Disability, childhood experiences of violence and associated health outcomes in refugee settlements in uganda

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ABSTRACT

Background: Limited evidence exists regarding the association between disability and childhood experiences of violence, as well as the associated health outcomes in humanitarian settings.

Objective: We examined the prevalence of childhood sexual, physical, and emotional violence by disability status and the associated health outcomes among children and youth.

Participants and Setting: Participants included 1,338 females and 927 males aged 13-24 years living in refugee settings in Uganda.

Methods: Data are from a cross-sectional Ugandan Humanitarian Violence against Children and Youth Survey (HVACS) conducted between March and April 2022. Analysis entailed cross-tabulation with a chi-square test and estimation of multivariate logistic regression models.

Results: Children and youth with disabilities had a significantly higher likelihood of experiencing childhood sexual violence than those without disabilities (females-23.2% vs. 11.5%; males-15.7% vs. 7.6%). Females with cognitive limitations had higher odds of experiencing sexual violence (odds ratio (OR): 3.4; 95%CI=1.7-6.8), while males with task performance limitations exhibited the highest likelihood of experiencing sexual violence risk (OR: 3.0; 95%CI=1.1-8.6). Both females and males with mobility (Females: OR: 2.4;95%CI=1.1-4.7, Males: OR 3.5; 95% CI=1.3-9.3) and task performance (Females: OR: 2.2;95%CI=1.0-4.7; Males: OR 3.5;95%CI=1.3-9.7) limitations were more likely to experience sexual violence compared to those without such limitations. Negative health consequences of violence varied by sex and by the form of violence experienced.

Conclusion: Children with disabilities experience more violence in childhood compared to those without disabilities, with a higher susceptibility among females. There need for targeted interventions to address the vulnerabilities of children with disabilities.

Key words: Childhood violence, disability, health, humanitarian settings

Background

Persons with disabilities (PWDs) include those who have long-term physical, mental, intellectual and/or sensory impairments that, along with other barriers, affect their full and effective participation in society on an equal basis with others (UN Department of Economic Affairs, 2008). Various social and environmental factors often serve to further exclude PWDs, for example, where discriminatory barriers such as rejection by others, or a lack of accessibility to buildings and facilities is occurring (Rohwerder, 2017). About 1.3 billion people, accounting for 16% of the global population – 80% of whom live in low and middle-income countries with a large majority of them (80%) living in extreme poverty – are PWDs (World Health Organization, 2011). It is also estimated that globally, more women (19%) than men (12%) have a disability (World Health Organization, 2011). The number of children with disabilities globally is estimated to be around 240 million (United Nations, 2021), and while there are no official statistics on the global prevalence of PWDs in humanitarian settings, it is postulated that the prevalence in such contexts could be higher than in development settings. Even more concerning, is that many of these individuals are likely to lack access to basic services, including health care, assistive devices, accessible transportation, and various other facilities, exacerbating conditions for PWDs compared to those without disabilities in these settings (Irish Consortium on Gender Based Violence & CBM Ireland, 2020).

Global estimates show that approximately one billion children younger than 18 years experienced either physical, emotional, or sexual past-year violence (Hillis, Mercy, Amobi, & Kress, 2016). Evidence shows that PWDs are 4 to 10 times more likely to experience violence compared to their peers without disabilities (World Health Organization, 2011). A systematic review of the prevalence and risk of violence against children (VAC) with disabilities found that children with

disabilities are 3 to 4 times more likely to experience all forms of violence, or 3 times more likely to experience sexual violence compared to their non-disabled peers (Jones et al., 2012). However, evidence on the relationship between disability and VAC in humanitarian settings is scarce owing to the lack of well-designed research studies and standardized measurement of disability and violence amongst other factors (Jones et al., 2012). It is presumed that incidents of violence may be prevalent in humanitarian situations and higher among children with disabilities due to marginalization and broken social and protective networks (Pearce, Paik, & Robles, 2016).

