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Association between violence and mental distress, self-harm and suicidal ideation and attempts among young people in Malawi

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Abstract

Background—Mental health problems ranging from depression to more severe acts such as self-harm or suicidal behaviours are a serious problem among adolescents and young adults. Exposure to violence during the life of young people can increase mental health issues for youth. This study examines the relationship between exposure to violence and mental health issues among youth using a nationally representative study in Malawi.

Methods—We analysed data from the nationally representative Violence Against Children Survey from Malawi (2013) to quantify the association between exposures to violence (physical, sexual and emotional) and their relationship with mental distress, self-harm behaviours and suicidal ideation and attempts among youth aged 13–24 years. We evaluated the association of exposures to violence against children with reported mental health conditions among women and men. We used ordinal logistic regression models with appropriate survey weights to assess exposures to violence and the three outcomes of interest.

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Disclaimer The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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Competing interests None declared.

Ethics approval This study involves human participants and was approved by Centers for Disease Control and Prevention's Institutional Review Board and in Malawi by the Malawi National Commission for Science and Technology Ethical Review Board. CDC protocol ID: 6376. Participants gave informed consent to participate in the study before taking part.

Results—Children and youth aged 13–24 years exposed to violence in childhood reported higher levels of adverse mental health effects, including mental distress, self-harm behaviours and suicidal ideation and attempts. The odds of reporting these outcomes increased as the number of violence types increased.

Conclusions—Understanding the risks based on different combinations of exposures to violence in Malawi can help identify populations at higher risk and optimise violence prevention strategies.

INTRODUCTION

Mortality due to suicide has increased close to 60% in several countries from Asia, Africa, Europe and the Americas, and suicide rates have shifted from older towards younger persons making suicide one of the five top causes of death for young adults worldwide.[1] Multiple risk factors associated with the prevalence of self-harm include discrimination, abuse, isolation, violence and conflict in relationships, while at the individual level, previous suicidal behaviours, harmful use of alcohol and financial loss or economic insecurity are important.[2] Other situations such as parental absence in the home due to orphanhood or other causes may increase the risk of violence exposures among children.[3] Similarly, lack of parental support or strong parental bonds may modulate the occurrence of violence in the home as well as the prevalence of mental health issues.[4] Community exposures to violence and their association with emotional distress or suicidal thoughts and behaviours have also been described[5] but data from middle-income and low-income countries are scarce.

Research on the exposures to multiple forms of violence (polyvictimisation) has found that this is associated with adverse health outcomes, including mental health.[6] Children who had experienced physical, sexual and emotional violence are more likely to report poor mental health than those who had only experienced one type of violence.[7] Studies also show that polyvictimisation can have differential consequences by age[8] or by perpetrator[9] and place[10] and can also be associated with mental health problems spanning both inner-directed versus more external mental health difficulties.[11] Polyvictimisation by caregivers is linked to mental health and interpersonal problems but community violence exposures can also be related to similar mental health issues.[7]

Data from the USA show that among young dating couples, polyvictimisation was a strong predictor of post-traumatic stress symptoms for both men and women and was a significant predictor of depressive symptoms for women.[12] A recent meta-analysis found that 38.1% of children in low-income and middle-income countries experienced polyvictimisation that was associated with low cognitive development, developmental problems, poor mental health, increased health risks and a greater likelihood of being victimised or perpetrating violence in the future.[13]

A Violence Against Children Survey (VACS) was conducted in Malawi in 2013 to measure sexual, physical and emotional violence as well as risk and protective factors and factors related to violence among children and young adults aged 13–24 years old.[14 15] In Malawi, 22% of women had experienced sexual violence, 42% physical violence and 20% emotional violence before age 18. Among men, 15% experienced sexual violence, 65% physical violence and 29% emotional violence before age 18. These data suggest that while violence

affects people of all ages and sexes, children are often the most vulnerable populations because they have limited access to protective supports and the impacts of violence can last a lifetime. Other than the VACS, few comprehensive sources of data exist for Malawi.

