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Prevalence and perceptions of gender-based violence, and factors associated with gender-based violence among adolescents in Addis Ababa, Ethiopia: A Cross-sectional study

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Abstract

This study examined the prevalence and perception of Gender-Based Violence (GBV) and factors associated with GBV among in-school Ethiopian adolescents. This cross-sectional quantitative study was conducted in Addis Ababa with 1,014 male and female adolescents aged 15-19. We examined differences by sex using the two-sample test of proportions and used multiple regression models to identify factors associated with GBV. Male respondents reported higher acceptability of GBV, while the overall mean empowerment construct was higher among females. Older adolescents (AOR: 1.43, 95% CI: 1.21, 1.69) and females (AOR: 2.15, 95% CI: 1.46, 3.14) were significantly more likely to experience sexual violence, and males were more likely to experience physical violence (AOR: 3.71, 95% CI: 2.15, 6.39). The study emphasizes the need for urgent multisectoral engagement to prevent and respond to GBV among adolescents. Tailored, school-related interventions may be an important means to address, prevent, and refer survivors of GBV. *(Afr J Reprod Health 2023; 27 [9]: 31-42).*

Keywords: GBV, adolescents, Ethiopia, violence, prevalence, perceptions

Résumé

Cette étude a examiné la prévalence et la perception de la violence basée sur le genre (VBG) et les facteurs associés à la VBG parmi les adolescents éthiopiens scolarisés. Cette étude quantitative transversale a été menée à Addis-Abeba auprès de 1 014 adolescents, hommes et femmes, âgés de 15 à 19 ans. Nous avons examiné les différences selon le sexe à l'aide du test des proportions à deux échantillons et avons utilisé des modèles de régression multiple pour identifier les facteurs associés à la VBG. Les hommes interrogés ont signalé une plus grande acceptabilité de la VBG, tandis que le concept moyen global d'autonomisation était plus élevé chez les femmes. Les adolescents plus âgés (AOR : 1,43, IC à 95 % : 1,21, 1,69) et les femmes (AOR : 2,15, IC à 95 % : 1,46, 3,14) étaient significativement plus susceptibles d'être victimes de violence sexuelle, et les hommes étaient plus susceptibles d'être victimes de violence physique (AOR : 3,71, IC 95% : 2,15, 6,39). L'étude souligne la nécessité d'un engagement multisectoriel urgent pour prévenir et répondre à la VBG chez les adolescents. Des interventions adaptées et liées à l'école peuvent être un moyen important de traiter, de prévenir et d'orienter les survivants de VBG. *(Afr J Reprod Health 2023; 27 [9]: 31-42).*

Mots-clés: VBG, adolescents, Éthiopie, violence, prévalence, perception

Introduction

Ethiopia has one of the highest gender-based violence (GBV) prevalence rates in sub-Saharan Africa (SSA), especially among adolescents[1,2] . Evidence shows that as of 2016, 24.3% of female adolescents aged 15-19 in Ethiopia had experienced physical or sexual violence in the past 12 months[3]. However, estimates of GBV prevalence among females vary, and more recent evidence suggests that the prevalence is likely to have increased since the onset of the COVID-19 pandemic, although the extent of this increase is uncertain[4,5].

While Ethiopia's legislative and policy framework has emphasized promoting equality, including gender equality, and in recent years has paid increasing attention to GBV, there are specific gaps and weaknesses. For example, marital rape is not criminalized, and intimate partner violence is excluded from the Criminal Code in extenuating circumstances (gross provocation, shock, surprise, emotion, or passion)[6]. Furthermore, evidence

suggests that current challenges with the policy framework to adequately address GBV, in conjunction with other factors such as structural barriers and societal norms, perpetuate the high prevalence of GBV in Ethiopia[7,8].

Additionally, males and females experience GBV differently, yet experience of sexual violence has almost exclusively been studied in females in Ethiopia and Africa more broadly. The limited evidence from within and outside of Ethiopia suggests that female adolescents are more likely to report experiences of sexual violence than males[9,10]. In contrast, research that focused on experience of peer-based physical violence found that adolescent Ethiopian males were more likely to report this physical violence as compared to females[9,11]. Because of these gender differences and challenges with consistency in reported GBV prevalence, further exploration of the prevalence of GBV among Ethiopian adolescents, factors that influence this, and how this differs according to male and female adolescents requires immediate attention.