Studies exploring gendered differences in the experiences of violence among PWDs are limited (Namatovu, Preet, & Goicolea, 2018; World Bank, 2019), and more among children with disabilities, particularly those living in humanitarian settings. While evidence has shown that PWDs are particularly vulnerable to violence, there exist an intersection between violence and gender for this population, and experiences of violence for PWDs may differ for males and females by type of disability (Ozemela, Ortiz, & Urban, 2019; World Bank, 2019). Women with disabilities, for instance, experience up to 10 times more violence than those without disabilities, and they also face higher risk of violence compared to men with disabilities (Ozemela et al., 2019; World Bank, 2019). Furthermore, research shows a high burden of sexual violence among women with disabilities compared to their nondisabled counterparts in urban African contexts (De Beaudrap et al., 2022). Men with physical disabilities report higher risks of physical and psychological violence compared to those without disabilities (Namatovu et al., 2018). In addition, individuals with intellectual or psychological disability are more likely to experience violence than their peers with a physical disability (Australian Bureau of Statistics, 2021; Jones et al., 2012).

Research also confirms that PWDs are more vulnerable to multiple forms of violence from multiple perpetrators, including intimate partners, family members, and other members of their

communities (Cramer, Plummer, & Ross, 2019; Namatovu et al., 2018). More women than men with disabilities are likely to report violence perpetrated by an intimate partner compared to those without disabilities (Anyango, Goicolea, & Namatovu, 2023; Cramer et al., 2019; Hughes et al., 2019; Namatovu et al., 2018)

Violence, in its various forms, can affect the health of individuals both biologically (brain, immune response) and cognitively (depression, anxiety, suicide ideation), and that these health consequences may vary by various factors such as age, sex, and form of violence experienced (Rivara et al., 2019). For instance, children and persons with developmental disabilities experiencing violence have lower levels of psychological and physical health (Hughes et al., 2019). Similarly, disability has been associated with higher scores for depression and anxiety among women who have experienced gender-based violence (GBV) and living in humanitarian settings (Hossain et al., 2020).

Against the backdrop of limited research on the linkage between disability and VAC in humanitarian settings and the poorly understood health consequences, we examined the prevalence of sexual, physical, and emotional violence by disability status among females and males aged 13-24 years with and without disabilities in refugee settings in Uganda. We also explored the health outcomes associated with experiences of violence. Understanding the association between disability and VAC is important for informing inclusive GBV prevention and response strategies and programming in humanitarian settings.

Methods

Study design and sample

We used data from the first-ever Violence Against Children and Youth Survey (VACS) conducted in a humanitarian setting in Uganda, hereafter referred to as the Uganda HVACS. Typically, VACS are nationally representative, multistage, cross-sectional household surveys of children and youth aged 13-24 implemented by national governments with technical assistance from the U.S. Centers for Disease Control and Prevention as part of the Together for Girls partnership to end violence against children (Chiang et al., 2016). These surveys have documented the prevalence, nature and consequences of sexual, physical, and emotional violence against children and youth in more than twenty low- and middle-income countries, with a view to informing national prevention and response programming (Nace, Maternowska, Fernandez, & Cravero, 2022).

The Uganda HVACS was a representative, multistage, cross-sectional household survey of children and youth aged 13-24 years in 13 refugee settlements in Uganda namely, Adjumani, Bidibidi, Imvepi, Kiryandongo, Kyaka II, Kyangwali, Lobule, Nakivale, Oruchinga, Palabek, Palorinya, Rhino, and Rwamwanja. The survey excluded urban refugees living in Kampala and other urban areas since they do not live in settlements, and as such, may be uniquely different from those in the settlements, as well as more difficult to trace.

Sampling

As with the standard VACS, a three-stage cluster and split sampling design was used. In the first and primary sampling stage, 56 zones (28 for female and 28 for male interviews) were randomly sampled from a list of 109 zones covering all 13 refugee settlements. The United Nations High

Commissioner for Refugees (UNHCR) and the Department of Refugees in the Office of the Prime Minister (OPM) – organisations responsible for the enumeration of refugees in Uganda – provided these lists. The split sampling design was applied to ensure that in each settlement, zones sampled for female interviews were distinct from those sampled for male interviews. This approach safeguards participant confidentiality and eliminates the possibility of both a perpetrator and a survivor from the same community being interviewed (Chiang et al., 2016). In the second sampling stage, a fixed number of households (193 for female zones and 134 for male zones) was randomly sampled from each of the selected zones. In the third stage, one eligible 13-24-year-old participant was randomly selected from each sampled household to participate in the survey. To be included, respondents also had to speak one of the study languages (English, Kiswahili, Kinyabwisha, Acholi or Juba Arabic); not have a disability that prevented them from understanding the questions such as a hearing impairment; and, they had to be in a space that allowed them to be interviewed in private. This being a household survey, children and youth in refugee reception centers or rescue homes were excluded.