While a previous study looked at the effect of violence exposures on emotional distress, this manuscript addresses more outcomes including self-harm and suicidal ideation and attempts in addition to the effect of polyvictimisation on these mental health outcomes. In this study, we define polyvictimisation as experiencing multiple types of violence (sexual, physical and emotional violence), or concurrent types of violence during childhood. Specifically, for respondents ages 18–24 years-old we refer to exposures occurring before the age of 18 and for children and adolescents aged 13–17 years-old we measure lifetime exposures. We use this concept to determine the association of polyvictimisation with mental health outcomes, including emotional distress, self-harm behaviours and suicidal ideation and attempts among a representative population of 13–24 year-olds from Malawi.

METHODS

Survey design

The 2013 Malawi VACS is a national population-based household survey of 13-year-old to 24-year-old women and men and is designed to measure sexual, physical and emotional violence and risk and protective factors and factors related to violence. The survey methods have been described in detail elsewhere.[16] This study is based on data collected in Malawi from April to May 2013 using nationally-representative cross-sectional household surveys of 13-year-old to 24-year-old men and women.

The sampling frame was compiled by the National Statistics Office (NSO), based on the 2008 National Population and Housing Census. A subsample of primary sampling units was based on the 2010 Malawi Demographic Health Survey (MDHS). The survey used a three-stage sampling design to select 13-year-old to 24-year-old women and men. For the first stage, the sampling frame provided by NSO consisted of 9145 enumeration areas (EAs) that were selected from the master frame. For the 2010 MDHS, 849 EAs out of 9145 EAs were selected with a probability proportional to size. The clusters were selected with probability proportional to size and then randomly assigned for either female or male survey administration (89 EAs and 123 EAs, respectively) to protect the confidentiality of respondents by reducing the chance that a perpetrator and a survivor in the same cluster or household would both be interviewed. In the second stage, a total of 212 EAs were selected with a probability proportional to size stratified by region (North, Central and South). A mapping and listing team visited all selected EAs to identify structures and households with an equal probability systematic sampling method within each cluster to select a uniform sample of households (a fixed number of 30 households per cluster for Malawi). In the third stage, one eligible participant aged 13–24 years (woman or man according to the cluster sex designation) was selected from each household with at least one eligible member for a random selection. In addition to the age range, eligibility for participation included living in a selected household and speaking any of the two local languages used for the survey (Chichewa or Tumbuka). Exclusion criteria included individuals with cognitive impairments

or inability to communicate verbally, lack of understanding of the language, or individuals who were living in institutions or on the street.

A structured questionnaire was administered during private face-to-face interviews using microcomputers. Adult respondents verbally provided informed consent and in addition minors provided assent once the adults permitted interviewing the selected minors under their care. Interview teams included three to five trained interviewers and one team leader. Only one assigned trained interviewer administered the questionnaire to eligible participants. The survey had two components: a short demographic interview with the head of household and a comprehensive interview with the respondent covering questions about childhood violence. Referral services for counselling were provided to participants, if needed. A total of 1029 women and 1133 men completed the individual survey for an overall response rate of 84.4% for women and 83.4% for men.

The study adhered to the WHO's guidelines on ethics and safety in studies on violence against women.[17] Patient and public involvement was not possible for this study.

MEASURES

Personal characteristics

The survey asked about the respondent's educational attainment (less than primary school, primary, secondary, higher than secondary), orphanhood status before age 18 (whether respondent lost one or both parents), whether the respondent had ever been married or lived with someone as if married (yes and no). The survey also included questions referring to individuals' assessments of closeness to the mother or the father (very close or close vs not close or no relationship) as a measure of family support and a proxy measure for economic insecurity represented asking if the respondent had worked for money or goods in the last 12 months (yes vs no).