Factors associated with GBV, such as feelings of empowerment and GBV attitudes, are nuanced. Evidence illustrates that attitudes towards both physical and sexual violence manifest differently between males and females[12,13]. However, harmful attitudes towards GBV are prevalent among both males and females in Ethiopia. For example, the 2016 Ethiopian Demographic and Health Survey reported that 63% of females and 28% of males agreed that a husband could beat his wife for at least one of five specified reasons[3]. These harmful attitudes may be indicative of harmful gender norms, which contribute to poor GBV outcomes in Ethiopia[14]. Additionally, concepts of empowerment, and particularly the components of voice and agency, may serve a more complex role in GBV for boys and girls than initially thought. For example, evidence from the Democratic Republic of Congo and Rwanda suggests that peer-based physical violence is associated with youths' agency, but findings elsewhere have been mixed[11]. Additionally, although self-reported agency often differs between male and female adolescents, the association of agency and GBV between males and females has not been explored[15].

Given this evidence related to gender disparities and experience of GBV, there is a need to better understand how these gender differences manifest and how interventions can be better designed with these insights in mind to prevent and respond to GBV and effectively address these nuances. For adolescents, schools may provide an important intervention opportunity to address these norms, prevent GBV, and serve as a referral mechanism for GBV survivors.

The present study examined in-school adolescents' perception towards GBV, as well as GBV prevalence, with attention to differences between males and females. In addition to shedding light on the gender dynamic of Ethiopian adolescents in relation to GBV, this study considers the educational setting as an underused entry point for addressing GBV and a resource for GBV information and care. Findings of this study determined factors associated with GBV among in-school adolescents and contributed to fill gaps in the literature on adolescents' experiences of GBV in Ethiopia.

Methods

Definition and framing of GBV

The concept of GBV is not limited to a singular definition and is often conflated with violence against women, though people of all gender identities can experience GBV. The United Nations High Commissioner for Refugees (UNHCR) defines GBV as "harmful acts directed at an individual based on their gender. It is rooted in gender inequality, the abuse of power and harmful norms"[16]. These harmful acts can include physical, sexual, or mental harm or the threat of these acts. For the purposes of this study, we are using a similarly broad definition of gender-based violence, including physical and sexual violence experienced by adolescents.

Study design and participants

We implemented a cross-sectional study in March 2021 of male and female adolescents aged 15-19 in Addis Ababa that were either enrolled in school or in night-school classes. We recruited in-school students from public and private schools that provided day or night classes. Our exclusion criteria included students who were absent from school during the study period, whose parents did not consent, or who did not assent to participate.

Sampling and recruitment procedure

A multi-staged stratified sampling frame was used to select study participants. We received a complete list of schools from Addis Ababa Education Bureau and used a list of schools from six administrative districts of Arada sub-city for the sampling frame. We selected secondary schools in the first stage and students in the second stage. We used probability proportional to size based on the number of students enrolled in either day or night school to select nine schools from the list of 19 public and private schools. Working with school administrators, we then obtained an updated list of students aged 15-19 from each of the schools. Using this list, we stratified students by sex and using systematic random sampling selected an equal proportion of male and female respondents to meet the sample size requirements.

Sample size

A minimum sample size of 1,110 respondents was needed to detect a 15% difference between males and females related to GBV prevalence at the 5% significance level with 80% power, and a design effect of 4. Given the uncertainty of GBV prevalence, we assumed 50% to generate the maximum needed sample size. A 10% adjustment was made for non-response.

Study instrument

We developed a questionnaire using validated scales or questions to assess our variables of interest. We adapted the World Health Organization (WHO) adolescent questionnaire for the assessment, which is designed to be suitable for adolescents and young people and has been used in several global studies related to sexual and reproductive health. The instrument is also intended to be equally appropriate for males and females with different levels of education. The instrument assesses norms, attitudes, and sexual conduct, as well as knowledge, attitudes, and behaviors[17]. We made modifications to the instrument to include other validated dimensions of empowerment and perceptions of GBV. Specifically, we included a cross-culturally validated empowerment sub-scale to assess adolescent voice (i.e. the ability to articulate choices and opinions) comprised of seven items, measured across a three-point Likert scale ("never", "sometimes", "often"), where higher scores were indicative of greater empowerment[18]. We selected this construct given research has demonstrated that voice is consistent with other models of empowerment and often central to the definition of empowerment[19]. We also adapted items from the "social norms and beliefs about gender-based violence scale", which has been validated in low-resource and humanitarian settings[20]. We included items to assess the prevalence of GBV based on validated questions implemented among young adolescents in low- and middle-income countries[21]. The final questionnaire had six components namely: demographic characteristics, awareness, knowledge, perceptions, sexual behavior, and self-reported experience of violent behaviors.

