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Prevalence of intimate partner violence among reproductive age women with severe mental illness: A cross-sectional study in Addis Ababa, Ethiopia

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Abstract

Objective: To determine the prevalence of intimate partner violence (IPV) among reproductive age women attending psychiatric outpatient services and to identify associated factors.

Design: Cross-sectional facility-based study

Setting: Outpatient psychiatric clinics of public hospitals in Addis Ababa.

Participants: Reproductive age women with severe mental illness attending psychiatric outpatient clinics

Primary and secondary outcome measures: Data was collected by using a multi- culturally validated questionnaire from randomly sampled women with severe mental illness. Multiple logistic regression was done to identify factors independently associated with IPV. Ethical approval was obtained from the St. Paul's Hospital Millennium Medical College Institutional Review Board.

Result: Four hundred twenty-two participants who had follow up at the psychiatric outpatient clinics participated in the study. The lifetime prevalence of any form of IPV among participants was 62.0% (95% CI: 56.1, 68.8). The commonest form of IPV experienced by women was emotional violence [60%; 95% CI: 55.0, 64.7]. One hundred eighty-six [44.1%; (95% CI: 39.3, 48.8)] of respondents had experienced physical or sexual violence during the previous year. History of divorce and having a mental illness for more than five years were associated with any forms of IPV [AOR= 5.64; 95% CI: 2.75, 11.56] and [AOR= 2.23; 95%CI: 1.26, 3.93] respectively.

Conclusion: The high prevalence of IPV among women attending psychiatric outpatient services highlights the need to routinely inquire about IPV and develop effective strategies to prevent it among this vulnerable group.

Keywords: Intimate partner violence, Psychiatric outpatient, Mental illness

Article summary

- There is scarce research on intimate partner violence among women with severe mental illness in Ethiopia and Africa at large.
- We used a multi-country setting validated standard questionnaire, which allows direct comparison of our findings with other available data.
- As a cross-sectional study, our data do not imply causality and temporality relationship between the variables.
- Data were self-reported, which may be limited by recall bias and underreporting; men were not investigated to understand the magnitude and reason for engaging in violence against their partners.
- The study was conducted among women thought to have better access to information, so the findings may not be generalizable to women with mental illness who do not attend psychiatric facilities.

Introduction

Intimate partner violence (IPV) among women is a widespread phenomenon globally (1). According to the WHO definition, IPV includes emotional abuse, physical or sexual violence between current and former partners (2). To date, research on IPV has predominantly focused on experiences of physical violence than the emotional and sexual aspects (3). One-third of the women in the globe experienced IPV at some point in their life (4).

Different studies reported considerable regional variation in the prevalence of IPV (5). In the World Health Organisation's multi-setting study on violence against women in intimate relationships, the prevalence ranged from 15% to 72.7% and 4%–54% in their lifetime and the past 12 months, respectively (6). In the same study, the lifetime prevalence of physical or sexual

violence against women reported to be lowest from Japan and highest from Ethiopia (6). Another Ethiopian study has also reported a 30% prevalence among ever-married women (7). Different factors may play a role in precipitating and maintaining IPV worldwide such as marital status, education, wealth, cultural factors, mental health condition (7-10).

IPV is associated with significant morbidity and mortality, especially among women, and its prevention is a global public health priority(11, 12). Women experiencing IPV have more medical, gynecologic, and stress-related symptoms than non-abused women(11, 13). Associations of IPV with the poor mental and physical health of women have been demonstrated in the international and national numerous studies (14).

There is also strong evidence that women with severe or chronic mental illness experience higher rates of violence than women in the general population (9). Also, IPV is a known risk factor for mental health problems, including depression, post-traumatic stress disorder (PTSD) and suicide attempts (15-17). In addition to being at higher risk of experiencing each type of IPV (emotional, physical and sexual), women with severe mental illness (SMI) such as schizophrenia, bipolar disorder and severe major depression are less likely to protect themselves and seek help than their counter partners without mental illness(12). History of IPV experience is associated with poorer health, including post-traumatic stress disorder, depression, anxiety, and significant impairment in functionality and somatic health (14, 15). Nevertheless, little is known about the prevalence of IPV among reproductive age women with SMI living in low income settings.

Addressing this evidence gap is essential in developing effective interventions in this vulnerable group. Therefore, we aimed to examine the prevalence of IPV and associated factors among women with SMI in Ethiopia.

Methods

Study design and setting

The health facility-based cross-sectional study design was undertaken in Addis Ababa, the capital city of Ethiopia. The city has an estimated population of 3.2 million (18). The study was conducted from December 2016 to May 2017 in four outpatient clinics of public hospitals delivering mental health services by psychiatrists or psychiatric residents. The four hospitals are St. Paul's Hospital, Yekatit 12 Hospital, Zewditu Memorial Hospital and Amanuel Hospital.

Sample Size Determination

The sample size for the study was calculated based on the following assumptions: the prevalence of IPV among women with SMI (Schizophrenia, bipolar disorder and severe major depression) (P=50%) taken to obtain the maximum sample size, Z = 1.96 at 95% confidence level, d = the level of precision (0.05), and adding for non-response of 10 %; this gave a total required sample size of n= 422.

Sampling procedure

In this study, a total of 422 study participants were enrolled. The study subjects were recruited randomly from psychiatric outpatient clinics of the four hospitals. All consenting women aged 18-49 years who presented in the study period were included. Critically ill women, women who were unable to respond to the interviews and who were not in relationship was excluded after assessment by experienced psychiatric nurses for their capacity to consent.

Data Collection Methods and instrument

An interviewer-administered structured questionnaire was used to collect the data. Standardised pre-tested Amharic (National language of Ethiopia) version of a multi-culturally validated World Health Organizations IPV tool was used to collect information relevant for measuring physical, sexual and emotional violence by an intimate partner (6). Sociodemographic characteristics and disease-related characteristics of the participants were also assessed. Women who had experienced IPV were further asked to qualify the type of experience and the timing, i.e. whether it was in the previous twelve months or not. Additionally, the questions on spousal control over the respondent were adopted and used to measure and categorise with different items referring to what a woman could without permission from her spouse/partner, including her healthcare-related activities.

The final Amharic version of the questionnaire was administered by trained and experienced female psychiatric nurses, with an emphasis on a respectful, non-judgemental approach and facilitating the women to be at ease. The participants were interviewed after they had completed their follow up visit as an exit interview.

Data quality was assured by designing a fully structured questionnaire which was pre-tested in twenty participants in different psychiatric outpatient clinics. Three days of training was given for supervisors and data collectors. The collected data were examined for completeness and internal consistency on the same day by supervisors.

Analysis

The data were coded and entered using Epi Data version 3.1 and exported to the Statistical Package for Social Sciences (SPSS) version 20 to be cleaned and analysed. The sociodemographic characteristics and experience of IPV were summarized using descriptive statistics. In bivariate analysis, crude odds ratio and confidence intervals were calculated and used to select candidate

variables for multiple logistic regression analysis using a significance level of P<0.05. Multivariable logistic regression was used to obtain adjusted odds ratios and corresponding 95% confidence interval (CIs).

Ethical considerations

Ethical approval was obtained from the institutional review board of Saint 'Paul's Hospital Millennium Medical College. Written informed consent was obtained from each study participant after informing them in detail about the study objectives, possible risks associated with the study, and the benefits of the study. Participants were informed about their right to participate only on a voluntary basis and to withdraw from the study without providing any explanation. The privacy of the participants was ensured during the data collection and anonymity of the collected data during analysis, interpretation and write up. Participants who needed any psychological support during the data collection were referred for treatment and support.

Results

Sociodemographic characteristics of respondents

A total of 422 women of reproductive age women were approached and participated giving a response rate of 100%. The mean age of respondents was 32.1 ± 6.7 years, with a range of 18 to 46. One-third of the participants were not legally married (32.9%; n=139). Four out of ten women were either illiterate or had only primary level education. Only 27 % of women were employed. (Table 1). The majority (80%) of the participants had the diagnosis of mental illness for more than one year. A significant proportion of the participants 46.3%, n=156 lived with the illness for more than 5 years.

Table 1. Demographic and clinical characteristics of (n=422)

Characteristics	Frequency	Percentage
<25	63	14.9
25-34	186	44.1
>35	173	41.0
Marital status		
Single	139	32.9
Married	187	44.3
Widowed	26	6.2
Divorced	70	16.6
Education		
Tertiary level	60	14.2
Secondary level (high school)	195	46.2
Primary level	123	29.2
Illiterate	44	10.4
Diagnosis		
Schizophrenia	170	40.3
Bipolar disorder	116	27.5
Major depressive disorder	136	32.2
Psychotropic medication		
Antipsychotics	208	49.3
Mood stabiliser	67	15.9
Antidepressant	147	34.8
Duration of treatment in months		
1-24	163	38.6
25-48	91	21.6
49 months and above	168	39.8
Occupation		
No Job	160	37.9
Housewives/students	93	22.1
House maid /Daily laborer	55	13.0
Employed (Formal)	114	27.0

Prevalence of IPV

Lifetime prevalence

In this study, the lifetime prevalence of IPV was 62.0% [95% CI: 56.1, 68.8]. The commonest form of IPV experienced by women was emotional abuse 60% [CI:95% CI: 55.0, 64.7] while 38.6 % [95% CI:34.1,43.6] of participants experienced some form of physical violence in their lifetime. Among those who reported physical violence, significant proportion 25.6 % [95% CI:21.6,29.6] reported severe form of physical violence. The commonest form of severe physical violence was being beaten by fist on the face 21.8% [95% CI:17.3,25.6] followed by, 13% [95% CI:9.7,16.1] being kicked on different parts of their bodies. More than three percent of women who experienced physical violence reported loss of consciousness, incontinence, fracture, or bleeding. Only 2% of participants sought medical service for the incident. Moreover, 38[95% CI:28.7,47.2] % of women who had experienced severe physical violence reported that the incident occurred while they were pregnant.

Regarding sexual violence, nearly one third 31.3% [95% CI:26.8, 36.0] of the study participants reported ever experiencing any form of sexual violence and 25.1% [95% CI:20.9,29.1] were compelled by their partner to have sex.

More than one-third of all respondents, 36.2%; [95% CI:31.3, 41.0], had at least one pregnancy after they received the diagnosis of mental illness. Of these 58.1%; [95% CI:53.1, 62.3] pregnancies were unintended and 53.9% [45.3,63.3] of which ended up in induced abortion. In 29% [95% CI: 21.1,35.9] of these pregnancies arising from forced sexual intercourse, the women resorted to induced abortion and terminated the pregnancy. Additionally, one out of three participants had sexual intercourse before age of 18 putting them at an increased risk of teenage pregnancy.

Twelve months of prevalence

Among women who participated in this survey, 44.1 % [95% CI: 39.3, 48.8], 35.3 % [95% CI:31.0,40.3] and 25.1% [95% CI:21.3,29.9] reported to have experienced, physical and sexual violence within the 12 months preceding the interview, respectively. Of those who reported physical violence, 95% [95% CI:91.3,98.0] of them reported severe, i.e. being hit with a fist or object on the face. Two per cent of them were able to get treatment, and the other two percent spent a night in the hospital for the damage due to the physical attack by their male partner. There was no statistically significant difference in the prevalence of IPV among women by the psychiatric diagnosis.

Emotional violence and spousal control

Almost 60 % of participants had experienced moderate 25.0% [95% CI:21.2,29.3] or severe 34.8% [95% CI:30.0,39.0] forms of emotional violence, and more than 92 % [95% CI:90.0,95.3] were partially or entirely restricted in what they could do, requiring permission from their spouse in their lifetime. More than 70 % [95% CI:67.1,95.3] of participants would not visit healthcare facilities for treatment without getting approval from their partner (Table 2).

Table 2 Spousal control among participants

Types of spousal control	Never N (%)	Yes N (%)
Have you ever been prohibited not to meet your friend by your partner?	210 (49.8%)	212(50.2%)
Does your partner make a restrict /limit limitation on your contact with your family?	234(55.5%)	188(44.5%)
Does your partner insist on knowing where you are all times; always want to know where you are?	189(44.8%)	233(55.2%)
Does your partner ignore or treats you indifferently?	153(36.3%)	269(63.7%)
Does your partner become annoyed when you talk with other men?	113(26.8%)	309(73.2%)
Does, your partner often accuses you of being unfaithful?	148(35.1%)	274(64.9%)
Does your partner want to ask him permission when you go out from home?	117(27.9%)	303(72.1%)
Does your partner want you to ask him permission before visiting health care service?	121(28.7%)	300(71.3%)
Does your partner force you not to express your feeling to other people?	192(45.5%)	230(54.5%)

Factors associated with IPV

In the logistic regression model, marital status, occupation, duration of illness and spousal control were significantly associated with IPV (Table 3). The prevalence of physical and/or sexual violence was significantly higher among unemployed women [AOR=2.35; 95% CI, 1.23, 4.41], daily labourers or housemaids [AOR=3.33; 95% CI, 1.45, 7.61] compared to women who were employed. Moreover, the odds of IPV was higher among women with history of being divorced [AOR=4.97; 95% CI, 2.36, 10.45] and non-married women [AOR=3.56; 95% CI, 2.09, 6.04] compared to currently married women. The study also depicted that women who were diagnosed with mental illness more than 5 years ago were more likely to experience IPV compared to women

who are newly diagnosed [AOR=2.11; 95% CI, 1.17, 3.82]. However, the study did not find a difference in the experience of IPV by level of income or educational level (Table 3).