Types of exposures to childhood violence

The survey included questions on physical, sexual and emotional violence and information on the age at which each of these events occurred. Physical violence was defined as being punched, kicked, whipped, beat with an object, choked, smothered, tried to be drowned or burnt, threatened with a knife, gun or other weapon. Sexual violence was defined as having ever experienced (i) unwanted sexual touching (eg, fondling, pinching, grabbing or touching around person's sexual body parts), (ii) attempted unwanted sexual intercourse (perpetrator attempted intercourse against the person's will but did not succeed), (iii) pressured intercourse (unwanted sex was completed through the use of harassment, threats or tricks) and (iv) physically forced sex (unwanted intercourse completed through physical force) by any perpetrator. Emotional violence was defined as being told that the person was not loved or did not deserve to be loved, being told they wished that person had never been born or were dead, being ever ridiculed or put down, by parents, caregivers or other adult relatives. Those who experienced any of these types of violence were categorised by type of violence. Each respondent was assigned a categorical, ordinal score (0, 1, 2 or 3)

depending on the total number of types of violence experienced before the age of 18 years (polyvictimisation).

Mental health outcomes

The survey included several questions about mental health problems. One measure of anxiety and depression (Kessler-6 scale), uses dichotomous variables classified as low/moderate or severe mental distress.[18] This brief scale has been widely used in population surveys to assess mental health.[19 20] Individuals who scored 0–4 were considered to have no mental distress, those scoring 5–12 on the scale were considered to have mild-to-moderate mental distress, and those with a score of 13 or more were considered to have severe distress.[21] Additional questions asked whether the person had ever intentionally harmed themselves (‘have you ever intentionally hurt yourself in any way’; yes vs no), and whether the person had ever had suicidal thoughts (yes vs no), or had ever attempted suicide (yes vs no). Although different behaviours, we considered reports of suicidal ideation and attempts as a single variable in our analyses because of small numbers.

Statistical analysis

Analyses included all female and male survey respondents aged 13–24 years from Malawi. All analyses were examined separately by sex to be consistent with the study’s design, and appropriate survey weights were used to represent national-level data.

Distribution of outcomes (mental distress, self-harm behaviours and suicidal ideation and attempts), a combination of lifetime exposures to violence for those aged 13–17 years-old, and violence experiences before age 18 years for those aged 18–24 years-old, and socio-demographic covariates by sex are presented as proportions along with its 95% CIs. Our main objective was to assess the relationship between exposure to violence in childhood and mental distress, self-harm behaviours and suicidal ideation and attempts.

We evaluated the association of exposures to one, two or three types of violence against children with reported mental distress, self-harm behaviours and suicidal ideation and attempts among women and men. We further evaluated the association of each independent type of violence with mental distress, self-harm behaviours, suicidal ideation and attempts by sex. We used an ordinal logistic regression model with survey weights to evaluate exposures to violence and the ordinal scale of mental distress (no, mild/moderate, severe mental distress). We used the proportional odds model with two cumulative logits for three-level ordinal data (eg, severe mental distress compared with moderate, mild or no mental distress, and mild, moderate, or severe mental distress compared with no mental distress). For polyvictimisation the comparison group was children who reported no exposure to violence (reference group). For the independent violence exposures our comparisons were defined as (i) no violence (reference group), (ii) those reporting exposure to other types of violence (adjusting variable) and (iii) those reporting exposure to any single violence type (primary exposed group). We created a model for each one of the independent exposures to evaluate the association between each independent type of violence with the three mental health outcomes assessed. The binary outcomes (self-harm, suicidal ideation and attempts) were modelled using binary survey logistic models. All models were adjusted for

respondent's marital status (ever married vs not), closeness to mother or father (very close/close vs not close/no relation) and orphan status (not orphan vs single or double orphan). We modelled the associations between all combinations of three different forms of violence.

The study data had approximately 7% missing information; we handled this using a multiple imputation approach. Since the data had arbitrary missing patterns across subjects and of different variable scales, we used a fully conditional specification method[22] under a missing at random (MAR) assumption. The imputation model included all outcomes, exposures, confounding variables, survey design variables, primary sampling unit, stratum and sampling weights. A stress test under the pattern-mixture model framework was used to assess the MAR assumption. We generated 10 imputation data sets, and each data set was analysed using the methods described above to produce 10 different sets of estimates. The 10 sets of results were combined using Rubin's rules[23] and are presented in this manuscript. All analyses were performed using SAS V.9.4.[24]