The study team translated the quantitative questionnaire from English into Amharic before being uploaded into Open Data Kit software for actual data collection. The actual data was collected through a face-to-face computer-assisted personal interviewing approach in the Amharic language. The translation was confirmed by back-translation, by consensus with the multilingual fieldwork team, and through a pilot test among 30 students from two schools that were excluded from the sampling frame. The questionnaire took approximately 50-60 mins to complete.

Data collection

The study began with orientation visits to share more about the study purpose with the schools in March 2021. The study team held meetings with the teachers and school administrators to obtain lists of the students, discuss the objectives of the study, and gain their consent and cooperation. Head teachers then notified staff, students, and parents/guardians of the study. The study team further engaged teachers to provide logistical support as required.

Given the sensitivity of the subject of our research, we worked with a small team of well-trained and closely supervised interviewers. Interviewers completed a four-day training that included Do No Harm Framework principles, referral techniques, and approaches to be used for any identified survivors, as well as training on the study procedures and the questionnaire. During the data collection (October-November 2021), the study team implemented routine debriefs and conducted daily supervision that focused on data quality during

the data collection. The principal investigator and interviewers also routinely communicated with regards to any referrals made for identified GBV survivors (see ethics section).

Eight trained interviewers, including four males and four females, conducted face-to-face interviews with the selected students. To minimize bias, female respondents were only interviewed by female interviewers, and male respondents were only interviewed by male interviewers. Interviews took place in private locations, and interviewers were trained to establish rapport with respondents to encourage disclosure. Participants were thus given the opportunity to report their experiences confidentially.

Study variables

Physical violence was defined by a single item that assessed: During the last six months, have you ever been slapped, hit, or otherwise physically hurt by a boy or girl in a way that you did not want? Respondents that answered affirmatively were considered to have experienced physical violence.
Experience of sexual violence was defined by a construct; with respondents who responded affirmatively to a series of three questions that referred to unsolicited touching, unwanted kissing, and being forced to perform a type of sexual act against respondents' wish. Respondents who answered affirmatively to any of the questions were considered to have experienced sexual violence. These two items were used as dependent variables.

The explanatory variables were selected socio-demographic characteristics, including sex, age, class, and religion, as well as self-reported empowerment and perceptions around GBV. Self-reported empowerment and perceptions around GBV were used as independent variables.

We developed the overall "Empowerment Construct" scaled construct by taking the mean score of the seven scaled items, across the three-point Likert scale. Responses to the scaled items included levels of frequency. For example, the study team ascertained how often the following statement was true: "My parents or guardians ask for my opinion on things" and response options included "Never/Rarely" (1); "Sometimes" (2); or "Often" (3). Higher scores were indicative of greater empowerment. To develop the construct, we summated the seven items and calculated an overall mean score, where higher scores are indicative of greater empowerment. We coded "Don't know" and "Refuse to answer" responses to variables as missing, and we excluded observations with missing data from the calculations.

We recoded perceptions of GBV variables as dichotomous by coding respondents that either "Agreed a lot" or "Agreed a little" with each statement as "Agree". Disagree was coded as respondents that "Neither Agree nor Disagree", "Disagreed a Little" or "Disagreed a lot". We also recoded the perceptions of empowerment variables as dichotomous for comparison between sexes, with "Often" considered affirmative compared to "Sometime" and "Never".

Data analysis

Psychometric analyses were used to determine scale reliability and validity[22,23]. Cronbach's alpha for the empowerment sub-scale was acceptable at 0.72. The multicollinearity of the independent variables was assessed; correlation coefficients were also assessed to determine collinearity and associations were deemed problematic if intercorrelations were greater than r = 0.80. Descriptive statistics were conducted to compare covariates by sex. Two-sample t-tests were used to examine significant differences between continuous and binary variables, including the association between the empowerment construct and sex. The two-sample test of proportions was used to evaluate associations and 95% confidence intervals between two binary variables, including the association between sex and experiences of violence, perceptions of violence, and dichotomous empowerment variables. We used Fisher's Exact Test to examine significant differences between two binary variables with a cell count of fewer than 10.