Table 3. **Factors Associated with Intimate Among Women with severe mental illness**

Characteristics	IPV		COR (95% CI)	AOR (95%CI)
	Yes N (%)	No N (%)		
Income				
Yes	165(67.6)	79(32.4)	1.67(1.12,2.48)	1.08(0.64,1.82)
No	99(55.6)	79(44.4)	1	1
Occupation				
Unemployed	117(73.1)	43(26.9)	2.63(1.58,4.36)	**2.35(1.23,4.41)**
House wives/Student	46(49.5)	47(50.5)	0.94(0.55,1.63)	1.49(0.77,2.88)
Daily labourer / House maid	43(78.2)	12(21.8)	3.46(1.65,7.24)	**3.33(1.45, 7.61)**
Formal employment	58(50.9)	56(49.1)	1	1
Marital status				
Married	83(44.4)	104(55.6)	1	1
Divorced	59(84.3)	11(15.7)	6.72(3.32,13.60)	**4.97(2.36,10.45)**
Widowed	16(61.5)	10(38.5)	2.05(0.86,4.64)	1.74(0.72,4.19)
Single	106(76.3)	33(23.7)	4.03(2.48,6.54)	**3.56(2.09, 6.04)**
Education				
Beyond High school	35(58.3)	25(41.7)	1	1
High school	124(63.6)	71(36.4)	1.25(0.69,2.25)	0.96(0.49,1.86)
Elementary	76(61.3)	48(38.7)	1.13(0.60,2.12)	0.86(0.40,1.83)
Illiterates	29(67.4)	14(32.6)	1.48(0.65,3.36)	1.38(0.54,3.56)
Duration of illness				
Less than 1 yr.	41(48.2)	44(51.8)	1	1
1 – 5 yrs	87(58.4)	62(41.6)	1.50(0.88,2.57)	1.25(0.69,2.26)
>5yrs.	136(72.3)	52(27.7)	2.81(1.649,4.78)	**2.11(1.17, 3.82)**

Discussion

Despite high prevalence reports of IPV in community-based studies in Ethiopia, there is no study which focused on women with severe mental illness. In this study, we found a high prevalence of lifetime and recent IPV in this vulnerable group of population.

A substantial proportion (62%) of women reported IPV in their life time, which happened relatively frequently, suggesting that this is a common experience among women with severe mental illness. This finding is similar with the study from rural Ethiopia which reported 60.7% violent against people with SMI(19).Likewise the finding of IPV in this study is as high as the WHO community prevalence study report from Ethiopia which is 72% (20) and Tanzanian study (61%) (21) but higher than the community study in northern Ethiopia (22) and a report from systematic review which is 33% IPV among women with SMI attending outpatient clinic(23) The difference can be explained by study population differences as the participants of the northern Ethiopian study were women in the rural community while our study participants were urban residents and higher educational level. This study also reported (44%) recent intimate partner violence which is higher than studies from high income countries such as 21% of past twelve month IPV reported from UK(24) and 30.3 % in Spain(25).This is consistent with the assertion that that women with SMI constitute a vulnerable segment of the population who need special protection (9) and the need that health professionals should enquire about all types of recent IPV, among women with SMI.

Generally, our finding is consistent with reports from other sub-Saharan African countries (15). As these studies indicated, IPV is common social, public health and human rights concerns among women with severe mental illness (26).

We also found a high prevalence of physical violence in this study (38.5%) which is comparable with other results from some African countries (26) and Asian such as India and Vietnam (27) and lower than rural Ethiopian finding (20). Our findings may reflect underreporting of IPV by this vulnerable group who might be more dependent on their partners for support towards the care of their mental illness. This is a crucial psychosocial issue with detrimental effects on the course of the

pre-existing mental illness hence contributing to gender disparities in the treatment outcomes of SMI

Despite a significant number of participants who reported physical violence in this study, only a small proportion sought health care for their injuries. This is consistent with the low level of health-seeking behaviour for IPV related injuries as reported by other studies in Ethiopia and other global studies (5, 28, 29). Varying degree of emotional violence also reported in 60% of participants, which is consistent with findings from Tanzania (21). It also has a significant association with poor mental health as reported by other African countries (21, 30, 31). In this study, we found that both violence and spousal control are common social, public health and human rights concerns among women with SMI. We found that physical violence was associated with other types of violence; this is consistent with research has shown that physical violence is often associated with psychological or and sexual coercion. Mental health care providers need to routinely inquire about IPV during outpatient visits so that appropriate interventions can be offered. Our study did not find an association between women's education and IPV which in contrast to is to the study from east Africa (26).

Strength and limitations

Despite the weaknesses of this research; which included being hospital-based study, purely urban sample and cultural bias of reporting, we have attempted to minimise non-disclosure and discomfort by having female experienced psychiatric nurses for interviewing the participants. This study has strengths which include the use of a standardised multiculturally validated tool questionnaire which allow comparison of the findings from different parts of the globe. We believe that the findings of the current study will help other researchers to further investigate the observed relationships through longitudinal studies with larger samples and the impact of these experience in the prognosis

of their mental illness. To reduce the burden of mental illness, continued research is recommended for evaluating IPV preventive strategies. IPV was found to be associated with employment status, however, causality cannot be determined due to the cross-sectional study. Further studies are needed to develop interventions aimed at reducing IPV among women with SMI and test their effectiveness. Although the participation was optional, no woman refused to participate in this study adds to the strengths of our findings.

Conclusions

Intimate partner violence was found to be highly prevalent among women with severe mental illness in Ethiopia. Given the detrimental effect of IPV on mental health, it may contribute to disparities in the outcomes of women with SMI. IPV is more prevalent among the unemployed and those with a longer duration of mental illness.

Psychiatric outpatient clinics are important point of contact for women with mental illness who are experiencing IPV. The treatment for mental disorders needs to include effective packages of interventions for women who are also victims of IPV. Mental health professionals play a key role in addressing IPV in this population.

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Author Contributors

We declare that all authors have made substantial contributions. TZ, MT, ND and DB conceptualize conceived the study, developed the design. TZ and ND collected and managed data. TZ, ND and DB performed the preliminary data analysis. TZ and MT performed the final data analysis. All authors contributed to interpretation of results. TZ drafted the manuscript and all authors contributed to critical revisions of the manuscript. All authors read and approved the final manuscript.

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Competing interest, the authors declare that they have no competing interests.

Data availability statement

The authors confirm that the availability of data. Dataset is not publicly available at this point because it contains sensitive information. The data that support the findings of this study are available from the corresponding author, [TZ], upon reasonable request.

Consent for publication

Not applicable.

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General Questions
1. Code Number_____ 2. Date of interview _____/_____/_____
4. Result of the interview 4.1 Complete 4.2 Incomplete 4.3 Refused
5. Checked by Investigator: Signature _____ Date: _____/_____/_____ (Day/ Month/ Year)

Interviewer	**Interviewer**: **INTRODUCE YOURSELF TO THE CLIENT**
	Hello, My name is .....… We are conducting a study to improve the availability and quality of family planning services for psychiatry clients. As part of this, I would like to ask you some questions about the services you have received. There is no risk if you agree to participate in the interview. All the information that you give to me will be kept strictly confidential; your name will not be used, and you will not be identified in any way. Your current and future care at this facility will not be affected in any way. This interview should take approximately 30 minutes to complete. Your participation is absolutely voluntary, and there is no penalty for refusing to take part. You are free to ask any questions; you may refuse to take part in the interview; you may refuse to answer any question in the interview, and you may stop the interview at any point.

	_____ Interviewer's Signature (Indicates Respondent's willingness to participate)		Date: __/__/_
Interviewer	**PART I. Socio-demographic characteristics**		SKIP TO
1.1	How old are you?	_____Years (age in completed years)	
1.2	What is your religion?	1. Orthodox 2. Catholic 3. Muslim 4. Protestant 5. Other (specify)	
1.3	What is the highest educational level you completed?	1. Tertiary education 2. High school 3. Primary education 4. Able to read and Write-------- 5. Unable to read & Write ------- 6. No response ---------- 7. Other specify ---------	
1.4	What ethnic group do you belong to?	1. Oromo ---------- 2. Amhara---------- 3. Somali---------- 4. Tigre ---------- 5. Gurage ---------- 6. Other (specify) ------	

1.5	What is your current marital / relationship status?	1. Married/cohabited ------ 2. Single, never married ---------- 3. Widowed ---------- 4. Divorced ---------- 5. Non-married partner ---- 6. No response ----------	
1.6	What is your total monthly income?	1. Your own income---------- Eth.Birr 2. Husband's income---------- Eth.Birr 3. Other income sources ____ Eth.Birr 4. No income ---------- 5. Don't know her own income 6. Don't know her partner income 7. No response ---------- 8. Other (specify)----------	

1.7	What is your current occupation?	1. Unemployed ---------- 2. Student ---------- 3. Housewife ---------- 4. House servant --------- 5. Daily laborer ---------- 6. Merchant ---------- 7. Government employee 8. Private employee ------- 9. Other (specify)----------	
1.8	How long ago did you know that you know you have a psychiatric illness?	Years --------- and Months ------	
1.9	For how long were having treatment and follow up at psychiatric clinic	Years --------- and Months ------	
1.9.	What is your specific diagnosis? (May be copied from the medical record)		
1.10	Have you started taking any medication?	1. Yes--------- 2. No------	If No Skip to 1.12

1.11	If you have started taking medications, what are the medications you are taking? (May be copied from the medical record)		
	Part II. Sexual history		
2.1	Have you ever had sexual intercourse?	1. Yes--------- 2. No------ 3. No response----------	Skip to 3.6
2.2	If yes, at what age did you have sex for the first time?	1. _____ Years old 2. Don't remember------- 3. No response--------	
2.3	Was your first sexual experience forced or you didn't want it	1. Yes 2. No 3. No response	
2.4	Have you ever had sexual intercourse without your will?	1. Yes 2. No 3. No response	
2.5	Do you have a history of STIs?	1. Yes……. 2. No ……. 3. Don't Know	
	PART III. Child desire information		
3.1.	Have you ever been pregnant?	1. Yes --------- 2. No----------	skip to 3.8
3.2.	What is the total number of pregnancies did you have in the past?		

3.3.	How many of the pregnancies were after you was diagnosed to have a psychiatric problem?		
3.4.	Was your last pregnancy wanted/planned?	1. Yes ---------- 2. No ---------- 3. Don't know --------	
3.5.	Have you ever given birth?	1. Yes--------- 2. No----------	Skip to 3.8
3.6.	Would you like to have children, or more children, in the future?	1. Yes ---------- 2. No ---------- 3. Don't know -------- 4. No response ---------	Skip to 4.1 Skip to 4.1 Skip to 4.1
3.7.	Have you ever had an unwanted pregnancy?	1. Yes…….. 2. No ……. 3. No response…….	
3.8.	Have you ever had an induced abortion?	1. Yes---------- 2. No---------- 3. No response----------	If No Skip to 4.1
3.9.	If yes, how many times?	_____	
3.10.	If yes to question yes 3.13 what was the reason?	1. It was unplanned pregnancy 2. Fear of teratogenicity from antipsychotic drugs	
	PART V. Family planning use and fertility intentions		

1.1.	Have you (or your partner) ever used a family planning method before?	1. Yes ---------- 2. No ---------- 3. Don't remember ------ 4. Don't know ---------	 Skip to 4.5 Skip to 4.5 Skip to 4.5
1.2.	Are you/your partner/ using a family planning method currently (during the study period)?	1. Yes ---------- 2. No ---------- 3. I don't know ----------	 Skip to 4.5 Skip to 4.5
1.3.	If yes for question 5.3, specify the method you are using? (More than one answer can be possible)	1. Condom ---------- 2. Pill (OCP) ---------- 3. Injectable ---------- 4. IUD ---------- 5. Implants --------- 6. Tubal ligation /Vasectomy --- 7. Breastfeeding	After all responses, skip to 4.8