RESULTS

Demographic characteristics (table 1) include sex, age, orphan status (single and double orphans), closeness to father or mother, educational attainment, marital status, economic insecurity, the prevalence of different forms of violence and moderate to serious mental health issues the last 30 days. The mean age of respondents was 18 years (95% CI 17.7 to 18.2). Women were approximately 53% of respondents (95% CI 42.3% to 62.9%). Almost a third reported being single (22.6%, 95% CI 19.4% to 25.8%) or double orphans (6.5%, 95% CI 5.2% to 7.9%), and just under half (46.7%, 95% CI 41.2% to 52.2%) reported having some level of economic insecurity. Over 50% (95% CI 46.3% to 58.7%) reported having had experiences of physical violence while a quarter (24.1%, 95% CI 20.5% to 27.7%) reported experiences of emotional violence and almost one out of every five (18.6%, 95% CI 15.3% to 21.9%) reported experiences of sexual violence in childhood.

Table 2 highlights the prevalence by sex of the three mental health outcomes of interest; there were no statistically significant differences in mental distress categories between men and women. Among the entire sample, the majority (28% of women and men (95% CI 25.3% to 31.2%)), reported mild-to-moderate distress. A greater proportion of men relative to women (5.7%, 95% CI 3.9% to 7.6%) versus 3.6% (95% CI 1.7% to 5.4%), reported engaging in self-harm behaviours and more women than men 5.7% (95% CI 3.9% to 7.6%) versus 3.3% (95% CI 1.9% to 4.7%), reported having suicidal ideation and attempts at some point though the 95% CIs overlap. Figures 1 and 2 depict the proportions by sex of the different combinations of reported exposures to three different forms of violence.

Table 3 highlights the association between polyvictimisation and mental health. Among men as the number of violence exposures increased, so does the strength of the associations with self-harm behaviours, adjusted OR (aOR) 4.1 (1.0–16.1) for one form of violence, aOR 8.73 (2.6–29.4) for two forms of violence and aOR 12.4 (3.1–49.7) for three forms of violence. For women, the same relationships are observable for mental distress and suicidal ideation and attempts but not for self-harm behaviours. The associations become significant for both

men and women when two and three types of exposure to violence have been reported except for self-harm behaviours among women.

When evaluating the two cumulative logits for three-level ordinal data for mental distress by sex and its relation to violence exposures (assessing all possible combinations of the three different forms of violence), we found that exposures to sexual violence among men and women were significantly associated with higher mental distress (aOR 7.6 (3.6–15.9)) compared with (aOR 3.5 (2.0–6.2)), respectively. We also found that exposures to physical violence among men and women were significantly associated with higher mental distress (aOR 3.1 (1.5–4.5)) compared with (aOR 2.6 (1.5–4.5)), respectively. Exposures to emotional violence were significantly associated with higher mental distress among men and women (aOR 4.83 (2.4–9.8)) compared with (aOR 4.4 (2.5–7.8)), respectively.

Exposures to sexual violence were significantly associated with self-harm behaviours among men (aOR 10.4 (3.0–35.7)) and with suicidal ideation and attempts among women (aOR 15.3 (3.7–62.3)). Exposures to physical violence were also significantly associated with self-harm behaviours among men (aOR 7.2 (2.1–24.2)) and with suicidal ideation and attempts among women (aOR 11.7 (3.1–44.5)). Exposures to emotional violence were significantly associated with self-harm behaviours among men (aOR 9.0 (2.5–32.1)) and with suicidal ideation and attempts among women (aOR 21.1 (5.3–84.2)). Among men, the strength of the associations between violence exposures and self-harm behaviours increased relative to violence exposures and mental distress. Among women, the strength of the associations between violence exposures and suicidal ideation and attempts increased relative to violence exposures and mental distress but we observed no significant increases with any exposure of violence and self-harm behaviours among women (table 4). Reports about suicidal ideation and attempts among men were too few to evaluate reliably.