We developed two logistic regression models for each of two dependent variables: experience of sexual violence and experience of physical violence, to identify the contributions of each covariate predicting the two outcome variables. We included the empowerment scale and perceptions of GBV to understand their theoretically probable association with physical or sexual abuse as independent variables. The study team controlled for sex and other demographic characteristics (educational level, sex, and religion) in each model. For each covariate, the adjusted odds ratio (AOR) was estimated by modeling the simultaneous effect of all covariates considered. We

assumed that data were missing completely at random for the prevalence. Missing values were handled by listwise deletion, resulting in 923-926 observations per regression model for sexual violence and physical violence respectively. The final model presents factors that are statistically significant ($p < 0.05$) adjusted associations. The study team used Stata version 16 for all analyses.

Ethical approval

EngenderHealth Ethiopia facilitated and secured Ethical approval from the Internal Review Board of the Ethiopian Public Health Association (Ref. No EPHA/OG/357/21 on July 13, 2021) and with the support letter from Addis Ababa City Administration Health Bureau. The principles of ethical conduct of research involving humans were observed including respect for autonomy expressed through voluntary informed consent, beneficence expressed through a favorable balance of benefits and risks, justice expressed through fair inclusion, and privacy of information ensured by anonymized collection and use of data. The dataset is anonymized by non-inclusion of direct identifiers.

Prior to administering the questionnaire, interviewers obtained written consent from all participants above the age of 18. For minor participants (less than 18 years of age), the study team obtained consent from the parents/guardians on the behalf of participants, and individual assent to participate from the younger adolescents. The study team obtained consent/assent after participants were informed of the purpose of the research, the rights of participants, and measures that would be taken by the study team to protect them and the data. Participation was voluntary. Confidentiality and anonymity were maintained. In addition, interviews provided an information letter that included sources for additional information and treatment for GBV survivors. Interviewers that identified GBV survivors subsequently referred survivors to youth-friendly centers for support and/or local clinics for follow-up, in accordance with the Ethiopian guidelines and procedures. In addition, a trained counselor was available at the center to which referrals were directed for any adolescent who requested counseling during or after the interview process.

Results

Demographic characteristics

In total, 53.8% of respondents were female, with the majority aged 15 (31.1%) and 16 (29.1%) and currently in years 9-10. Most respondents were attending day school (82.9%) as compared to night school (17.1%). Few respondents were working for pay (15.4%). The overwhelming majority had never been married (0.1%).

Table 1: Socio-demographic characteristics of adolescents in Addis Ababa, Ethiopia

Variables	Frequency n=1,014	%
Sex		
Male	468	46.2
Female	546	53.8
Age (years) mean=16.41		
15	315	31.1
16	295	29.1
17	178	17.6
18	130	12.8
19	96	9.8
Current Grade		
Grade 2-8	191	18.8
Grade 9-10	823	81.2
School Status		
Day School	841	82.9
Night School	173	17.1
Currently working for pay	156	15.4
Ever been married	1	0.1
Religion		
Orthodox Christian	776	76.5
Muslim	130	12.8
Protestant	103	10.2
Other	5	0.5

Prevalence of physical or sexual violence

We observed a higher prevalence of physical violence among males compared to females. Males were significantly more likely than females to report having experienced physical violence in the last 6 months (16.1% versus 4.2%, $p<0.001$). In contrast, females were significantly more likely to experience sexual violence than males. The overall sexual violence construct found that the prevalence of sexual violence among females was 24.6% compared to 14.2% among males ($p<0.001$). Females were statistically more likely to respond

Table 2: Prevalence of having experienced physical or sexual violence among adolescents ages 15-19 in Addis Ababa, Ethiopia

	Males		**Females**		**Total (Agreement)**		**P-value**
	n	**% (95% CI) n=468****	**n**	**% (95% CI) n=546****	**n**	**% (95% CI) n=1,014****	
Experiences of Physical Violence							
During the last 6 months, have you ever been slapped, hit, or otherwise physically hurt by a boy or girl in a way that you did not want?	75	16.1 (12.8, 19.4)	23	4.2 (2.5, 5.9)	98	9.7 (8.0, 11.7)	<0.001
Experiences of Sexual Violence							
Have you ever been subjected to unwanted kissing or touching on sexual parts by anyone who is not your partner?	54	11.6 (8.7, 14.6)	74	13.7 (10.8, 16.5)	128	12.7 (10.8, 14.9)	0.339
Has any other person ever attempted or forced you to have sexual intercourse?	4	0.9 (**)	33	6.1 (**)	37	3.7 (2.7, 5.0)	<0.001
Has an adult ever touched you in your private parts except when being bathed?	22	4.7 (2.8, 6.6)	95	17.4 (14.2, 20.6)	117	11.5 (9.7, 13.7)	<0.001
Overall sexual violence construct	66	14.2 (11.0, 17.3)	133	24.6 (21.0, 28.2)	199	19.8 (17.4, 22.4)	<0.001

