | No formal education | 255       | 53.6           |
| status          | Primary school      | 116       | 24.4           |
|                 | High school and     | 105       | 22.1           |

Table 1. Background characteristics of pregnant women and their husbands, attending ANC at public health facilities in Ofa District, Tigray, Ethiopia, 2019 (N=476).

3.2. The Prevalence of Sexual and Psychological Violence

Among 476 interviewed pregnant women, 144 (30.3%; 95% CI: (26%, 34.7%)) had experienced at least one act or treat of sexual and/or psychological violence by their husbands during their recent pregnancy. About 22.7% respondents report psychological violence. Out of this, assaulted or make her to feel bad to her self (19.3%), humiliates infront of others (4.4%), and scare or intimidate on purpose (6.5%). About 15.5% of participants experienced sexual violence. From this number, forced sex (10.1%), did unwanted sex because of fear to the husband (10.7%), and forced to do something sexual that is degrading or humiliating to her (2.3%) were reported.

3.3. Factors Associated with Sexual and Psychological Violence

In the binary logistic regression, educational status, employment status, plan of pregnancy, marriage ceremony, drinking status (husband), acceptance of violence, the interest of pregnancy by husband, economic status, smoking status (husband), discussion making capacity, number of sexual partners (Husband) were associated factors. In the final model, the plan of pregnancy, drinking status, the desiredness of pregnancy, economic status, discussion making capacity, and the number of sexual partners remain the main
significantly associated factors (Table 2).

## Table 2.
Factors independently associated with sexual and psychological violence among pregnant in Ofla District, Tigray, Ethiopia, 2019 (N=476).

| Variables                                  | Violence (%) | No violence (%) | COR 95% CI          | AOR 95% CI          |
|--------------------------------------------|--------------|----------------|---------------------|---------------------|
| Education status                           |              |                |                     |                     |
| No formal education                        | 89 (34.9)    | 166 (65.1)     | 1.63 (0.98, 2.72)   | 0.80 (0.41, 1.58)   |
| Primary school                             | 29 (25)      | 87 (75)        | 1.01 (0.55, 1.87)   | 0.59 (0.28, 1.27)   |
| Secondary and above                        | 26 (24.8)    | 79 (75.2)      | 1                    | 1                   |
| Employment status                          |              |                |                     |                     |
| Merchant                                   | 9 (18)       | 41 (82)        | 0.71 (0.25, 1.99)   | 0.53 (0.15, 1.93)   |
| Housewife                                  | 79 (31)      | 176 (69)       | 1.45 (0.65, 3.19)   | 0.89 (0.29, 2.73)   |
| Unemployed                                 | 47 (35.3)    | 86 (64.7)      | 1.76 (0.77, 4.03)   | 0.78 (0.26, 2.40)   |
| Government employee                        | 9 (23.7)     | 29 (76.3)      | 1                    | 1                   |
| Plan of pregnancy                          |              |                |                     |                     |
| Unplanned                                 | 42 (76.4)    | 13 (23.6)      | 10.1 (5.22, 19.6)   | 3.46 (1.51, 7.95)*  |
| Planned                                    | 102 (24.2)   | 319 (75.8)     | 1                    | 1                   |
| Marriage ceremony                          |              |                |                     |                     |
| No                                         | 21 (36.8)    | 36 (63.2)      | 1.40 (0.79, 2.50)   | 1.15 (0.54, 2.45)   |
| Yes                                        | 125 (29.7)   | 296 (70.3)     | 1                    | 1                   |
| Alcohol use                                |              |                |                     |                     |
| Drinker                                    | 109 (43.6)   | 141 (56.4)     | 4.22 (2.72, 6.54)   | 3.15 (1.92, 5.18)** |
| Non-drinker                                | 35 (15.5)    | 191 (84.5)     | 1                    | 1                   |
| Desiredness of pregnancy (Husband)         |              |                |                     |                     |
| Undesired                                  | 40 (76.9)    | 12 (23.1)      | 10.3 (5.19, 20.3)   | 3.68 (1.54, 8.78)*  |
| Desired                                    | 104 (24.5)   | 320 (75.5)     | 1                    | 1                   |
| Smoking status                             |              |                |                     |                     |
| Smoker                                     | 13 (72.2)    | 5 (27.8)       | 6.49 (2.27, 18.6)   | 2.35 (0.56, 9.96)   |
| Nonsmoker                                  | 131 (28.6)   | 327 (71.4)     | 1                    | 1                   |
| Acceptance of violence                     |              |                |                     |                     |
| Accepted                                   | 119 (36.7)   | 205 (63.3)     | 2.95 (1.82, 4.79)   | 1.51 (0.85, 2.68)   |
| Did not accept                             | 25 (16.4)    | 127 (83.6)     | 1                    | 1                   |
| Wealth index                               |              |                |                     |                     |
| Low                                        | 32 (20.6)    | 123 (79.4)     | 0.33 (0.19, 0.55)   | 0.61 (0.33, 1.11)   |
| Middle                                     | 48 (27.3)    | 128 (72.7)     | 0.48 (0.29, 0.76)   | 0.53 (0.31, 0.92)*  |
| High                                       | 64 (44.1)    | 81 (55.9)      | 1                    | 1                   |
| Discussion making capacity                 |              |                |                     |                     |
| Low                                        | 83 (51.6)    | 78 (48.4)      | 4.43 (2.92, 6.72)   | 2.99 (1.85, 4.82)** |
| High                                       | 61 (19.4)    | 254 (80.6)     | 1                    | 1                   |
| Number of Sexual partners (Husband)        |              |                |                     |                     |
| Two and above                              | 30 (73.2)    | 11 (26.8)      | 7.68 (3.73, 15.8)   | 4.87 (2.07, 11.5)** |
| One                                        | 114 (26.2)   | 321 (73.8)     | 1                    | 1                   |