DISCUSSION

We assessed physical, sexual and emotional violence exposures and their association with mental distress and self-harm and suicidal ideation and attempts. Experiences of violence during childhood among individuals aged 13–24 years was associated with higher mental distress, self-harm behaviours and suicidal ideation and attempts. On average, the more reported violence exposures, the greater the odds of presenting with negative mental health issues. Among men, each type of single or combined violence exposure tends to be associated more strongly with mental distress and self-harm behaviours. The strongest associations for men are however with sexual violence exposures followed by emotional violence exposures and then physical violence exposures. The strongest associations for women are with emotional violence exposures followed by sexual violence exposures and then physical violence exposures in relation to mental health distress and suicidal ideation and attempts but not for self-harm behaviours. A recent systematic review looking at several African countries reported that a majority of studies in the region found self-harm behaviours more prevalent among women. However, seven of those studies reported higher prevalence estimates among men.[25]

A previous study in Malawi assessed the association of polyvictimisation with mental distress.[18] Our study went beyond that analysis by exploring the relationships between all possible combinations of exposures to types of violence and their association with mental distress and additional, more severe, mental health issues such as self-harm behaviours and suicidal ideation and attempts. Like Fan *et al*,[18] we also found a stronger association with increased exposure to violence, mostly exposure to sexual (among men) and emotional violence (among women). We found that associations are stronger with more severe mental health issues such as self-harm among men and suicide ideation and behaviours among women.

Existing literature highlights how early exposure to violence has long-term effects on neurobiological development.[26] Literature from other low-income, middle-income and high-income countries consistently shows that exposures to emotional violence are a strong predictor of mental health issues among children[27 28] and continue among youth and adults.[29] These relationships can vary by the age of exposure and sex.[30] Our study confirms these differences by sex where mental health issues are more strongly associated with emotional violence among women but sexual violence is more strongly associated with mental health issues among men. These differences may be explained by differences in which gender norms are developed among social groups, by the types of perpetrators victimising individuals from different sexes, by age of onset and the intensity of exposures to different forms of violence or a combination of these mechanisms. Beyond the types of violence we document here it important to elucidate these contexts and their associations with different mental health outcomes in Malawi. Without disregard for any exposure to violence as a predictor of mental health issues, establishing the combinations of exposures to different forms of violence may identify children at the highest risk. Understanding the various mental health outcomes may contribute to identifying more severe mental health risks.[31]

While these data precede the current COVID-19 pandemic, they are still relevant. Currently, these are the only available country-level data for Malawi that explain characteristics of violence and related factors among children; the COVID-19 pandemic has increased exposures to adverse childhood experiences such as orphanhood or loss of caregivers,[32] social instability[33] and direct violence exposures[34] all of which have direct mental health issues for children. Existing vulnerabilities among families can have a more significant negative correlation among children through greater exposures to adverse childhood experiences. Christiansen and colleagues[35] describe that ‘dose-response effects of multiple parental risk factors are multiplicative, but it is rare for children and adolescents to be exposed to multiple parental risk factors simultaneously’. Emerging data from African countries suggest that the COVID-19 pandemic has increased social vulnerabilities due to lack of vaccines[36] compromised safety nets[37] and potential loss of caregivers. Loss of parents can increase exposures to violence in the home or in the community, all of which have been shown to be associated with negative mental health problems.[3] Social and economic stressors (loss of schooling or employment among parents or caregivers) increased by the pandemic can also increase violence in the home. A study of teachers reporting about education access from Nigeria, Bangladesh, India and Saudi Arabia showed decreased access to education for children during the pandemic.[38] The pandemic has especially

affected the economies of Southern Africa, of which Malawi is part[39] and evidence from South Africa has linked the pandemic to job losses and mental health problems.[40] Consequently, the pre-existing high prevalence of violence among children in Malawi and its association with mental health issues may be exacerbated by these second-order pandemic induced conditions.

Our study has limitations. We rely on cross-sectional data that hamper the identification of causal mechanisms between exposures to violence and mental health outcomes so we focus on measured associations and not causal effects. Our data are representative of the entire nation and cannot identify potential differences at subnational levels (eg, urban/rural differences). These data were collected in 2013 and it is hard to assess how the current conditions have affected previously reported prevalences. Because of small numbers we operationalised suicidal ideation and attempts as a single variable. In ideal conditions these behaviours should be evaluated separately. Some of our estimates may be imprecise (wide CIs), because the outcomes are rare. Finally, in our analysis, we assumed that the differences between minor and severe conditions are distributed linearly for mental distress, which might not be the case in real life. Nonetheless, our analysis highlights the different magnitudes of association between any possible combination of types of violence exposures and reporting of three different types of mental health conditions in Malawi. This is key to identifying populations at greater risk.