** Total n varies between 1,006 and 1,014 for variables among all participants*
***Fisher's Exact Test was used to generate the p-value due to low cell count. Therefore, no 95% confidence was available*

Table 3: Differences in perceptions and attitudes of sexual and GBV (SGBV) between male and female adolescents ages 15-19 in Addis Ababa, Ethiopia

	Males (n=468*)		**Females (n=546*)**		**Total (Agreement)**		**P-value**
	n	% (95% CI, %)	n	% (95% CI, %)	n	% (95% CI, %)	
Perceptions of SGBV							
A girl should tolerate violence from her partner or other boys to keep her relationship well	67	14.5 (11.3, 17.7)	29	5.3 (3.4, 7.2)	96	9.5 (7.9, 11.5)	<0.001
It is alright for a boy to beat his girlfriend if she is unfaithful or lying.	86	18.7 (15.2, 22.3)	41	7.6 (5.4, 9.8)	127	12.5 (10.8, 14.9)	<0.001
A boy can hit his girlfriend if she won't have sex with him.	22	4.8 (**)	7	1.3 (**)	29	2.9 (2.0, 4.1)	0.001
A boy using violence against his girlfriend is a private matter that shouldn't be discussed outside the couple.	85	18.6 (15.0, 22.2)	80	14.7 (11.8, 17.7)	165	16.5 (14.3, 18.9)	0.101

% of respondents that agreed with any statement	97	39.2 (34.7, 43.7)	21.6	(18.2, 25.1)	193	29.6	(26.9, 32.6)	<0.001

**Total n varies between 998 and 1,013*
***Fisher's Exact Test was used to generate the p-value due to low cell count. Therefore, no 95% confidence was available*.

Table 4: Differences in perceptions of empowerment between male and female adolescents ages 15-19 in Addis Ababa, Ethiopia

	Males (n=468*)		**Females (n=546*)**		**Total (Agreement)**		**P-value**
	n	**% (95% CI)**	**n**	**% (95% CI)**	**n**	**% (95% CI, %)**	
Perceptions of empowerment* (Response=often)							
My parents or guardians ask for my opinion on things	98	21.6 (17.8, 25.4)	220	40.4 (36.3, 44.6)	318	31.4 (29.0, 34.8)	<0.001
My parents or guardian listen when I share my opinion	168	36.1 (31.8, 40.5)	334	61.5 (57.4, 65.6)	502	49.8 (46.7, 52.9)	<0.001
My friends ask my advice when they have a problem	84	18.1 (14.6, 21.5)	236	43.5 (39.3, 47.6)	320	31.7 (28.9, 34.7)	<0.001
If I see something wrong in school or the neighborhood I feel I can tell someone and they will listen	88	19.1 (15.5, 22.7)	144	26.8 (23.0, 30.5)	232	23.2 (20.7, 25.9)	0.004
I can speak up in class when I have a comment or question	168	36.0 (31.6, 40.3)	268	49.1 (44.9, 53.3)	436	43.0 (40.0, 46.1)	<0.001
I can speak up when I see someone else being hurt	123	26.3 (22.3, 30.3)	252	46.6 (42.4, 50.7)	375	37.2 (34.3, 40.2)	<0.001
I can ask adults for help when I need it	141	30.4 (26.3, 34.6)	214	39.5 (35.4, 43.6)	355	35.0 (32.4, 38.3)	0.003
		Mean (95% CI)		**Mean (95% CI)**		**Mean (95% CI)**	
Overall Mean Empowerment Construct		2.05 (2.01, 2.09)		2.29 (2.25, 2.32)		2.18 (2.15, 2.20)	<0.001

**Total n varies between 998 and 1,013*

affirmatively to the questions "Has any other person ever attempted or forced you to have sexual intercourse?" (p<0.001) and "Has an adult ever touched you in your private parts except when being bathed?" (p<0.001) (Table 2).