Intimate partner violence Questionnaire

F1.	Now, I'd like to ask you some questions about how your husband interacts with you. In the **last twelve months**, did your husband ever:	YES / NO	**If YES**, How often did this happen **in the last 12 months**: often, only sometimes or rarely.			
	a) Insulted you or made you feel bad about yourself	a) 1. [ ] Yes 2. [ ] No	aa) 1. [ ] Often 2. [ ] Sometimes 3. [ ] Rarely			
	b) Belittled or humiliated you in front of other people?	b) 1. [ ] Yes 2. [ ] No	bb) 1. [ ] Often 2. [ ] Sometimes 3. [ ] Rarely			
	c) Do things to scare or intimidate you on purpose (eg by the way he looked at you, by yelling and smashing things)?	c) 1. [ ] Yes 2. [ ] No	cc) 1. [ ] Often 2. [ ] Sometimes 3. [ ] Rarely			
	d) Threatened to hurt you or someone you care about?	d) 1. [ ] Yes 2. [ ] No	dd) 1. [ ] Often 2. [ ] Sometimes 3. [ ] Rarely			
F2.	Has your your husband ever done any of the following things to you?	A. **If Yes, continue with B. If NO, skip to next item.**	B. Has this happened in the past 12 months? **(If YES ask C only. If NO ask D only.)**	C. In the past 12 months would you say this has happened once, a few times, or many times? **(After answering C, skip D)**	D. Before the past 12 months would you say that this has happened once, a few times, or many times?	
		a) 1. [ ] Yes 2. [ ] No	a) 1. [ ] Yes 2. [ ] No	**One Few Many** **1 2 3** a) 1. [ ] 2. [ ] 3. [ ]	**One Few Many** **1 2 3** a) 1. [ ] 2. [ ] 3. [ ]	
	a) Slapped you or thrown something at you that could hurt you?	b) 1. [ ] Yes 2. [ ] No	b) 1. [ ] Yes 2. [ ] No	b) 1. [ ] 2. [ ] 3. [ ]	b) 1. [ ] 2. [ ] 3. [ ]	
	b) Pushed you or shoved you?	c) 1. [ ] Yes 2. [ ] No	c) 1. [ ] Yes 2. [ ] No	c) 1. [ ] 2. [ ] 3. [ ]	c) 1. [ ] 2. [ ] 3. [ ]	
	c) Hit you with his fist or something that could hurt you?	d) 1. [ ] Yes 2. [ ] No	d) 1. [ ] Yes 2. [ ] No	d) 1. [ ] 2. [ ] 3. [ ]	d) 1. [ ] 2. [ ] 3. [ ]	
	d) Kicked you, dragged you or beaten you up?	e) 1. [ ] Yes 2. [ ] No	e) 1. [ ] Yes 2. [ ] No	e) 1. [ ] 2. [ ]	e) 1. [ ] 2. [ ]	

				3. [ ]	3. [ ]
	e) Choked or burnt you on purpose?	f) 1. [ ] Yes 2. [ ] No	f) 1. [ ] Yes 2. [ ] No	f) 1. [ ] 2. [ ] 3. [ ]	f) 1. [ ] 2. [ ] 3. [ ]
	f) Threatened to use or actually used a gun, knife or other weapon against you?	g) 1. [ ] Yes 2. [ ] No	g) 1. [ ] Yes 2. [ ] No	g) 1. [ ] 2. [ ] 3. [ ]	g) 1. [ ] 2. [ ] 3. [ ]
	g) Physically force you to have sexual intercourse with him even when you did not want to?	h) 1. [ ] Yes 2. [ ] No	h) 1. [ ] Yes 2. [ ] No	h) 1. [ ] 2. [ ] 3. [ ]	h) 1. [ ] 2. [ ] 3. [ ]
	h) Force you to perform sexual acts you did not want to?	i) 1. [ ] Yes 2. [ ] No	i) 1. [ ] Yes 2. [ ] No	i) 1. [ ] 2. [ ] 3. [ ]	i) 1. [ ] 2. [ ] 3. [ ]
	i) Did you ever have sexual intercourse because you were intimidated by him or afraid he would hurt you? **Note: If the respondent reports no violence, SKIP TO F78.**				

ጠቅላላ ጥያቄዎች

1. መለያ ቁጥር_____
2. መጠይቁ ተደረገበት ቀን_____/_____/_____
   (ቀን/ ወር/ ዓ.ም.)

3. የመጠይቁ ሁናቴ
   - 3.1 የተሟላ
   - 3.2 ያልተሟላ
   - 3.3 ተቋውሞ
   - 3.4 ሌላ

4. በተመራማሪውየተረጋገጠ.....ፊርማ.....ቀን:_____/_____/_____ (ቀን/ ወር/ ዓ.ም)

መጠይቅ አድራጊው	ቃለ መጠይቅ አድራጊው እራስዎን ለተሳታፊው ያስተዋውቁ
	ጤና ይስጥልኝ ስሜ.....በአእምሮ ህክምና አገልግሎት ተጠቃሚዎች ላይ የቤተሰብ እቅድ አገልግሎት አጠቃቀም ላይ ምርምር እያደረግን ነው::ስለሆነም ስለአገኙት አገልግሎት አንዳነድ መጠይቆችን አደርግልዎታለሁ::u²=I Ø“ƒ uSd}õ- U”U ›Ã’ƒ Ñ<Çƒ ›Ã•`U ::u²=I Ø“ƒ ¨pƒ ¾T>Öc<ƒ ማንኛውም መረጃ S[Í T>eØ^©’~ ¾}Öuk ’¨<:: S[Í¨< ¨Å ¢Uú¨<}` ŸÑv u%EL SKÁ eKTÃ•[¨< T>eØ^© ÃJ“M T”—¨<U ¾`f” T”’ƒ ¾T>ÑMê S[Í uêG<õ J” unM ›Ã¨×U::uተቋሙአሁን ወይም ወደፊት በሚያገኙት አገልግሎት ላይ ምንም አይነት ተፅዕኖ አይኖረውም:: Ãl” SÖÃp SS<Lƒ cLd Åmn w‰ ÁeðMÑªM:: u²=I Ø“ƒ ¨<eØ ¾T>d}óƒ S<K< uS<K< u`f ðnÅ˜’ƒ eKJ’ uT”— ¨<U ¨pƒ Ø“~” TqU Ã‹LK<:: S[Í ¾cÖ< u=J”U ”'D” ስለጥናቱ ሊጠይቁኝ የሚፈልጉት ነገር ይኖራልን? አዎ የለም-------- በጥናቱ ውስጥ ለመሳተፍ ፈቃደኛ ነዎት? አዎ የለም---------- መልሱ የለም ከሆነ ፣አባክዎ አመስግነው ያሰነብቱዋቸው
	በመጠይቅ አድራጊው የተረጋገጠ (ለመሳተፍ ፈቃደኝነቱን) ፊርማ ቀን: ____/____/_____ (ቀን/ ወር/ ዓ.ም)

በመጠይቅ አድራጊው	**ክፍል አንድ Socio-demographic characteristics**		SKIP TO
1.1	አድሜዎ ስንት ነው?	_____ አመት በሙሉ ቁጥር ይቀመጥ	
1.2	GÃT•ƒ- U”É” ’¨<	1. *`„Êje j`e+Á” 2. ካ„K=j 3. ፕሮቲስታንት 4. S<eK=U 5. K?L ÃÑKî	
1.3	ከፍተኛ ¾ƒUI`ƒ Å[Í-	1. ሶሰስተኛ ደረጃ(ከሃይስኩል በላይ) ሁለተኛ ደረጃ /ሃይስኩል 2. የመጀመሪያ ደረጃ 3. ማነቡብ እና መፃፍ መቻል 4. ማነቡብ እና መፃፍ ያለመቻል 5. መልስ የለም 6. አላወቅም	
1.4	የጋብቻ ሁናቴ	1. ÁÑu< 2. ¾}KÁ¿ /¾}ó~ 3. vKu?⍰†¨< ¾V}v†¨< 4. ÁLÑu< 5. ›w[¨< ¾T>•\ (IÒ© ÁMJ’ Òw‰) 6. መልስ አልተሰጠም	
1.5	አጠቃላይ የወር ገቢዎ ምን ያህል ነው?	1. የራስዎ ገቢ----------ብር 2. የባለቤትዎ ገቢ----------ብር 3. ሌላ የገቢ ምንጭ 4. የራሴን ገቢ አላወቅም 5. የባለቤቴን ገቢ አላወቅም 6. ገቢ የለንም--------- 7. መልስ የለም ---------- 8. ሌላ(ይገለፅ)----------	
1.6	የስራ ሁኔታ?	1. ስራ የሌለው 2. ተማሪ 3. የቤት እመቤት 4. የቤት ሰራተኛ 5. የቀን ሰራተኛ 6. ነጋዴ 7. የመንግስት ተቀጣሪ የግል ድርጅት ሰራተኛ 8. ሌላ (ይገለጽ)	
1.7	የአእምሮ ህመም እነዳለብዎ ያወቁት መቼ ነው?	_____ አመት እና----------ወሮች	በወራት ቁጥር ይቀመጥ

1.8	ለምን ያህል ጊዜ በአእምሮ ህመ ምህክምናና ክትትል ቆይተዋል	___ወሮች	በወራት ቁጥር ይቀመጥ
1.8	ህመምዎምንድነው(ከካርድሊታይይችላል)?	----------	
1.9	መድሃኒትመውሰድጀምረዋል?	1. አዎ--------- 2. የለም------	If No Skip to 2.1
1.10	መድሃኒት እየወሰዱ ከሆነ ፣የሚወሰወዱ.ቸው መድህኒቶች ምን ምን ናቸው?(ከካርድ ሊ.ታይ ይችላል)?	- ----------	
	Part II. Sexual history		
2.1	ወሲብ አደርገው ያው.ቃሉ?	1. አዎ--------- 2. የለም ------ 3. መልስ የለም ----------	Skip to 3.6
2.2	መልስዎ አዎ ከሆነ በየትኛው እድሜዎ ለላ ነው ለመጀመሪያ ጊዜ ያደረጉት?	1. _____ አሙቴ ላይ 2. አላስታውሰውም 3. መልስ የለም ----------	
2.3	የመጀመሪያ የወሲብ ግንኙነትዎ በግዳጅ ውይም ሳይፈልጉ የሆነ ነበር?	1. አዎ--------- 2. የለም ------ 3. መልስ የለም ----------	
2.4	ከፍላጎትዎ ውጪ ወሲብ አድርገው ያው.ቃሉ?	1. አዎ--------- 2. የለም ------ 3. መልስ የለም ----------	
2.5	የአባላዘር በሽታ ዘዎት ያው.ቃል?	1. አዎ--------- 2. የለም ------ 3. አላው.ቅም 4. መልስ የለም ----------	
	PART III. Child desire information		
3.1.	አርግዘው ሆነው ያው.ቃሉ?	1. አዎ--------- 2. የለም ------	skip to 3.8
3.2.	በአጠ.ቃላይ ምነ ያህል እረግዝና ነበርዎ/ስነት ጊዜ አርግዘው ነበር?	----------	
3.3.	ምን ያህል እረግዝናዎቹ ናቸው አእምሮ ህመምዎን ካወቁ በኋላ የነበሩት ?	----------	
3.4.	የመጨረሻው እረግዝናዎ /የታቀደ /የተፈለገ ነበር?	1. አዎ--------- 2. የለም ------ 3. መልስ የለም ----------	
3.5.	ልጅ ወልደው ያው.ቃሉ ?	1. አዎ--------- 2. የለም ------	Skip to 3.8

3.6.	ወደፊት ልጅ መውለድ ወይም ተጨማሪ ልጆች ማግኘት ይፈልጋሉ?	1. አዎ--------- 2. የለም ------ 3. አላውቅም 4. መልስ የለም ----------	 Skip to 3.ıı Skip to 4.1 Skip to 4.1
3.7.	ያልተፈለገ እረግዝና ኖርዎት ያውቃል	4. አዎ--------- 5. የለም ------ 6. መልስ የለም ----------	
3.8.	እረግዝናአሰወርደው ያውቃሉ?	1. አዎ--------- 2. የለም ------ 3. መልስ የለም ---------- 4.	If No Skip to 4.1
3.9.	አዎ ከሆነ ስንት ጊዜ?	_____	
3.10.	ለጥያቄ 3.13 አዎከሆነምክኒያትዎምንነበር?	1. እርግዝናው ያልታቀደ ነበር 2. ከመዳኒቱ የሚመጣውን ጉዳት በመፍራትs 3. እረግዝናው የተፈጠረው በግዳጅ /ያለፈቃድ በተፈፀመ ወሲብ ነው 4. ሌላ(ይገለፅ) _____	
	PART V. Family planning use and fertility intentions		
5.1.	እርስዎ ወይም የትዳር ኢጋርዎ የቤተሰብ እቅድ አገለግሎት ተጠቅመው ያውቃሉ?	1. አዎ ---------- 2. የለም ---------- 3. አላስታውስም	 Skip to 5.5 Skip to 5.5