Exposures to violence are linked to greater odds of reporting mental health conditions. As these conditions increase by type of violence, the odds of reporting those mental health issues are also greater as well as are the odds of reporting more severe conditions. Violence exposures are preventable, and mental health conditions are treatable. Understanding the risks of combined exposures by sex and the types of exposures is key to informing violence prevention and mental health issues associated to violence that have occurred early in life.

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Data availability statement

Data are available upon reasonable request. Violence Against Children Survey data are owned by the Government of Malawi and made available by the Centers for Disease Control and Prevention through a Data Use Agreement or directly from the Ministry of Gender, Children, Disability and Social Welfare of the Republic of Malawi. Request for public use data sets are available through the Together for Girls website at: https://www.togetherforgirls.org/request-access-vacs/

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Key messages

What is already known on the subject

- Violence victimisation increases the likelihood of mental health problems. Violence exposures are preventable, and mental health conditions are treatable.
- A high proportion of men and women experience violence victimisation in their childhood in Malawi.
- Polyvictimisation is associated with low cognitive development, increased health risks including engaging in high-risk sexual behaviours and increased risk of violence perpetration.

What this study adds

- This study quantifies all possible combinations of co-occurrence of physical, sexual or emotional violence in childhood and its association with mental distress, self-harm behaviours and suicidal ideation and attempts in Malawi.
- In Malawi, for young men, exposures involving sexual violence in childhood combined in any way with other forms of violence was significantly associated with higher mental distress and self-harm behaviours.
- Understanding the risks of combined exposures by sex and the types of exposures is key to informing violence prevention and mental health issues associated to violence that have occurred early in life.

Any Violence (%)	Physical Violence	Emotional Violence	Sexual Violence	Weighted %
No (26.3)	No	No	No	26.3
Yes (73.7)	No	No	Yes	6.7
	No	Yes	No	4.1
	No	Yes	Yes	1.1
	Yes	No	No	25.3
	Yes	No	Yes	11.6
	Yes	Yes	No	10.8
	Yes	Yes	Yes	14.2

Figure 1.

Proportions of exposures to different forms of childhood violence among women 13–24 years-old, Malawi Violence Against Children Survey, 2013.

Any Violence (%)	Physical Violence	Emotional Violence	Sexual Violence	Weighted %
No (16.8)	No	No	No	16.8
Yes (83.2)	No	No	Yes	1.8
	No	Yes	No	2.4
	No	Yes	Yes	0.8
	Yes	No	No	37.6
	Yes	No	Yes	6.6
	Yes	Yes	No	22.4
	Yes	Yes	Yes	11.6

Figure 2.
Proportions of exposures to different forms of childhood violence among men 13–24 years-old, Malawi Violence Against Children Survey, 2013.

Table 1

Demographic characteristics by sex and for all 13–24 year-olds, Malawi Violence Against Children Survey, 2013