Perceptions of GBV

Regarding perceptions of GBV, significant differences between male and female respondents were observed across four indicators, with male respondents reporting more favorable attitudes regarding acceptability of GBV. Our results show that significantly more adolescent males than females agreed with the statement that "A girl should tolerate violence from her partner or other boys to keep her relationship well" (14.5% and 5.3%, respectively; p<0.001). Similarly, more adolescent males as compared with females agreed with the statement that "It is alright for a boy to beat his girlfriend if she is unfaithful or lying" (18.7% versus 7.6%, respectively, p<0.001). While not significantly different between males and females, we did observe highest agreement to the statement "A boy using violence against his girlfriend is a

Table 5: Adjusted odds ratios for experiencing sexual and physical violence among adolescents

	Sexual Violence						**Physical Violence**					
	Overall		**Female Adolescents**		**Male Adolescents**		**Overall**		**Female Adolescents**		**Male Adolescents**	
	AOR (95% CI)	**P-value**	**AOR (95% CI)**	**P-value**	**AOR (95% CI)**	**P- value**	**AOR (95% CI)**	**P-value**	**AOR (95% CI)**	**P-value**	**AOR (95% CI)**	**P-value**
Empowerment subscale*	0.68 (0.45, 1.03)	0.068	0.66 (0.39, 1.12)	0.13	0.74 (0.37, 1.47)	0.39	0.61 (0.35, 1.05)	0.076	1.47 (0.45, 4.79)	0.52	0.44 (0.23, 0.83)	0.011
Perceptions of SGBV												
A girl should tolerate violence from her partner or other boys to keep her relationship well.	1.20 (0.65, 2.20)	0.566	0.35 (0.09, 1.27)	0.11	1.90 (0.90, 4.03)	0.09	1.24 (0.62, 2.47)	0.547	1*	-	1.53 (0.74, 3.18)	0.25
It is alright for a boy to beat his girlfriend if she is unfaithful or lying.	1.37 (0.80, 2.35)	0.256	1.04 (0.42, 2.59)	0.94	1.57 (0.78, 3.16)	0.21	0.87 (0.45, 1.70)	0.689	1.05 (0.17, 6.65)	0.96	0.83 (0.40, 1.71)	0.61
A boy can hit his girlfriend if she won't have sex with him.	0.49 (0.13, 1.85)	0.295	0.81 (0.12, 5.40)	0.83	0.22 (0.03, 1.83)	0.16	1.43 (0.48, 4.34)	0.523	3.14 (0.24, 41.72)	0.39	1.18 (0.34, 4.06)	0.79
A boy using violence against his girlfriend is a private matter that shouldn't be discussed outside the couple.	0.72 (0.44, 1.20)	0.206	0.46 (0.22, 0.96)	0.04	1.09 (0.52, 2.29)	0.81	1.34 (0.74, 2.42)	0.336	1.63 (0.46, 5.72)	0.45	1.22 (0.61, 2.41)	0.57
Socio demographics												
Age (years)	1.43 (1.21, 1.69)	<0.001	1.31 (1.07, 1.61)	0.01	1.74 (1.29, 2.36)	<0.001	0.97 (0.76, 1.24)	0.817	0.84 (0.53, 1.34)	0.46	1.02 (0.78, 1.37)	0.90
Gender												
Male	1.00	-	-	-	-	-	3.71 (2.15, 6.39)	<0.001	-	-	-	-
Female	2.15 (1.46, 3.14)	<0.001	-	-	-	-	1.00	-	-	-	-	-
Current Grade												
Grade 2-8	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Grade 9-10	0.97 (0.59, 1.60)	0.904	1.16 (0.62, 2.15)	0.64	0.59 (0.24, 1.45)	0.25	1.62 (0.77, 3.41)	0.205	2.93 (0.57, 15.10)	0.20	1.30 (0.55, 3.07)	0.55
School Status												
Day School	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Night School	0.63 (0.32, 1.25)	0.183	1.23 (0.56, 2.72)	0.61	0.15 (0.04, 0.57)	0.01	0.61 (0.20, 1.83)	0.378	2.37 (0.41, 13.58)	0.33	0.29 (0.07, 1.13)	0.07
Currently working for pay												
No	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Yes	1.36 (0.72, 2.64)	0.345	1.51 (0.66, 3.48)	0.33	1.82 (0.64, 5.17)	0.26	1.78 (0.73, 4.34)	0.203	1.01 (0.15, 6.75)	0.99	2.62 (0.98, 7.01)	0.06
Religion												
Orthodox Christian	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Muslim	0.98 (0.59, 1.66)	0.952	1.40 (0.72, 2,72)	0.33	0.62 (0.25, 1.53)	0.30	0.91 (0.45, 1.83)	0.796	0.37 (0.05, 2.92)	0.35	1.08 (0.50, 2.34)	0.85
Protestant	0.70 (0.39, 1.25)	0.225	0.84 (0.43, 1.64)	0.60	0.44 (0.12, 1.63)	0.22	0.76 (0.31, 1.86)	0.555	0.32 (0.04, 2.47)	0.28	1.04 (0.37, 2.94)	0.94

**No female adolescents who agreed that "A girl should tolerate violence from her partner or other boys to keep her relationship well" had reported experiencing physical violence in the past 6 months.*

private matter that shouldn't be discussed outside the couple" (16.5% overall) (Table 3).