5.2.	መልስዎ ለጥያቄ 5.1 አዎ ከሆነ እባክዎ ዘዴውን /አይነቱንይነገሩን (ከአንድ መልስ በላይ መስጠት ይቻላለል?	1. ኮንዶም 2. እንክብል/ኪነን 3. መርፌ 4. ሉፕ/በማህጸን የሚቀመጥ 5. ኢምፕላነት /በክንድ የሚቀበር 6. የማህጸፀን ቱቦ ማሰቋጠር/ማከላሸት 7. ጡት ማጥባት 8. ማቋረጥ/የዘርፍሬን ከውጪ ማፍሰስ 9. ቀን ቆጥሮ የመጠቀም ዘዴ 10. መልስ የለም 11. ሌላ(ይገለፅ)	
5.3.	እርስዎ ወይም የትዳር አጋርዎ የቤተሰብ እቅድ አገለግሎት አሁን በመጠቀም ላይ ናቸሁ?(በጥናቱ ወቅት)	1. አዎ ---------- 2. የለም ---------- 3. አላስታውስም 4. መልስ የለም -------	Skip to 5.5 Skip to 5.5
5.4.	መልስዎ ለጥያቄ 5.3 አዎ ከሆነ እባክዎ ዘዴውን /አይነቱንይነገሩን (ከአንድ መልስ በላይ መስጠት ይቻላለል?	1. ኮንዶም 2. እንክብል/ኪነን 3. መርፌ 4. ሉፕ/በማህጸን የሚቀመጥ 5. ኢምፕላነት /በክንድ የሚቀበር 6. የማህጸፀን ቱቦ ማሰቋጠር/ማከላሸት 7. ጡት ማጥባት 8. ማቋረጥ/የዘርፍሬን ከውጪ ማፍሰስ 9. ቀን ቆጥሮ የመጠቀም ዘዴ 10. መልስ የለም 11. ሌላ(ይገለፅ)	

የመጠይቅ አድራጊው አስተያየት----------

እባክዎ ተሳታፊውን ስለ ተሳትፎአቸው እና ስለ ጊዜአቸው አመስግነው ያሰናብቱዋቸው

F56.	በመቀጠል የምጠይቆ ለብዙ ሴቶች እውነት ስለሆኑ ሁኔታዎች ነው፡፡ በአሁኑ ጊዜ ያለው ባለቤትዎ በማሰብ

	ከዚህ በታች የተዘረዘሩት ሃሳቦች በአጠቃላይ የመልሱልኝ፡፡ **ባለቤትዎ ..... ፡ -**	
	a) የራስዎን ጓደኛ እንዳያገኙ ለማድረግ ሙከራ ያደርጋሉ፡፡	a) 1. [ ] አዎን 2. [ ] አይደለም
	b) ከወላጆችዎ ወይም ከቤተሰብዎ ጋር ያለዎትን ግንኙነት ውስን እንዲሆን ያደርጋሉ፡፡	b) 1. [ ] አዎን 2. [ ] አይደለም
	c) ሁል ጊዜ የት እንዳሉ ማወቅ ይፈልጋሉ፡፡	c) 1. [ ] አዎን 2. [ ] አይደለም
	d) ቸል ይሎዎታል ለየት ባለ መልኩ አይንከባከብዎትም፡፡	d) 1. [ ] አዎን 2. [ ] አይደለም
	e) ከሌላ ወንድ ጋር ቢያወሩ ወይም ቢያነጋግሩ ይበሳጫሉ፡፡	e) 1. [ ] አዎን 2. [ ] አይደለም
	f) ብዙ ጊዜ ታማኝነትዎን ይጠራጠራሉ፡፡	f) 1. [ ] አዎን 2. [ ] አይደለም
	g) ከቤት ከመውጣትዎ በፊት እንዲያስፈቅዱቸው ይጠብቃሉ፡፡	g) 1. [ ] አዎን 2. [ ] አይደለም
	h) ሕክምና ከማድረግዎ በፊት አንዲያስፈቅዱቸው ይጠብቃሉ፡፡	h) 1. [ ] አዎን 2. [ ] አይደለም
	i) በአደባባይ ሃሳብዎን እንዳይገልፁ/ እንዳይናገሩ ይከለክልዎታል?	i) 1. [ ] አዎን 2. [ ] አይደለም

F57.	አሁን ባለፉት 12 ወራት ባለቤትዎ ከርሶ ጋር ስላለው ግንኙነት እጠይቆታለሁ፡፡ **ባለፉት 12 ወራት ባለቤትዎ፤.....**		መልስዎ አዎን ከሆነ፤ ባለፉት 12 ወራት ምን ያህል ጊዜ ተፈጠረ
	a) ሰድቦዎት ወይም ስለራስዎ መጥፎ ስሜት እንዲሰማዎ አድርጐዎታል?	a) 1. [ ] አዎ 2. [ ] የለም	aa) 1. [ ] አልፎ አልፎ 2. [ ] አንዳንዴ/ብዙጊዜ 3. [ ] ሁልጊዜ
	b) ሰዎች ፊት አሸማቆዎ፤ አዋርዶዎት ወይም አሳንሶዎት ያውቃሉ?	b) 1. [ ] አዎ 2. [ ] የለም	bb) 1. [ ] አልፎ አልፎ 2. [ ] አንዳንዴ/ብዙጊዜ 3. [ ] ሁልጊዜ
	c) እርስዎን ሆን ብለው አስፈራርቶዎ አዋርደዎ/ ዝቅተኝነት እንዲሰማዎት አድርገው ያውቃሉ?	c) 1. [ ] አዎ 2. [ ] የለም	cc) 1. [ ] አልፎ አልፎ 2. [ ] አንዳንዴ/ብዙጊዜ 3. [ ] ሁልጊዜ
	d) እርስዎን ወይም የእርስዎ የሆነን ሰው ለመጉዳት አስፈራርተዎት ያውቃሉ?	d) 1. [ ] አዎ 2. [ ] የለም	dd) 1. [ ] አልፎ አልፎ 2. [ ] አንዳንዴ/ብዙጊዜ 3. [ ] ሁልጊዜ

F58.	ባለቤትዎ ከዚህ በታች ከተዘረዘሩት መሃል ፈጽመውቦት ያውቃል? **በህይወት ዘመንዎ ባለቤትዎ.....**	A. መልስዎ አዎን ከሆነ ወደ ጎን ይቀጥሉ መልስዎ የለም ከሆነ ወደሚቀጥለው (ወደ ታች) ይታለፍ	B. ይሄ የሆነው ባለፉት 12 ወራት ነበር? (አዎን ከሆነ Cን ብቻ ይጠይቁ የለም ከሆነ Dን ብቻ ይጠይቁ)	C. ባለፉት 12 ወራት ይሄ የሆነው ምን ያህል ጊዜ ነው? 1. አልፎ አልፎ 2. አንዳንዴ 3. ሁልጊዜ? (C, ከመለሱ Dን ይታለፍ)	D. ከ12 ወራት በፊት ባለው ጊዜ ይሄ ምን ያህል ጊዜ ሆነ 1. አልፎ አልፎ 2. አንዳንዴ 3. ሁልጊዜ?
	a) በጥፊ መተዎት ወይም የሚጐዳ ነገር ወርውሮቦት ያውቃሉ?	a) 1. [ ] አዎ 2. [ ] የለም	ab)1. [ ] አዎ 2. [ ] የለም	ac)1. [ ] 2. [ ] 3. [ ]	ad)1. [ ] 2. [ ] 3. [ ]
	b) ገፍትሮዎት ያውቃሉ ?	b) 1. [ ] አዎ 2. [ ] የለም	bb)1. [ ] አዎ 2. [ ] የለም	bc)1. [ ] 2. [ ] 3. [ ]	bd)1. [ ] 2. [ ] 3. [ ]

	c) በቦክስ፤ በሌላ የሚጐዳ ነገር መቶዎት ወይም ደብድቦዎት ያውቃሉ?	c) 1. [ ] አዎ 2. [ ] የለም	cb)1. [ ] አዎ 2. [ ] የለም	cc)1. [ ] 2. [ ] 3. [ ]	cd)1. [ ] 2. [ ] 3. [ ]
	d) በእርግጫ ወይም በሌላ ነገር መቶዎት ወይም ጐትቶዎት ያውቃሉ?	d) 1. [ ] አዎ 2. [ ] የለም	db)1. [ ] አዎ 2. [ ] የለም	dc)1. [ ] 2. [ ] 3. [ ]	dd)1. [ ] 2. [ ] 3. [ ]
	e) ሆን ብለው አፍነዎት ወይም አቃጥሎዎት ያውቃሉ?	e) 1. [ ] አዎ 2. [ ] የለም	eb)1. [ ] አዎ 2. [ ] የለም	ec)1. [ ] 2. [ ] 3. [ ]	ed)1. [ ] 2. [ ] 3. [ ]
	f) በሽጉጥ፤ በጩቤ ወይም በሌላ መሳሪያ አስፈራርቶዎት ወይም ጐድቶዎት ያውቃሉ?	f) 1. [ ] አዎ 2. [ ] የለም	fb)1. [ ] አዎ 2. [ ] የለም	fc)1. [ ] 2. [ ] 3. [ ]	fd)1. [ ] 2. [ ] 3. [ ]
	g) እርሶ ሳይፈልጉ ጉልበት በመጠቀም የግብረ-ስጋ ግንኙነት እንዲፈጽሙ ተገደው ያውቃሉ?	g) 1. [ ] አዎ 2. [ ] የለም	gb)1. [ ] አዎ 2. [ ] የለም	gc)1. [ ] 2. [ ] 3. [ ]	gd)1. [ ] 2. [ ] 3. [ ]
	h) አንድ የማይፈልጉት አይነት የግብረ-ስጋ ግንኙነት ለመፈፀም ተገደው ያውቃሉ?	h) 1. [ ] አዎ 2. [ ] የለም	hb)1. [ ] አዎ 2. [ ] የለም	hc)1. [ ] 2. [ ] 3. [ ]	hd)1. [ ] 2. [ ] 3. [ ]
	i) አንድ ነገር ያደርገኛል ብሎ በመፍራት ፍላጐት ሳይኖርዎት የግብረ-ስጋ ግንኙነት አድርገው ያውቃሉ?	i) 1. [ ] አዎ 2. [ ] የለም	ib)1. [ ] አዎ 2. [ ] የለም	ic)1. [ ] 2. [ ] 3. [ ]	id)1. [ ] 2. [ ] 3. [ ]
	ማስታወሻ፡ **ተጠያቂው ከላይ በመለሱት ከ(F58a- F58i) ምንም ዓይነት ጥቃት ካልደረሰባቸው ወደ F78 ይታለፍ**				

F59.	ነፍሰ ጡር እያሉ ባለቤትዎ መቶዎት ወይም የመምታት ሙከራ አድርጐበዎት ያውቃሉ?	1. [ ] አዎ 2. [ ] የለም
F60.	በባለቤትዎ ድርጊት የተነሳ ባለፉት 12 ወራት ጊዜ ውስጥ ከዚህ በታች የተጠቀሱት ደርሶቦት ወይም አሰቃይቶዎት ያውቃሉ?	
	a) መቆረጥ፣ መቁሰል፤ የሰውነት መበለዝ ወይም ህመም?	a) 1. [ ] አዎ 2. [ ] የለም
	b) ቃጠሎ አደጋ?	b) 1. [ ] አዎ 2. [ ] የለም
	c) ከፍተኛ ቁስለት የአጥንት ስብራት የጠርስ መሰበር ወይም ሌላ ከፍተኛ አደጋ? (የጀሮ፤ አይን መጥፋት)	c) d) 1. [ ] አዎ 2. [ ] የለም
	d) ራስን መሳት ወይም ሰገራ ሽንት ማምለጥ?	e) 1. [ ] አዎ 2. [ ] የለም f)
F61.	ባለፉት 12 ወራት ጊዜ ውስጥ ባለቤትዎ ባደረጉበት ነገር የተነሳ ህክምና ማድረግ ፈልገው ያላገኙበት ጊዜ ነበር?	1. [ ] አዎ 2. [ ] የለም
F62.	ባለፉት 12 ወራት ጊዜ ውስጥ በጉዳቱ /በአደጋው ምክንያት ሆስፒታል ወይም ሌላ ጤና ተቋምውስጥ አድረው ያውቃሉ?	1. [ ] አዎ 2. [ ] የለም

Reporting checklist for cross sectional study.

Based on the STROBE cross sectional guidelines.

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		Reporting Item	Page Number
Title and abstract			
Title	#1a	Indicate the study's design with a commonly used term in the title or the abstract	1

Abstract	#1b	Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background / rationale	#2	Explain the scientific background and rationale for the investigation being reported	3
Objectives	#3	State specific objectives, including any prespecified hypotheses	4
Methods			
Study design	#4	Present key elements of study design early in the paper	5
Setting	#5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5
Eligibility criteria	#6a	Give the eligibility criteria, and the sources and methods of selection of participants.	
	#7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	
Data sources / measurement	#8	For each variable of interest give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group. Give information separately for for exposed and unexposed groups if applicable.	6

Bias	#9	Describe any efforts to address potential sources of bias	5,6
Study size	#10	Explain how the study size was arrived at	5
Quantitative variables	#11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why	6,7
Statistical methods	#12a	Describe all statistical methods, including those used to control for confounding	6,7
Statistical methods	#12b	Describe any methods used to examine subgroups and interactions	6,7
Statistical methods	#12c	Explain how missing data were addressed	N/A
Statistical methods	#12d	If applicable, describe analytical methods taking account of sampling strategy	N/A
Statistical methods	#12e	Describe any sensitivity analyses	N/A
Results			
Participants	#13a	Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed. Give information separately for for exposed and unexposed groups if applicable.	7
Participants	#13b	Give reasons for non-participation at each stage	N/A

Participants	#13c	Consider use of a flow diagram	
Descriptive data	#14a	Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders. Give information separately for exposed and unexposed groups if applicable.	7,8
Descriptive data	#14b	Indicate number of participants with missing data for each variable of interest	N/A
Outcome data	#15	Report numbers of outcome events or summary measures. Give information separately for exposed and unexposed groups if applicable.	10,11,12
Main results	#16a	Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	9,10
Main results	#16b	Report category boundaries when continuous variables were categorized	N/A
Main results	#16c	If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A
Other analyses	#17	Report other analyses done—e.g., analyses of subgroups and interactions, and sensitivity analyses	11,12
Discussion			
Key results	#18	Summarise key results with reference to study objectives	12

Limitations	#19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias.	24
Interpretation	#20	Give a cautious overall interpretation considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence.	24
Generalisability	#21	Discuss the generalisability (external validity) of the study results	2
Other Information			
Funding	#22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	15

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Prevalence of intimate partner violence among reproductive-age women with severe mental illness attending psychiatry outpatient care, A cross-sectional study in Addis Ababa, Ethiopia

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Prevalence of intimate partner violence among reproductive age women with severe mental illness attending psychiatry outpatient care, A cross-sectional study in Addis Ababa, Ethiopia

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Abstract

Objective: To determine the prevalence of intimate partner violence (IPV) among reproductive age women attending psychiatric outpatient services and to identify associated factors.