	Females N=1029	**Males N=1133**	**All N=2162**
	Per cent 95% CI	**Per cent 95% CI**	**Per cent 95% CI**
Age, mean	18.3 (17.9 to 18.7)	17.7 (17.4 to 17.9)	18 (17.7 to 18.2)
Sex	52.6 (42.3 to 62.9)	47.4 (37.1 to 57.7)	NA
Orphan status			
Not an orphan	69.0 (65.3 to 72.7)	72.9 (68.8 to 76.9)	70.8 (68.1 to 73.6)
Single orphan	23.6 (18.3 to 28.8)	21.5 (17.8 to 25.3)	22.6 (19.4 to 25.8)
Double orphan	7.5 (5.5 to 9.6)	5.5 (3.9 to 7.1)	6.5 (5.2 to 7.9)
Closeness to mother or father			
Very close or close	75.9 (71.9 to 79.6)	84.5 (81.7 to 87.0)	80.0 (77.1 to 82.7)
Not close or no relationship	24.1 (20.43 to 28.1)	15.5 (13.0 to 18.3)	20.0 (17.3 to 22.9)
Marital status			
Single/never married	54.7 (48.7 to 60.6)	84 (80.7 to 87.2)	68.6 (63.8 to 73.4)
Married/living with partner/widowed	40.1 (34.9 to 45.2)	14.6 (11.5 to 17.6)	28 (23.8 to 32.2)
Divorced/separated	5.2 (3.3 to 7.2)	1.5 (0.6 to 2.4)	3.5 (2.3 to 4.6)
Highest education completed			
No school	4.9 (2.9 to 6.9)	3.2 (2 to 4.4)	4.1 (2.9 to 5.3)
Primary	71.4 (64.2 to 78.6)	67.5 (62 to 73.1)	69.6 (64.9 to 74.3)
Secondary	22.2 (15.5 to 28.9)	27.6 (22.2 to 33.1)	24.8 (20.3 to 29.2)
College or higher	1.5 (0.3 to 2.7)	1.7 (0.1 to 3.2)	1.6 (0.6 to 2.5)
Worked for money or goods in the last 12 months			
Yes	43.6 (35.6 to 51.5)	50.2 (42.5 to 57.9)	46.7 (41.2 to 52.2)
Ever experienced physical violence in childhood *			
Yes	42.4 (34.6 to 50.3)	64.5 (58.6 to 70.5)	52.5 (46.3 to 58.7)
No	57.6 (49.7 to 65.4)	35.5 (29.5 to 41.4)	47.5 (41.3 to 53.7)
Ever experienced emotional violence in childhood			
Yes	20.3 (15.5 to 25.1)	28.8 (24.2 to 33.3)	24.1 (20.5 to 27.7)
No	79.7 (74.9 to 84.5)	71.2 (66.7 to 75.8)	75.9 (72.3 to 79.5)
Ever experienced sexual violence in childhood			

	Females N=1029	Males N=1133	All N=2162
	Per cent 95% CI	Per cent 95% CI	Per cent 95% CI
Yes	21.8 (17.7 to 25.9)	14.8 (10.2 to 19.5)	18.6 (15.3 to 21.9)
No	78.2 (74.1 to 82.3)	85.2 (80.5 to 89.8)	81.4 (78.1 to 84.7)

*For persons aged 13–17 years-old experiences refer to lifetime experiences. For persons aged 18–24 years-old experiences are before the age of 18 years.

Table 2

Mental distress*, self-harm behaviours and suicidal ideation and attempts by sex, Malawi Violence Against Children Survey, 2013

	Females	Males	All
	Per cent 95% CI	Per cent 95% CI	Per cent 95% CI
Mental distress			
No distress	65.9 (61.8 to 69.9)	65.4 (61.5 to 69.3)	65.6 (62.8 to 68.4)
Mild-to-moderate distress	28.1 (23.4 to 32.8)	28.4 (25 to 31.9)	28.2 (25.3 to 31.2)
Severe distress	6.1 (4.1 to 8)	6.2 (4.1 to 8.2)	6.1 (4.7 to 7.5)
Self-harm behaviours	3.6 (1.7 to 5.4)	5.7 (3.9 to 7.6)	4.6 (3.3 to 5.9)
Suicidal ideation and attempts	5.7 (3.9 to 7.6)	3.3 (1.9 to 4.7)	4.6 (3.4 to 5.8)

* Mental distress was measured using the Kessler-6 scale. This scale classifies mental distress as follows: ‘No mental distress’ (scores of 0–4), ‘Mild-to-moderate distress’ (scores 5–12) and ‘Severe distress’ (scores 13 or more).