Empowerment

Across all the individual empowerment indicators, we observed higher perceptions of empowerment among females as compared to males. The overall mean empowerment construct was significantly higher among females (2.29) as compared to males (2.05) p<0.001. Across each empowerment item, we observed statistically significant differences, with females reporting higher levels of empowerment. For example, females are significantly more likely to respond "often" to the statement "My parents or guardians listen when I share my opinion" as compared to males (61.5% versus 36.1%, p<0.001) (Table 4).

Factors associated with sexual and physical violence

Among all respondents, the odds of ever experiencing sexual violence increased withincreasing age of the respondents (AOR, 1.43; CI: 1.21, 1.69; p<0.001) and was greater among female respondents compared with males (AOR 2.15; CI: 1.46, 3.14, p<0.001). The odds of experiencing physical violence in the last 6 months was greater among males (AOR: 3.71; CI: 2.15, 6.39, p<0.001). Across both dependent variables, respondents who reported experiencing lower levels of empowerment, as measured by the empowerment construct, had higher odds of experiencing both sexual and physical violence (AORs: 0.68 and 0.61 respectively). This finding was borderline statistically significant. Significant differences for this variable are observed among male adolescents - respondents who reported experiencing higher levels of empowerment had significantly lower odds of experiencing physical violence (AOR: 0.44; CI: 0.23, 0.83, p<0.001).

All other variables, including perceptions of GBV, grade level, school status, working for pay, and religion were not significantly associated with experiencing physical or sexual violence among the entire sample. Some differences are noted across the sample of male and female adolescents. Female adolescents who agreed with the statement: "*A boy using violence against his girlfriend is a private matter that shouldn't be discussed outside the couple.*" had lower odds of experiencing sexual violence (AOR: 0.46; CI: 0.22, 0.96, p<0.04). Among male adolescents who were in night school had significantly lower odds of experiencing sexual violence (AOR: 0.15; CI: 0.04, 0.57, p<0.01).

Discussion

Our study provides additional evidence that at least one in five male and female adolescents may experience physical or/and sexual violence. Further, our findings that female adolescents were at a higher risk of experiencing sexual violence compared to males aligned with existing evidence within Ethiopia, and in other countries in Sub-Saharan Africa (SSA) and elsewhere[9,10,24,25]. Similarly, our findings that male adolescents were at a higher risk of experiencing physical violence as compared to female adolescents are consistent with existing literature[2,9,11]. The prevalence of sexual-based violence among male adolescents was also notable, adding to limited evidence on the prevalence, though additional research among adolescent boys is merited.

There are few studies evaluating self-reported empowerment among adolescents in Ethiopia or low and middle income countries more broadly. We observed that female adolescents had greater levels of empowerment as compared to males as measured by the Voices of Empowerment sub-scale. This contrasts with other research implemented in SSA countries, which showed varying results. Specifically, one study found no statistically significant results by sex in Mali and the Democratic Republic of the Congo but in Burkina Faso, Kenya, and Nigeria male adolescents had statistically significantly higher empowerment as compared to females[18]. However, another assessment implemented in Ethiopia, albeit using a different measure of empowerment, found that in more recent years, female adolescents reported overall higher agency levels compared to their male peers[15]. More research should be conducted with a gender lens to better understand self-reported empowerment and its potential implications for other health and rights indicators among adolescents in Ethiopia.

Few studies have assessed the connection between empowerment and experiences of GBV in SSA or other low and middle income countries (LMIC), making this study an important contribution to the literature[26]. While our results were not statistically significant for the overall