Design: Cross-sectional facility-based study

Setting: Outpatient psychiatric clinics of public hospitals in Addis Ababa.

Participants: Reproductive age women with severe mental illness attending psychiatric outpatient clinics

Primary and secondary outcome measures: Data was collected by using a multi- culturally validated questionnaire from randomly sampled women with severe mental illness. Multiple logistic regression was done to identify factors independently associated with IPV. Ethical approval was obtained from the St. Paul's Hospital Millennium Medical College Institutional Review Board.

Result: Four hundred twenty-two participants who had follow up at the psychiatric outpatient clinics participated in the study. The lifetime prevalence of any form of IPV among participants was 62.0% (95% CI: 56.1, 68.8). The commonest form of IPV experienced by women was emotional violence [60%; 95% CI: 55.0, 64.7]. One hundred eighty-six [44.1%; (95% CI: 39.3, 48.8)] of respondents had experienced physical or sexual violence during the previous year. History of divorce and having a mental illness for more than five years were associated with any forms of IPV [AOR= 5.64; 95% CI: 2.75, 11.56] and [AOR= 2.23; 95%CI: 1.26, 3.93] respectively.

Conclusion: The high prevalence of IPV among women attending psychiatric outpatient services highlights the need to routinely inquire about IPV and develop effective strategies to prevent it among this vulnerable group.

Keywords: Intimate partner violence, Psychiatric outpatient, Mental illness

Strengths and limitation

- There is scarce research on intimate partner violence among women with severe mental illness in Ethiopia and Africa at large.
- We used a multi-country setting validated standard questionnaire, which allows direct comparison of our findings with other available data.
- As a cross-sectional study, our data do not imply causality and temporality relationship between the variables.
- Data were self-reported, which may be limited by recall bias and underreporting; men were not investigated to understand the magnitude and reason for engaging in violence against their partners.
- The study was conducted among women thought to have better access to information, so the findings may not be generalisable to women with mental illness who do not attend psychiatric tertiary care facilities.

Introduction

Intimate partner violence (IPV) among women is a widespread phenomenon globally (1). According to the WHO definition, IPV includes emotional abuse, physical or sexual violence between current and former partners (2). To date, research on IPV has predominantly focused on experiences of physical violence than the emotional and sexual aspects (3). One-third of the women in the globe experienced IPV at some point in their life (4).

Different studies reported considerable regional variation in the prevalence of IPV (5). In the World Health Organisation's multi-setting study on violence against women in intimate relationships, the prevalence ranged from 15% to 72.7% and 4%–54% in their lifetime and the past 12 months, respectively (6). In the same study, the lifetime prevalence of physical or sexual violence against women reported to be lowest from Japan(15%) and highest from Ethiopia(72.7%) (6). Another Ethiopian study has also reported a 30% prevalence among ever-married women (7). Different factors may play a role in precipitating and maintaining IPV worldwide such as marital status, education, wealth, cultural factors, mental health condition (7-10).

IPV is associated with significant morbidity and mortality, especially among women, and its prevention is a global public health priority(11, 12). Women experiencing IPV have more medical, gynecologic, and stress-related symptoms than non-abused women(11, 13). Associations of IPV with the poor mental and physical health of women have been demonstrated in the international and national numerous studies (14).

There is also strong evidence that women with severe or chronic mental illness experience higher rates of violence than women in the general population (9). Also, IPV is a known risk factor for mental health problems, including depression, post-traumatic stress disorder (PTSD) and suicide attempts (15-17). In addition to being at higher risk of experiencing each type of IPV (emotional,

physical and sexual), severe mental illness (SMI) such as schizophrenia, bipolar disorder and severe major depression hinder women's capacity to protect themselves and seek help when compared to women with out SMI (12). History of IPV experience is associated with poorer health, including post-traumatic stress disorder, depression, anxiety, and significant impairment in functionality and somatic health (14, 15). Nevertheless, little is known about the prevalence of IPV among reproductive age women with SMI living in low-income settings.

Addressing this evidence gap is essential in developing effective interventions in this vulnerable group. Therefore, we aimed to examine the prevalence of IPV and associated factors among women with SMI in Ethiopia.

Methods

Study design and setting

The health facility-based cross-sectional study design was undertaken in Addis Ababa, the capital city of Ethiopia. The city has an estimated population of 3.2 million (18). The study was conducted from December 2016 to May 2017 in four outpatient clinics of public hospitals delivering mental health services by psychiatrists or psychiatric residents. The four hospitals are St. Paul's Hospital, Yekatit 12 Hospital, Zewditu Memorial Hospital and Amanuel Hospital.

Sample Size Determination

The sample size for the study was calculated based on the following assumptions: the prevalence of IPV among women with SMI (Schizophrenia, bipolar disorder and severe major depression) (P=50%) taken to obtain the maximum sample size, Z = 1.96 at 95% confidence level, d = the level of precision (0.05), and adding for non-response of 10 %; this gave a total required sample size of n= 423.

Sampling procedure

The study subjects were recruited from psychiatric outpatient clinics of the four hospitals. All consenting women aged 18-49 years who presented in the study period were included. To recruit the study subjects a total of 497 women patients were approached, of which 47 (9.5%) patients were excluded due to their age was below 18 years or were never in a marital relationship, 16 (3.2%) were excluded due to their presentation with acute psychosis, the remaining 9 (1.8%) patients were due to other exclusion criteria and only one patient was excluded due to a self withdrawal to participate. Finally, the study included a total of 422 study participants (Figure 1).

Data Collection Methods and instrument

An interviewer-administered structured questionnaire was used to collect the data. Standardised pre-tested Amharic (National language of Ethiopia) version of a multiculturally validated World Health Organizations IPV tool was used to collect information relevant for measuring physical, sexual and emotional violence by an intimate partner (6). Sociodemographic characteristics and disease-related characteristics of the participants were also assessed. Women who had experienced IPV were further asked to qualify the type of experience and the timing, i.e. whether it was in the previous twelve months or not. Additionally, the questions on spousal control over the respondent were adopted and used to measure and categorise with different items referring to what a woman could without permission from her spouse/partner, including her healthcare-related activities.

The final Amharic version of the questionnaire was administered by trained and experienced female psychiatric nurses, with an emphasis on a respectful, non-judgemental approach and facilitating the women to be at ease. The participants were interviewed after they had completed their follow up visit as an exit interview.

Data quality was assured by designing a fully structured questionnaire which was pre-tested in twenty participants in different psychiatric outpatient clinics. Three days of training was given for supervisors and data collectors. The collected data were examined for completeness and internal consistency on the same day by supervisors.

Analysis

The data were preceded and entered using Epi Data version 3.1 and exported to the Statistical Package for Social Sciences (SPSS) version 20 to be cleaned and analysed. The sociodemographic characteristics and experience of IPV were summarised using descriptive statistics. The outcome variable was any intimate partner violence as categorical variable of 'yes' or 'no'. predictor variables: marital status (Married, single, Divorced, Widowed), education (Beyond High school, High school, Elementary, Illiterates), occupation (Unemployed, House wives/Student, Daily labourer / House maid, Formal employment)

We used bivariate analyses to assess the associations between IPV in participant characteristics. In bivariate analysis, crude odds ratio and confidence intervals were calculated and used to select candidate variables for multiple logistic regression analysis using a significance level of P<0. 05. All variables significantly associated with bivariate analyses were included in the multivariate analysis.

Ethical considerations

Ethical approval was obtained from the institutional review board of Saint 'Paul's Hospital Millennium Medical College. Written informed consent was obtained from each study participant after informing them in detail about the study objectives, possible risks associated with the study, and the benefits of the study. Participants were informed about their right to participate only on a voluntary basis and to withdraw from the study without providing any explanation. The privacy of the participants was ensured during the data collection and anonymity of the collected data during

analysis, interpretation and write up. Participants who needed any psychological support during the data collection were referred for treatment and support.

Public and patient involvement

The public and patients were not involved in the survey design and in the recruitment to and conduct of the study. Dissemination of the findings will be provided for participants based on their request. Community members will be consulted in the design and implementation of any studies that build on this initial study.

Results

Sociodemographic characteristics of respondents

A total of 422 women of reproductive age women were approached and participated giving a response rate of 100%. The mean age of respondents was 32.1 ± 6.7 years, with a range of 18 to 46. One-third of the participants were not legally married (32.9%; n=139). Four out of ten women were either illiterate or had only primary level education. Only 27 % of women were employed. (Table 1). The majority (80%) of the participants had a diagnosis of mental illness for more than one year. A significant proportion of the participants, 46.3%, n=156, lived with the illness for more than 5 years.

Table 1. Demographic and clinical characteristics of participants (n=422)

Characteristics	Frequency	Percentage
<25	63	14.9
25-34	186	44.1
>35	173	41.0
Marital status		
Single	139	32.9
Married	187	44.3
Widowed	26	6.2
Divorced	70	16.6
Number of alive children		
Have living children	180	42.7
No children	158	37.4
1-2	84	19.9
Education		
Tertiary level	60	14.2
Secondary level (high school)	195	46.2
Primary level	123	29.2
Illiterate	44	10.4
Diagnosis		
Schizophrenia	170	40.3
Bipolar disorder	116	27.5
Major depressive disorder	136	32.2
Psychotropic medication		
Antipsychotics	208	49.3
Mood stabiliser	67	15.9
Antidepressant	147	34.8
Duration of treatment in months		
1-24	163	38.6
25-48	91	21.6
49 months and above	168	39.8
Occupation		
No Job	160	37.9
Housewives/students	93	22.1
House maid /Daily laborer	55	13.0
Employed (Formal)	114	27.0

Lifetime prevalence

In this study, the lifetime prevalence of IPV was 62.0% [95% CI: 56.1, 68.8]. The commonest form of IPV experienced by women was emotional abuse 60% [CI:95% CI: 55.0, 64.7] while 38.6 % [95% CI:34.1,43.6] of participants experienced some form of physical violence in their lifetime. Among those who reported physical violence, significant proportion 25.6 % [95% CI:21.6,29.6] reported severe form of physical violence. The commonest form of severe physical violence was being beaten by fist on the face 21.8% [95% CI:17.3,25.6] followed by, 13% [95% CI:9.7,16.1] being kicked on different parts of their bodies. More than three percent of women who experienced physical violence reported loss of consciousness, incontinence, fracture, or bleeding. Only 2% of participants sought medical service for the incident. Moreover, 38[95% CI:28.7,47.2] % of women who had experienced severe physical violence reported that the incident occurred while they were pregnant.

Regarding sexual violence, nearly one third 31.3% [95% CI:26.8, 36.0] of the study participants reported ever experiencing any form of sexual violence, and 25.1% [95% CI:20.9,29.1] were compelled by their partner to have sex.

More than one-third of all respondents, 36.2%; [95% CI:31.3, 41.0], had at least one pregnancy after they received the diagnosis of mental illness. Of these 58.1%; [95% CI:53.1, 62.3] pregnancies were unintended, and 53.9% [45.3,63.3] of which ended up in induced abortion. In 29% [95% CI: 21.1,35.9] of these pregnancies arising from forced sexual intercourse, the women resorted to induced abortion and terminated the pregnancy. Additionally, one out of three participants had sexual intercourse before the age of 18, putting them at an increased risk of teenage pregnancy.

Twelve months of prevalence

Among women who participated in this survey, 44.1 % [95% CI: 39.3, 48.8], 35.3 % [95% CI:31.0,40.3] and 25.1% [95% CI:21.3,29.9] reported to have experienced physical and sexual violence within the 12 months preceding the interview, respectively. Of those who reported physical violence, 95% [95% CI:91.3,98.0] of them reported severe, i.e. being hit with a fist or object on the face. Two per cent of them were able to get treatment, and the other two percent spent a night in the hospital for the damage due to the physical attack by their male partner. There was no statistically significant difference in the prevalence of IPV among women by the psychiatric diagnosis.