* p-value<0.05; ** p-value<0.001; COR=crude odds ratio; AOR=adjusted odds ratio.

## 4. Discussion
About 144, 30.3% (95% CI: (26%, 34.7%)) of participants experienced sexual and psychological violence in their current pregnancy. Unplanned pregnancy, having a drinker husband, undesired pregnancy by husband, having middle economic status and husbands’ sexual partner status were significantly associated factors.

The prevalence (30.3%) is in line with the finding from Nepal (27.2%) [19], Turkey (30%) [20]. But the finding in this study is higher than from SouaPolo, Brazil (17.6%) [21], South Africa 15.5% [22], Namibia (8.1%) [12]. The possible reason for the discrepancy might be due to the variation in the sample size, sampling method, and study subjects. However, it is lower than from the finding in Nigeria (55%) [23], Tanzania (65%) [24], and systemic review in Sub-Saharan Africa 37% [8]. The discrepancy might be due to the variation in the definition where others included all types of violence but this study focused only on sexual and psychological violence. The variation could be due to a discrepancy in the definition and duration of the study in which some studies assessed the lifetime occurrence of violence where this study assessed only during a recent pregnancy. The variation could also be due to the difference in the study subjects, and access to information that may increase violence.

Having alcohol drinker husband was 3.15 times higher experienced violence than those their husband did not consume alcohol. This is supported by the finding of systemic review in Ethiopia [11]. The possible reason could be due to the effect of the alcohol content that disturbs the physical and cognitive performance and reducing self-control and judgment that likely increases violence.

Bing unplanned pregnant were 3.46 times more likely to experience violence as compared to planned pregnant. This is consistent with the study conducted in Huletejuensie (Ethiopia) [25]. The reason could be that unintended pregnancy may lead to academic failers, school dropouts and may increase psychological distress that likely increases conflict within the relationship.
Pregnants with medium income were 53% less likely to experience violence as compared to those who had a high income. This is consistent with the finding in Mangalore [26], systemic review in Sub Saharan Africa [8]. The possible reason might be due to the fact the unlimited interest of human beings but the access of the limited resources in our day to day activity that may not be in line with the interest of human beings addition to the increase in demand during pregnancy period that may increase the problem.

Those whose husband did not desire the current pregnancy were 3.86 times more likely to experience violence than those whose husband desired the current pregnancy. This is consistent with the study in Huletejuensie [25]. The possible explanation might be due to the pregnancy could be due to sexual violence and restricting family planning choices by the husband that may increase the occurrence of violence.

Women with low discussion making capacity in the household issue were about three times more likely to experience violence compared to those who have low decision capacity. This is consistent with the finding from Mangalore [26], systemic review in Sub Saharan Africa [8], systemic review in Ethiopia [11]. The reason could be due to male-dominated and controlled all activities of the household that did not give the chance for women to involve in their interest. They may do their day to day activities without there interest this may increases the problem.

Pregnant whose husband had another sexual partners were 4.87 times more likely to experience violence compared to those who had one sexual partner. This is supported by the finding from Turkey [20]. The possible reason could be due to the variation in the culture and religious perspectives of the society in which they only permit one to one relationship.

5. Limitation

There maybe social desirability bias due to the sensitivity of the violence.

6. Conclusion

Overall, about two-thirds of pregnant women were experienced sexual and psychological violence during their current pregnancy. Being unplanned pregnancy, having a drunker husband, undesired pregnancy by husband, having middle economic status, and having a husband who had more than one sexual partner, and low decision-making capacity of women were significantly associated factors with violence. Strengthening women's empowerment and encouraging inter-spousal communication to enhance relationships, and to make join reproductive decisions through community awareness and male involvement in sexual and reproductive health issues are important to reduce the problem.

Abbreviations

ANC: Antenatal care
DV: Domestic Violence
IPV: Intimate Partner Violence
SPSS: Statistical package for social sciences
STI: Sexually Transmitted Disease
WHO: World Health Organization.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that they have no competing interests.

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Financial issues for this work were covered by the authors.

Authors’ Contributions

GA was involved in the inception and design of the study, conducted data collection and entry, performed analysis and interpretation of data, wrote the report, and was a major contributor in writing the manuscript. LO Advised and supported from proposal development to the manuscript preparation. All authors read and approved the final manuscript.

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