sample, we observed that lower levels of empowerment were associated with higher odds of experiencing physical violence among adolescent males. Factors affecting empowerment, and to what extent low empowerment is a risk factor for GBV versus a result of previously experienced violence, is an area for continued inquiry; as well as the linkages between empowerment with other factors such as age, education, poverty, and marital status. Evidence from Kenya suggests that concepts such as self-efficacy may serve as a protective factor against sexual violence[27,28]. Some studies from LMIC that have looked at the effects of GBV on empowerment found that experience of different forms of GBV may reduce self-efficacy and self-esteem; reduce a girl's power to negotiate and make decisions, and are associated with lower levels of power and control in women's relationships[26,29-32]. Additionally, future research should examine if the experience of GBV is perpetrated by other factors, such as standing up for one's rights (e.g., advocating for the right to have education or for delaying marriage), and attempts to further empower oneself. While negative perceptions and attitudes around gender and GBV did not predict a significant difference in experiences of violence between males and females, results demonstrate that these damaging perceptions persist among adolescents, and particularly among males. Male respondents' higher acceptability of GBV scenarios illustrates a disconnect compared with the attitudes of females. The lower acceptability among females of these GBV scenarios may also be tied to their relative increased levels of empowerment. We also note that similar levels of agreement were reported by male and female adolescents around viewing GBV as a private matter; this cultural norm has been reported elsewhere in Ethiopia and may be a particularly persistent norm that should be addressed for both males and females at the community level[33,34]. These attitudes may also align with the current legal framework, which does not consider marital rape to be a crime, and promotes handling intimate violence issues in the private sphere rather than as public offenses[34]. This suggests that addressing and challenging both the social and cultural norms as well as the legal and policy environment is necessary to address negative, harmful norms towards GBV.

Our findings highlight the unique experiences and perceptions of GBV among adolescents and how these might be considered to design interventions that are integrated into community systems and structures relevant to adolescents. Schools, where many adolescents spend much of their time, have previously been identified as highly vulnerable settings for GBV, and our findings confirm that male, in-school adolescents may be significantly more likely to be victims of physical violence as compared to those in night school. There is an opportunity to not only prevent GBV in schools but also use schools as a vehicle to prevent broader violence, address societal violence norms, and as a resource to connect students to GBV services[35]. Additionally, this research emphasizes the importance of working with all adolescents and the key influencers in their lives to prevent and respond to GBV, specifically as this research points to adolescent males both experiencing the harms of GBV and perpetuating these norms. Targeting adolescent boys as key stakeholders and influencers to prevent GBV through positive attitude change could be one pathway to mediate this change. Taking a multi-pronged approach will help to address factors that perpetuate GBV across multiple spheres of the adolescents' environment, including a strengthened prevention and response for adolescent boys.

Limitations

There are limitations to this study that are important to acknowledge. Because this is a cross-sectional study and all variables and outcomes were measured at a single point in time, we cannot make assumptions about temporality or causal interpretations. For example, although our results provide some evidence of an association (borderline statistically significant) between empowerment and experiencing violence, we are unable to determine whether having higher agency would impact the risk of experiencing violence, or whether experiencing violence influenced the adolescents' sense of agency. Future research with study designs that can evaluate the incidence of violence may allow for a clearer interpretation of this association. Another limitation is that the survey in this study was only conducted among in-school youth in Addis Ababa. Therefore, the presented results may not be representative of adolescents in rural areas, out-of-school adolescents, or Ethiopia more broadly. Furthermore, all data were self-reported, including experiencing violence. Students may have

underreported experiencing violence as this is a sensitive topic, which could lead to information bias in the data and underreporting of GBV. In addition, our results may speak to a temporal effect, as older adolescents also have had more time to experience adverse events – a finding that is supported by our female respondents and others[25].

Another limitation of this study is that the interviews only asked about the sex of the participants rather than their self-identified gender. Therefore, the results may not accurately represent the experiences and characteristics of gender-diverse individuals. Additionally, differences in the assessment of empowerment between studies can make comparability of our results to other studies challenging. Studies estimating empowerment in adolescents often assess agency, self-efficacy, or both[15,18,28]. Even while evaluating the same aspect of empowerment, studies can use different questions, making comparability challenging. This study used a subset of agency, "voice", to evaluate empowerment. Few other studies have used these same questions, limiting comparability of results. Finally, another data limitation is that this study only assessed the presence of violence, but not the intensity. Future research should assess both the frequency and severity of violence experienced and associated variables.

Conclusion

The findings from this study contribute to important gaps in the literature on adolescents', and especially male adolescents', experiences of GBV in Ethiopia. They also provide critical evidence on the differences related to sex among adolescents regarding empowerment as expressed through voice, as well as differences in GBV perceptions and attitudes. Addressing violence and the underlying social and gender norms that perpetuate it requires a comprehensive, gender-nuanced approach that targets barriers at the individual, community, and policy levels. Schools may provide one such important opportunity for tailored interventions to prevent, address, and refer GBV survivors.

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