Emotional violence and spousal control

Almost 60 % of participants had experienced moderate 25.0% [95% CI:21.2,29.3] or severe 34.8% [95% CI:30.0,39.0] forms of emotional violence, and more than 92 % [95% CI:90.0,95.3] were partially or entirely restricted in what they could do, requiring permission from their spouse in their lifetime. More than 70 % [95% CI:67.1,95.3] of participants would not visit healthcare facilities for treatment without getting approval from their partner (Table 2).

Table 2: Spousal control among participants

Types of spousal control	Never N (%)	Yes N (%)
Have you ever been prohibited not to meet your friend by your partner?	210 (49.8%)	212(50.2%)
Does your partner make a restrict /limit limitation on your contact with your family?	234(55.5%)	188(44.5%)
Does your partner insist on knowing where you are all times; always want to know where you are?	189(44.8%)	233(55.2%)
Does your partner ignore or treats you indifferently?	153(36.3%)	269(63.7%)
Does your partner become annoyed when you talk with other men?	113(26.8%)	309(73.2%)
Does, your partner often accuses you of being unfaithful?	148(35.1%)	274(64.9%)
Does your partner want to ask him permission when you go out from home?	117(27.9%)	303(72.1%)
Does your partner want you to ask him permission before visiting health care service?	121(28.7%)	300(71.3%)
Does your partner force you not to express your feeling to other people?	192(45.5%)	230(54.5%)

Factors associated with IPV

In the logistic regression model, marital status, occupation, duration of illness and spousal control were significantly associated with IPV (Table 3). The prevalence of physical and/or sexual violence was significantly higher among unemployed women [AOR=2.35; 95% CI, 1.23, 4.41], daily labourers or housemaids [AOR=3.33; 95% CI, 1.45, 7.61] compared to women who were employed. Moreover, the odds of IPV was higher among women with history of being divorced [AOR=4.97; 95% CI, 2.36, 10.45] and non-married women [AOR=3.56; 95% CI, 2.09, 6.04] compared to currently married women. The study also depicted that women who were diagnosed with mental illness more than 5 years ago were more likely to experience IPV compared to women who are newly diagnosed [AOR=2.11; 95% CI, 1.17, 3.82]. However, the study did not find a difference in the experience of IPV by level of income or educational level (Table 3).

Table 3. Factors associated with intimate partner violence among women with severe mental illness

Characteristics	IPV		COR (95% CI)	AOR (95%CI)
	Yes N (%)	No N (%)		
Income				
Yes	165(67.6)	79(32.4)	1.67(1.12,2.48)	1.08(0.64,1.82)
No	99(55.6)	79(44.4)	1	1
Occupation				
Unemployed	117(73.1)	43(26.9)	2.63(1.58,4.36)	**2.35 (1.23,4.41)**
House wives/Student	46(49.5)	47(50.5)	0.94(0.55,1.63)	1.49(0.77,2.88)
Daily labourer / House maid	43(78.2)	12(21.8)	3.46(1.65,7.24)	**3.33 (1.45, 7.61)**
Formal employment	58(50.9)	56(49.1)	1	1
Marital status				
Married	83(44.4)	104(55.6)	1	1
Divorced	59(84.3)	11(15.7)	6.72(3.32,13.60)	**4.97(2.36,10.45)**
Widowed	16(61.5)	10(38.5)	2.05(0.86,4.64)	1.74(0.72,4.19)
Single	106(76.3)	33(23.7)	4.03(2.48,6.54)	**3.56(2.09, 6.04)**
Education				
Beyond High school	35(58.3)	25(41.7)	1	1
High school	124(63.6)	71(36.4)	1.25(0.69,2.25)	0.96(0.49,1.86)
Elementary	76(61.3)	48(38.7)	1.13(0.60,2.12)	0.86(0.40,1.83)
Illiterates	29(67.4)	14(32.6)	1.48(0.65,3.36)	1.38(0.54,3.56)
Duration of illness				
Less than 1 year	41(48.2)	44(51.8)	1	1
1 – 5 years	87(58.4)	62(41.6)	1.50(0.88,2.57)	1.25(0.69,2.26)
>5years	136(72.3)	52(27.7)	2.81(1.649,4.78)	**2.11(1.17, 3.82)**

Discussion

Despite high prevalence reports of IPV in community-based studies in Ethiopia, there is no study which focused on women with severe mental illness. In this study, we found a high prevalence of lifetime and recent IPV in this vulnerable group of population.

A substantial proportion (62%) of women reported IPV in their life time, which happened relatively frequently, suggesting that this is a common experience among women with severe mental illness. This finding is similar with the study from rural Ethiopia which reported 60.7% violent against people with SMI (19).Likewise the finding of IPV in this study is as high as the WHO community prevalence

study report from Ethiopia which is 72% (20) and Tanzanian study (61%) (21) but higher than the community study in northern Ethiopia (22) and a report from systematic review which is 33% IPV among women with SMI attending outpatient clinic(23) The difference can be explained by study population differences as the participants of the northern Ethiopian study were women in the rural community while our study participants were urban residents and higher educational level. This study also reported (44%) recent intimate partner violence which is higher than studies from high income countries such as 21% of past twelve month IPV reported from UK(24) and 30.3 % in Spain(25).This is consistent with the assertion that that women with SMI constitute a vulnerable segment of the population who need special protection (9) and the need that health professionals should enquire about all types of recent IPV, among women with SMI.

Generally, our finding is consistent with reports from other sub-Saharan African countries (15). As these studies indicated, IPV is common social, public health and human rights concerns among women with severe mental illness (26).

We also found a high prevalence of physical violence in this study (38.5%) which is comparable with other results from some African countries (26) and Asian such as India and Vietnam (27) and lower than rural Ethiopian finding (20). Our findings may reflect underreporting of IPV by this vulnerable group who might be more dependent on their partners for support towards the care of their mental illness. This is a crucial psychosocial issue with detrimental effects on the course of the pre-existing mental illness hence contributing to gender disparities in the treatment outcomes of SMI

Despite a significant number of participants who reported physical violence in this study, only a small proportion sought health care for their injuries. This is consistent with the low level of health-seeking behaviour for IPV related injuries as reported by other studies in Ethiopia and other global studies

(5, 28, 29). Varying degree of emotional violence also reported in 60% of participants, which is consistent with findings from Tanzania (21). It also has a significant association with poor mental health as reported by other African countries (21, 30, 31). In this study, we found that both violence and spousal control are common social, public health and human rights concerns among women with SMI. We found that physical violence was associated with other types of violence; this is consistent with research has shown that physical violence is often related to psychological or and sexual coercion. Mental health care providers need to routinely inquire about IPV during outpatient visits so that appropriate interventions can be offered. Our study did not find an association between women's education and IPV which in contrast to is to the study from east Africa (26).

Despite the weaknesses of this research, which included being a hospital-based study, purely urban sample and cultural bias of reporting, we have attempted to minimise non-disclosure due to cultural taboo of the ~~topic and~~topic and discomfort of the ~~paricipants by~~participants by having female experienced psychiatric nurses for interviewing the participants. We believe that the findings of the current study will ~~help other~~help other researchers to further investigate the observed relationships through longitudinal studies with larger samples and the impact of these experience on the prognosis of their mental illness. To reduce the burden of mental illness, continued research is recommended for evaluating IPV preventive strategies. IPV was found to be associated with employment status. However, causality cannot be determined due to the cross-sectional study. Further studies are needed to develop interventions aimed at reducing IPV among women with SMI and test their effectiveness. Although the participation was optional, no woman refused to participate in this study adds to the strengths of our findings.

Conclusions

Intimate partner violence was found to be highly prevalent among women with severe mental illness in Ethiopia. Given the detrimental effect of IPV on mental health, it may contribute to disparities in women's outcomes with SMI. IPV is more prevalent among the unemployed than the employed participants. And those with a longer duration of mental illness reported more IPV than participants with a short period of illness.

Psychiatric outpatient clinics are an important point of contact for women with mental illness who are experiencing IPV. The treatment for mental disorders needs to include effective interventions for women who are also IPV victims. Mental health professionals play a key role in addressing IPV in this population.

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Author Contributors

We declare that all authors have made substantial contributions. TZ, MT, ND and DB conceptualise conceived the study, developed the design. TZ and ND collected and managed data. TZ, ND and DB performed the preliminary data analysis. TZ and MT performed the final data analysis. All authors contributed to the interpretation of results. TZ drafted the manuscript, and all authors contributed to critical revisions of the manuscript. All authors read and approved the final manuscript.

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Competing interest, the authors declare that they have no competing interests.

Data availability statement

The authors confirm that the availability of data. Dataset is not publicly available at this point because it contains sensitive information. The data that support the findings of this study are available from the corresponding author, [TZ], upon reasonable request.

Consent for publication

Not applicable.

Reference

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1. Figure 1. Sampling schedule of the selection of women included in the study

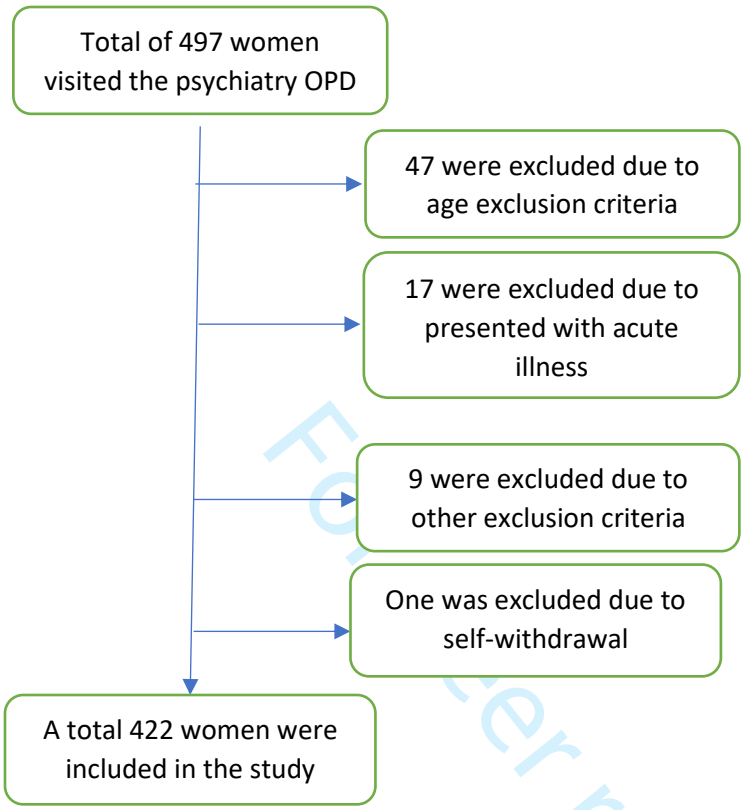

Figure 1 Sampling schedule of the selection of women included in the study

Reporting checklist for cross sectional study.

Based on the STROBE cross sectional guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

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In your methods section, say that you used the STROBE cross sectionalreporting guidelines, and cite them as:

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		Reporting Item	Page Number
Title and abstract			
Title	#1a	Indicate the study's design with a commonly used term in the title or the abstract	1

Abstract	#1b	Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background / rationale	#2	Explain the scientific background and rationale for the investigation being reported	3
Objectives	#3	State specific objectives, including any prespecified hypotheses	4
Methods			
Study design	#4	Present key elements of study design early in the paper	5
Setting	#5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5
Eligibility criteria	#6a	Give the eligibility criteria, and the sources and methods of selection of participants.	
	#7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	
Data sources / measurement	#8	For each variable of interest give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group. Give information separately for for exposed and unexposed groups if applicable.	6

Bias	#9	Describe any efforts to address potential sources of bias	5,6
Study size	#10	Explain how the study size was arrived at	5
Quantitative variables	#11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why	6,7
Statistical methods	#12a	Describe all statistical methods, including those used to control for confounding	6,7
Statistical methods	#12b	Describe any methods used to examine subgroups and interactions	6,7
Statistical methods	#12c	Explain how missing data were addressed	N/A
Statistical methods	#12d	If applicable, describe analytical methods taking account of sampling strategy	N/A
Statistical methods	#12e	Describe any sensitivity analyses	N/A
Results			
Participants	#13a	Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed. Give information separately for for exposed and unexposed groups if applicable.	7
Participants	#13b	Give reasons for non-participation at each stage	N/A

Participants	#13c	Consider use of a flow diagram	
Descriptive data	#14a	Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders. Give information separately for exposed and unexposed groups if applicable.	7,8
Descriptive data	#14b	Indicate number of participants with missing data for each variable of interest	N/A
Outcome data	#15	Report numbers of outcome events or summary measures. Give information separately for exposed and unexposed groups if applicable.	10,11,12
Main results	#16a	Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	9,10
Main results	#16b	Report category boundaries when continuous variables were categorized	N/A
Main results	#16c	If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A
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Key results	#18	Summarise key results with reference to study objectives	12

Limitations	#19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias.	24
Interpretation	#20	Give a cautious overall interpretation considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence.	24
Generalisability	#21	Discuss the generalisability (external validity) of the study results	2
Other Information			
Funding	#22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	15

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Intimate partner violence among reproductive-age women with chronic mental illness attending a psychiatry outpatient department: cross-sectional facility-based study, Addis Ababa, Ethiopia

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Intimate partner violence among reproductive-age women with chronic mental illness attending a psychiatry outpatient department: cross-sectional facility-based study, Addis Ababa, Ethiopia

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Abstract

Objective: To determine the prevalence of intimate partner violence (IPV), and associated factors, in reproductive-aged women attending psychiatric outpatient departments (OPD).