Table 3

Association between reporting mental distress, self-harm behaviours and suicidal ideation and attempts and childhood polyvictimisation among 13–24 years-old women and men, Malawi Violence Against Children Survey, 2013

Polyvictimisation	Mental distress*		Self-harm behaviours†		Suicidal ideation and attempts‡
	Women aOR (95% CI)§	Men aOR (95% CI)	Women aOR (95% CI)	Men aOR (95% CI)	Women aOR (95% CI)
No violence	1.0	1.0	1.0	1.0	1.0
One form of violence	1.38 (0.77 to 2.48)	1.60 (0.73 to 3.50)	0.84 (0.09 to 7.77)	**4.09 (1.04 to 16.08)**¶	3.46 (0.78 to 15.40)
Two forms of violence	**2.92 (1.56 to 5.49)**	**4.34 (2.10 to 8.98)**	0.39 (0.05 to 3.08)	**8.73 (2.59 to 29.4)**	**13.34 (3.22 to 55.31)**
Three forms of violence	**7.39 (3.83 to 14.25)**	**9.44 (4.48 to 20.83)**	1.44 (0.14 to 14.57)	**12.36 (3.07 to 49.67)**	**33.97 (7.20 to 160.26)**

*Kessler-6 scale estimates the average odds of both severe distress versus mild-to-moderate and/or no distress as well as for severe or mild-to-moderate distress versus no distress.

†Odds of reporting self-harm behaviours versus not reporting them.

‡Odds of reporting suicidal ideation and attempts versus not reporting them. Reporting only for women given small numbers among men.

§Models present the average estimations of 10 multiple imputations adjusted for marital status, closeness to mother and orphan status.

¶Numbers in bold indicate statistical significance by non-overlapping CIs compared with the reference value.

aOR, adjusted OR.

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Table 4

Association between reporting mental distress, self-harm behaviours and suicidal ideation and attempts[*] and specific types of violence among 13–24 years-old women and men, Malawi Violence Against Children Survey, 2013

Comparison models	Types of exposures to violence	Mental distress[†]		Self-harm behaviours[‡]		Suicidal ideation and attempts[§]
		Women aOR (95% CI)	Men aOR (95% CI)	Women aOR (95% CI)	Men aOR (95% CI)	Women aOR (95% CI)
Sexual violence	No violence	1.0	1.0	1.0	1.0	1.0
	Any other violence[¶]	1.7 (0.96 to 3.17)	**2.2 (1.07 to 4.71)**[††]	0.80 (0.10 to 6.62)	**5.71 (1.60 to 20.37)**	**7.01 (1.78 to 27.66)**
	Sexual violence[**]	**3.5 (2.03 to 6.19)**	**7.6 (3.59 to 15.93)**	0.81 (0.09 to 7.41)	**10.40 (3.02 to 35.74)**	**15.27 (3.74 to 62.29)**
Physical violence	No violence	1.0	1.0	1.0	1.0	1.0
	Any other violence	1.60 (0.80 to 3.21)	**3.00 (1.06 to 8.50)**	0.25 (0.02 to 2.76)	1.89 (0.18 to 20.33)	5.61 (0.80 to 39.40)
	Physical violence[**]	**2.6 (1.53 to 4.50)**	**3.13 (1.52 to 6.48)**	0.91 (0.12 to 7.11)	**7.17 (2.13 to 24.15)**	**11.68 (3.07 to 44.45)**
Emotional violence	No violence	1.0	1.0	1.0	1.0	1.0
	Any other violence	1.52 (0.93 to 2.76)	2.05 (0.95 to 4.44)	0.78 (0.08 to 7.11)	**5.09 (1.45 to 18.02)**	**4.38 (1.08 to 17.71**
	Emotional violence[**]	**4.42 (2.50 to 7.80**	**4.83 (2.39 to 9.80)**	0.85 (0.10 to 6.95)	**9.03 (2.54 to 32.09)**	**21.07 (5.27 to 84.20)**

[*] Models adjusted for marital status, closeness to mother or father and orphan status and using imputed data.

[†] Kessler-6 scale estimates the average odds of both severe distress versus mild-to-moderate and/or no distress as well as for severe or mild-to-moderate distress versus no distress.

[‡] Odds of reporting self-harm behaviours versus not reporting them.

[§] Odds of reporting suicidal ideation and attempts versus not reporting them.

[¶] Exposure to other forms of violence (adjusting variable) with absence of violence type of interest.

[**] Independent type of violence with our without other forms of violence indicating presence of violence type of interest.

[††] Numbers in bold indicate statistical significance by non-overlapping CIs compared with the reference value.

aOR, adjusted OR.