Design: Cross-sectional facility-based study

Setting: Outpatient psychiatric clinics of public hospitals in Addis Ababa.

Participants: Reproductive aged women with chronic mental illness who attended follow-up in psychiatric outpatient clinics.

The primary and secondary outcome measures: The data were collected using a multi-culturally validated instrument from randomly sampled women with chronic mental illness. Multiple logistic regression was used to identify factors independently associated with IPV. Ethical clearance was obtained from the institutional ethics review board of St. Paul's Hospital Millennium Medical College.

Result: Four hundred and twenty-two women who were attending the psychiatric outpatient clinics took part in the study. The majority of participants 62.0% (95% CI: 56.1, 68.8) experienced IPV at least once in their lifetime. The most common form of IPV experienced by women was emotional violence [60%; 95% CI: 55.0, 64.7]. One hundred eighty-six [44.1%; (95% CI: 39.3, 48.8)] respondents experienced physical or sexual violence during the last year. A history of divorce [AOR= 5.64; 95% CI: 2.75, 11.56] and having a mental illness for more than five years [AOR= 2.23; 95%CI: 1.26, 3.93] were associated with any form of IPV.

Conclusion: The high prevalence of IPV among women attending psychiatric outpatient services highlights the need to routinely inquire about IPV and develop effective strategies to prevent it among this vulnerable group.

Keywords: Intimate partner violence, Psychiatric outpatient, Mental illness

Strengths and limitations of this study

- There is scarce research on intimate partner violence among women with chronic mental illness in Ethiopia specifically, and Africa more generally.
- We used a standard questionnaire validated for multiple countries, which allows direct comparison of our findings with other available data.
- As a cross-sectional study, our data do not imply causality and cannot inform as to the temporal relationships between the variables.
- Data were self-reported, which may be limited by recall bias and underreporting; men were not investigated to understand the magnitude and reason for engaging in violence against their partners. The study was conducted among women thought to have better access to information, so the findings may not be generalisable to women with mental illness who do not attend psychiatric tertiary care facilities.

Introduction

Intimate partner violence (IPV) among women is a common phenomenon globally (1). According to the WHO definition, IPV includes emotional abuse, physical, sexual violence or controlling behaviour between current and ex-partners (2). Up to this time , research on IPV has largely focused on experiences of physical violence than the emotional and sexual aspects (3). Nevertheless, one-third of women globally report having experienced IPV at some point in their lifetime (4).

Studies reported considerable contextual variation in the prevalence of IPV (5). In the World Health Organisation's multi-site study, the prevalence of intimate violence in women ranged from 15% to 72.7% and 4%–54% in their lifetime and the past year, respectively (6). In the same study, Japan (15%) and Ethiopia (72.7%) are countries that reported the lowest and highest physical or sexual violence against women reported, respectively. (6). Another Ethiopian study has also reported a 30% prevalence among ever-married women (7). Different factors may play a role in precipitating and maintaining IPV worldwide such as marital status, education, wealth, cultural factors and mental health status (7-10).

The link between IPV and poor mental and physical health of women have been indicated in many studies (11). IPV is associated with substantial morbidity and mortality, specifically among women, and its prevention has a major global public health importance(12, 13). Women who experienced IPV have more medical, gynecologic, and stress-related symptoms than those who did not (12, 14).

There is also robust evidence that women with chronic mental illness (CMI) experience higher rates of violence than women without chronic mental illness (14). Also, IPV is a established risk factor for mental health problems, including Major depression, suicide attempts and post

traumatic stress disorder (PTSD) (15-17). In addition to being at higher risk of experiencing different types of IPV (physical emotional and sexual), CMI's - such as severe major depressive disorder, bipolar disorder, and schizophrenia hinder women's capacity to protect themselves and seek help when compared to women without CMI (13, 17). Furthermore, a history of experience of IPV is associated with poorer health, including depression, post-traumatic stress disorder, anxiety, and significant impairment in functionality and somatic health (11, 15, 17). A study from Ethiopia found that IPV, including spousal controlling behaviour associated with depression(18). Similarly, studies from Europe, the United States and China also reported an association between mental illness and IPV(19, 20). Nevertheless, evidence is scarce about the prevalence of IPV among reproductive-age women with CMI living in resource-poor settings.

Data on IPV prevalence and its associated factors among women with CMI is essential for developing effective interventions in this targeted vulnerable group. Therefore, we aimed to investigate the prevalence of IPV and associated factors among women with CMI in Ethiopia.

Methods

Study setting and design

Institutional-based cross-sectional study design was undertaken in public hospitals in Addis Ababa, Ethiopia. The city has an estimated population of 3.2 million (21).

The study was conducted between December 2016 and May 2017 in four outpatient clinics at public tertiary hospitals that deliver specialised mental health services by psychiatrists or psychiatric residents.

Determination of sample size

The sample size was determined using the following assumptions: the prevalence of IPV among women with CMI (schizophrenia, bipolar disorder and severe major depression) (P=50%) at 95% confidence level, Z = 1.96 and *d* = the level of precision (0.05), and adding for non-response of 10 %; this gave a required sample size of n= 423.

Sampling procedure

The study subjects were recruited from psychiatric outpatient clinics of the four hospitals. All women aged 18-49 years who provided consent and presented in the study period were included. To recruit the study subjects, 497 women patients were invited to participate, of which 47 (9.5%) patients were excluded due to their age was below 18 years or were never in a marital relationship, 16 (3.2%) were excluded due to their presentation with acute psychosis, the remaining 9 (1.8%) patients were due to other exclusion criteria, and only one patient was excluded due to a self withdrawal to participate. Finally, the study included 422 study participants (Figure 1).

Data Collection and instrument

An interviewer-administered structured questionnaire was used to collect the data. The standardised pre-tested Amharic version (Amharic is the national language of Ethiopia) of a multi-culturally validated IPV tool from the World Health Organization (WHO) was employed to gather information on IPV, such as sexual, physical and emotional abuse (6).

Sociodemographic characteristics and disease-related characteristics of the participants were also assessed. Women who had experienced IPV were further asked to qualify for the type of experience and the timing, i.e., whether it was in the previous twelve months or not.

Additionally, the questions on spousal control over the respondent were adopted and used to measure and categorise with different list of items in which a woman can act without the consent of her husband /partner, including her healthcare-related activities.

The final Amharic version of the questionnaire was administrated by trained, experienced female psychiatric nurses who aimed to be respectful, non-judgmental and enable the women to feel at ease. An exit interview was conducted after each participant's follow-up visit was complete. All participants were fluent Amharic speakers.

To ensure the quality of the data, a structured questionnaire was pretested among five per cent of study participants across different psychiatric outpatient clinics. Detailed discussion was held with the researchers, supervisors and data collectors after the pertest and necessary amendments were done. The supervisors and data collectors were trained over the course of three days. Supervisors checked the collected data on the same day for completeness and consistency.

Analysis

In order to analyze the data, Epi Data 3.1 was used for entry and cleaning, followed by exporting to SPSS version 20.

The sociodemographic characteristics and experiences of IPV were summarised using descriptive statistics. The outcome variable was any IPV as the categorical variable of 'yes' or 'no'. predictor variables: Marital status (single, married, divorced, widowed), educational level (above high school, high school, elementary school, illiterate or no education), occupation (Unemployed, Housewives/Student, Daily labourer / Housemaid, Formal employment)

To investigate the associations between participants' characteristics and IPV, we used bivariate analyses. We used a P<0.05 significance level for multiple logistic regression analysis following bivariate analysis, which calculated crude odds ratios and confidence intervals. 05.

Ethical considerations

The study protocol was reviewed and approved by from the institutional ethics review board of St. Paul's Hospital Millennium Medical College. Written informed consent was obtained from participant is informed in detail about the study objectives and possible risks, and the benefits of the study before being enrolled. An experienced psychiatric nurse completed a structured assessment of the person's capacity to consent to participate in the study. Participants were informed about their right to participate only on a voluntary basis and to withdraw from the study without providing any explanation. All collected information was anonymized, and the privacy of the participants was respected in the data collection process analysis, interpretation and write up. Participants who needed any psychological or safety support during the data collection were referred for treatment and safety support. No reimbursement or payment was made for participants.

Public and patient involvement

Neither the public nor patients were involved in the study survey design. The findings will be provided for participants based on their requests. The community will be consulted as part of the design and implementation of any studies that can be built on this initial study.

Results

Sociodemographic characteristics of respondents

Four hundred twenty-three reproductive age women were approached and participated, resulting in an 99.8% response rate. The mean age of respondents was 32.1 ± 6.7 years, with a range of 18 to 46.A third (32.9%; n=139) of the participants weren't married legally. Approximately four out of ten women are illiterate (have no formal education) or have only a primary school education. Only 27 % of women were employed. (Table 1). The majority (80%) of the participants had a diagnosis of mental illness for more than one year. A significant proportion of the participants, 46.3%, n=156, lived with the illness for more than five years.

Table 1. Participant characteristics by demographics and clinical characteristics (n=422)

Characteristics	Frequency	Percentage
<25	63	14.9
25-34	186	44.1
>35	173	41.0
Marital status		
Single	139	32.9
Married	187	44.3
Widowed	26	6.2
Divorced	70	16.6
Number of alive children		
>2	180	42.7
1-2	84	19.9
No children	158	37.4
Education		
Tertiary level	60	14.2
Secondary level (high school)	195	46.2
Primary level	123	29.2
Illiterate	44	10.4
Diagnosis		
Schizophrenia	170	40.3
Bipolar disorder	116	27.5
Major depressive disorder	136	32.2
Psychotropic medication		
Antipsychotics	208	49.3
Mood stabiliser	67	15.9
Antidepressant	147	34.8
Duration of treatment in months		
1-24	163	38.6
25-48	91	21.6
49 months and above	168	39.8

Occupation		
No Job	160	37.9
Housewives/students	93	22.1
Housemaid /Daily laborer	55	13.0
Employed (Formal)	114	27.0

Lifetime prevalence

In this study, IPV was found to be prevalent in 62.0% [95% CI: 56.1, 68.8] of women in their lifetimes. The commonest form of IPV experienced by women was emotional abuse (60%; CI:95% CI: 55.0, 64.7) while 38.6% [95% CI:34.1,43.6] of participants experienced some kind of physical violence in their lifetime. Among participants who reported physical violence, a significant proportion, 25.6% [95% CI:21.6,29.6], reported severe forms of physical violence. The common form of severe physical violence was being beaten by fist on the face 21.8% [95% CI:17.3,25.6] followed by 13% [95% CI:9.7,16.1] getting kicked in different parts of the body. Three percent or more of the women who experienced physical violence foresaw incontinence, bleeds, fractures, or loss of consciousness. Only 2% of participants sought medical service for the incident. Moreover, 38 [95% CI:28.7,47.2] % of women who experienced severe physical violence reported that the incident occurred while pregnant.

Regarding sexual violence, nearly one third 31.3% [95% CI:26.8, 36.0] of the study participants reported ever experiencing any form of sexual violence, and 25.1% [95% CI:20.9,29.1] reported that their partner had compelled them to have sex.

More than one-third of all respondents, 36.2%; [95% CI:31.3, 41.0], had at least one pregnancy after they received the diagnosis of mental illness. Of these, 58.1%; [95% CI:53.1, 62.3] pregnancies were unintended, and 53.9% [45.3,63.3] of which ended up in induced abortion. In

29% [95% CI: 21.1,35.9] of these pregnancies arising from forced sexual intercourse, the women resorted to induced abortion and terminated the pregnancy. Additionally, a third of participants had sexual intercourse before 18 years of age, putting them at an increased risk of teenage pregnancy.

Twelve months of prevalence

Among women who participated in this survey, 44.1% [95% CI: 39.3, 48.8], 35.3% [95% CI:31.0,40.3] and 25.1% [95% CI:21.3,29.9] reported to have experienced sexual and physical violence within the last one year preceding the interview, respectively. Of those who reported physical violence, 95% [95% CI:91.3,98.0] of them said this was severe, i.e., being hit with a fist or object on the face. Two per cent of them were able to get treatment, and the other two per cent spent a night in the hospital for the damage due to the physical attack by their male partner. A significant statical difference was not observed in the prevalence of IPV among women by the psychiatric diagnosis.

Emotional violence and spousal control

Almost 60 % of participants had experienced moderate 25.0% [95% CI:21.2,29.3] or severe 34.8% [95% CI:30.0,39.0] forms of emotional violence, and higher than 92% [95% CI:90.0,95.3] were either limited in what they could do or required permission in order to do it by their spouses in their lifetime. More than 70% [95% CI:67.1,95.3] of participants would not visit healthcare facilities for treatment without getting approval from their partner (Table 2).

Table 2: Spousal control among participants

Types of spousal control	Never N (%)	Yes N (%)
Have you ever been prohibited not to meet your friend by your partner?	210 (49.8%)	212(50.2%)
Does your partner make a restrict /limit limitation on your contact with your family?	234(55.5%)	188(44.5%)
Does your partner make sure you always know where you are; always want to know where you are?	189(44.8%)	233(55.2%)
Does your partner ignore or treats you indifferently?	153(36.3%)	269(63.7%)
Does your partner become annoyed when you talk with other men?	113(26.8%)	309(73.2%)
Does your partner often accuse you of being unfaithful?	148(35.1%)	274(64.9%)
Does your partner want to ask him permission when you go out from home?	117(27.9%)	303(72.1%)
Does your partner want you to ask him permission before visiting the health care service?	121(28.7%)	300(71.3%)
Does your partner force you not to express your feeling to other people?	192(45.5%)	230(54.5%)

Factors associated with IPV

The logistic regression model showed marital status, occupation, duration of illness and spousal control were significantly associated with IPV (Table 3). There was a significantly higher prevalence of physical and/or sexual violence among women without jobs [AOR=2.35; 95% CI, 1.23, 4.41], daily labourers or housemaids [AOR=3.33; 95% CI, 1.45, 7.61] compared to employed women. Moreover, the odds ratio of IPV was higher among divorced women [AOR=4.97; 95% CI, 2.36, 10.45] and non-married women [AOR=3.56; 95% CI, 2.09, 6.04] compared to currently married women. The study also depicted those women diagnosed with mental illness more than five years ago were more likely to experience IPV than newly

diagnosed [AOR=2.11; 95% CI, 1.17, 3.82]. However, the study did not find a difference in IPV experienced by the level of income or educational status (Table 3).

Table 3. Intimate partner violence and associated factors among study participants

Characteristics	IPV		COR (95% CI)	AOR (95%CI)
	Yes N (%)	No N (%)		
Income				
Yes	165(67.6)	79(32.4)	1.67(1.12,2.48)	1.08(0.64,1.82)
No	99(55.6)	79(44.4)	1	1
Occupation				
Unemployed	117(73.1)	43(26.9)	2.63(1.58,4.36)	**2.35 (1.23,4.41)**
House wives/Student	46(49.5)	47(50.5)	0.94(0.55,1.63)	1.49(0.77,2.88)
Daily labourer / House maid	43(78.2)	12(21.8)	3.46(1.65,7.24)	**3.33 (1.45, 7.61)**
Formal employment	58(50.9)	56(49.1)	1	1
Marital status				
Married	83(44.4)	104(55.6)	1	1
Divorced	59(84.3)	11(15.7)	6.72(3.32,13.60)	**4.97(2.36,10.45)**
Widowed	16(61.5)	10(38.5)	2.05(0.86,4.64)	1.74(0.72,4.19)
Single	106(76.3)	33(23.7)	4.03(2.48,6.54)	**3.56(2.09, 6.04)**
Education				
Beyond High school	35(58.3)	25(41.7)	1	1
High school	124(63.6)	71(36.4)	1.25(0.69,2.25)	0.96(0.49,1.86)
Elementary	76(61.3)	48(38.7)	1.13(0.60,2.12)	0.86(0.40,1.83)
Illiterates (No education)	29(67.4)	14(32.6)	1.48(0.65,3.36)	1.38(0.54,3.56)
Duration of illness				
Less than 1 year	41(48.2)	44(51.8)	1	1
1 – 5 years	87(58.4)	62(41.6)	1.50(0.88,2.57)	1.25(0.69,2.26)
>5years	136(72.3)	52(27.7)	2.81(1.649,4.78)	**2.11(1.17, 3.82)**

Discussion

Despite high prevalence reports of IPV in community-based studies in Ethiopia, no study focused on women with chronic mental illness. In this study, we found a high lifetime prevalence and recent IPV in this vulnerable group of the population.

A significant proportion (62%) of women conveyed experiences of IPV in their lifetime, which occurred quite frequently, signifying that this is a common experience of women with chronic mental illness. This finding is similar to a previous study from rural Ethiopia, which reported 60.7% violence against people with CMI (22). Likewise, the finding of IPV in this study is as high as a WHO community prevalence study report from Ethiopia, which is 72% (18), and Tanzanian study (61%) (23). Our findings are also higher than a community study in northern Ethiopia (24) and a report from a systematic review suggesting a prevalence of 33% IPV among women with CMI attending outpatient clinic(25). The difference can be explained by study population differences; the participants of the northern Ethiopian study were women in a rural community, while our study participants were urban residents and had higher educational levels. This study also reported (44%) recent IPV, which is higher than studies from high-income countries, such as 21% reporting IPV in the last twelve months from the UK (26) and 30.3 % in Spain (27). This is consistent with the assertion that women with CMI constitute a vulnerable segment of the population who need special protection (9). Health care providers should investigate about all types of recent IPV among reproductive age women with CMI.

The prevalence of physical violence was also found to be high in this study (38.5%), and this is comparable with other results from some African (28) and South Asian countries (29). However, our finding is lower than the prevalence reported from rural Ethiopia (18), which may be due to underreporting by our study participants who might be more dependent on their partners for

support towards the care of their mental illness. Physical violence is an important psychosocial issue with detrimental effects on the course of the pre-existing mental illness hence contributing to gender disparities in the treatment outcomes of CMI. Additionally, our study found that IPV is associated with a longer duration of illness. Similarly, another Ethiopian study found association between IPV and depression (18).

Despite a significant number of participants who reported physical violence in this study, only a small proportion sought health care for their injuries. This is consistent with the low level of help-seeking behaviour for IPV related injuries as reported by other studies in Ethiopia and other global studies (5, 30, 31). A varying degree of emotional violence was also reported in 60% of participants, consistent with findings from Tanzania (23). It also has a significant association with poor mental health, as reported by other African countries (23, 32, 33).

This study found that violence and spousal control are common concerns in relation to the human rights and well-being of women with CMI. We found that violence in the form of physical violence was associated with violence in other forms; this is consistent with research that has found that physical violence is frequently related to sexual or and psychological coercion. Mental health care providers need to routinely inquire about IPV during outpatient visits to offer appropriate interventions. Our study had not found an association between IPV and women's education, which contrasts with a previous study from Sudan (28).

Despite the limitations of this research, which included being a hospital-based study, purely urban sample and cultural bias of reporting, we have attempted to minimise non-disclosure in our methods. Such non-disclosure may link in with cultural taboos in relation to the topic. However, we used experienced, female psychiatric nurses do the interviews in order to prevent any discomfort to participants, and to try to minimise risk of non-disclosure. We believe that the

current study's findings will help other researchers further investigate the observed relationships of IPV and CMI through longitudinal studies with larger samples and the effect of these experiences on the prognosis of their mental illness. As a preventive strategy of IPV, continuous research is recommended to reduce the burden of chronic mental illness. IPV was associated with being unemployed or daily labourer/housemaid status in this study which is consistent with the WHO multi-site study, which found employment as a protective factor (6). in comparison, findings from other sub-Saharan African countries are not consistent (34, 35). This can be explained by cultural differences and study settings. However, causation cannot be established in our study due to the cross-sectional study design. Further studies are required to develop interventions intended at reducing IPV among women with CMI and test their effectiveness. Even though the participation was voluntary, the fact that no woman declined to participate in this study adds to the strengths of our findings.

Conclusions

IPV was found to be highly prevalent among women with chronic mental illness living in urban settings in Ethiopia. Given the detrimental effect of IPV on mental health, it may contribute to disparities in CMI clinical outcomes and quality of life among female patients. In addition, unemployment and a longer duration of CMI are associated with a higher prevalence of IPV.

Psychiatric outpatient clinics are an essential point of contact for women with mental illness who are experiencing IPV. The treatment for mental disorders needs to include effective interventions for women who are also IPV victims. Mental health professionals play a key role in addressing IPV in this population.

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Author Contributors

We declare that all authors have made substantial contributions. TZ, MT, ND and DB conceptualise conceived the study, developed the design. TZ and ND collected and managed data. TZ, ND and DB performed the preliminary data analysis. TZ and MT performed the final data analysis. All authors contributed to the interpretation of results. TZ drafted the manuscript, and all authors contributed to critical revisions of the manuscript. Finally, all authors read and approved the final manuscript.

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Competing interest, the authors declare that they have no competing interests.

Data availability statement

The authors confirm that the availability of data. Dataset is not publicly available at this point because it contains sensitive information. The data that support the findings of this study are available from the corresponding author, [TZ], upon reasonable request.

Consent for publication

Not applicable.

Ethics statement

This project has been approved by the Millennium Medical College Institutional Ethics Review Board at St. Paul's Hospital (Ref. 001/2016).

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1. Figure 1. Sampling schedule of the selection of women included in the study

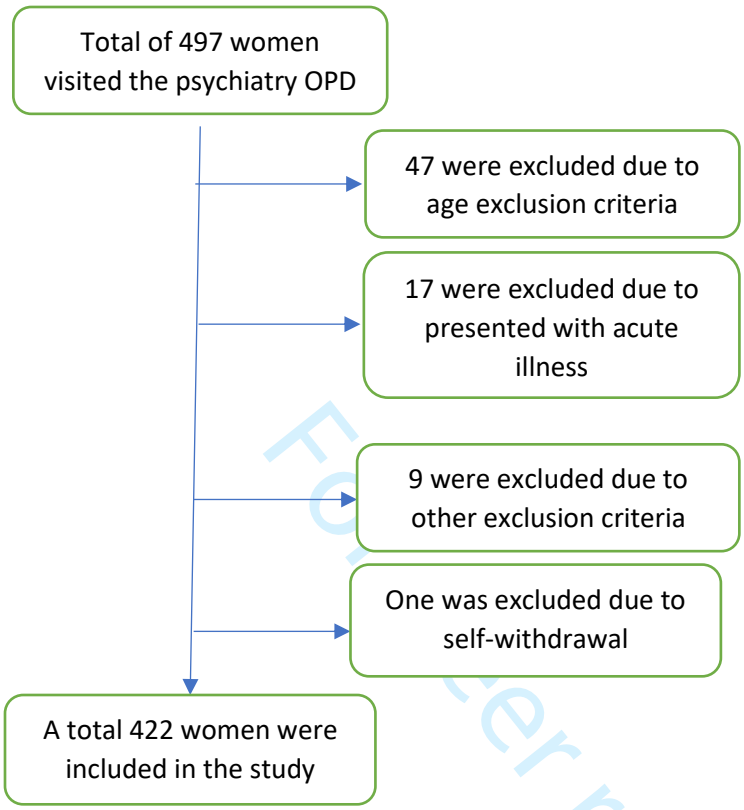

Figure 1 Sampling schedule of the selection of women included in the study

Reporting checklist for cross sectional study.

Based on the STROBE cross sectional guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

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In your methods section, say that you used the STROBE cross sectionalreporting guidelines, and cite them as:

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		Reporting Item	Page Number
Title and abstract			
Title	#1a	Indicate the study's design with a commonly used term in the title or the abstract	1

Abstract	#1b	Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background / rationale	#2	Explain the scientific background and rationale for the investigation being reported	3
Objectives	#3	State specific objectives, including any prespecified hypotheses	4
Methods			
Study design	#4	Present key elements of study design early in the paper	5
Setting	#5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5
Eligibility criteria	#6a	Give the eligibility criteria, and the sources and methods of selection of participants.	
	#7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	
Data sources / measurement	#8	For each variable of interest give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group. Give information separately for for exposed and unexposed groups if applicable.	6

Bias	#9	Describe any efforts to address potential sources of bias	5,6
Study size	#10	Explain how the study size was arrived at	5
Quantitative variables	#11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why	6,7
Statistical methods	#12a	Describe all statistical methods, including those used to control for confounding	6,7
Statistical methods	#12b	Describe any methods used to examine subgroups and interactions	6,7
Statistical methods	#12c	Explain how missing data were addressed	N/A
Statistical methods	#12d	If applicable, describe analytical methods taking account of sampling strategy	N/A
Statistical methods	#12e	Describe any sensitivity analyses	N/A
Results			
Participants	#13a	Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed. Give information separately for for exposed and unexposed groups if applicable.	7
Participants	#13b	Give reasons for non-participation at each stage	N/A

Participants	#13c	Consider use of a flow diagram	
Descriptive data	#14a	Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders. Give information separately for exposed and unexposed groups if applicable.	7,8
Descriptive data	#14b	Indicate number of participants with missing data for each variable of interest	N/A
Outcome data	#15	Report numbers of outcome events or summary measures. Give information separately for exposed and unexposed groups if applicable.	10,11,12
Main results	#16a	Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	9,10
Main results	#16b	Report category boundaries when continuous variables were categorized	N/A
Main results	#16c	If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A
Other analyses	#17	Report other analyses done—e.g., analyses of subgroups and interactions, and sensitivity analyses	11,12
Discussion			
Key results	#18	Summarise key results with reference to study objectives	12

Limitations	#19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias.	24
Interpretation	#20	Give a cautious overall interpretation considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence.	24
Generalisability	#21	Discuss the generalisability (external validity) of the study results	2
Other Information			
Funding	#22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	15