Training and data collection

Data collection occurred between March and April 2022. A total of 26 team leaders (16 female and 10 male) and 56 interviewers (34 female and 22 male) were recruited in collaboration with UNHCR implementing partners to support the survey. To foster inclusion, build trust, and for the co-production of knowledge with local communities, all of which are important in enhancing research uptake, one-third (33%) of the team leaders and interviewers were refugees while the rest were from host communities. Interviewers and team leaders underwent intensive training for up to 3 weeks on the study design, ethics, and procedures. Six study coordinators (4 females and 2 males)

were also recruited and trained alongside the research teams in preparation to undertake community entry, coordination of fieldwork activities, and coordination of provision of counselling and/or referral support. Recognizing duty of care responsibilities, an additional 32 case workers (23 female and 9 males) were seconded to the project by UNHCR implementing partners to offer counselling and/or referral support to study participants in need of the services. These case workers underwent a two-day refresher training on trauma counselling and were introduced to the study procedures. Once the training of the research teams was completed, a two-day field pre-test of the study tool and procedures in zones that were not sampled for inclusion in the survey was done prior to the actual start of data collection. The survey tool was programmed on Open Data Kit (ODK) survey software and administered using tablets, and therefore training of interviewers included the use of this platform and tablets.

Measures

Violence: This paper focuses on measures of key indicators from the Uganda HVACS and includes self-reports of having experienced sexual, physical, and emotional violence in childhood among 13–24-year-olds. For the purposes of these analyses, and to allow exploration of childhood experiences of violence for all children and youth, we use questions administered to children aged 13–17-years-old about ever experiencing violence, while for youth aged 18–24-years-old, we use questions about ever experiencing violence before the age of 18 years. Sexual violence included having experienced one or more incidents of unwanted sexual touching; attempted forced sex; pressured or coerced sex; and, physically forced sex, perpetrated by any person. We also explored the prevalence of experiencing different forms of sexual violence.

Physical violence included having experienced one or more incidents of slapping, pushing, shoving, shaking, or of having something thrown at the respondent to intentionally hurt them; punching, kicking, whipping, or being beaten with an object; choking, smothering, trying to drown them, or burning them intentionally; and, using or threatening them with a knife, gun or other weapon, perpetrated by an intimate partner, peer, parent or adult caregiver or other adult relative, and/or other adults in the community.

Emotional violence included having experienced one or more incidents of being told that they were not loved or did not deserve to be loved; being told that they should never have been born or should have died; and, being ridiculed or put down, for example, being told that they were stupid or useless, perpetrated by a parent or adult caregiver or other adult relative, an intimate partner, or peer.

Disability: The Uganda HVACS used the Washington Group Short Set on Functioning (WG-SS) questions designed to identify people with a disability, assessing whether people have difficulty performing basic activities such as seeing, hearing [which was excluded from the Uganda HVACS], walking, cognition, self-care, and communication (Washington Group on Disability Statistics, 2020). The disability data collected allow for the estimation of the prevalence of different types of disability, and the multiplicity of types of disability through simple, brief, universal, and comparable questions. The construct of disability should be identified on a continuum from enablement to disablement; however, for the purposes of our analyses, and our consideration of the likelihood that any extent of disablement may have profound consequences for PWDs living in refugee settlements, the sub-population ‘with disabilities’ includes everyone

with at least one domain that is coded as having ‘some difficulty’, ‘a lot of difficulty’, and/or ‘or cannot do it at all’.

Health Consequences: We explored the health consequences of violence for survivors by disability status, including negative outcomes such as sustaining injuries, sexually transmitted infections (STIs), mental distress, and contemplation and/or attempt of suicide. We examined self-reports of being injured – experiencing one or more of bruises, cuts, scrapes, or scratches; black eyes or other eye injuries; gashes, deep wounds from a knife, gun, or other object; broken bones or teeth; burns from a cigarette, hot liquid, or open flame; and, other injuries – resulting from physical acts of violence perpetrated by an intimate partner, peer, parent or adult caregiver or other adult relative, and/or other adults in the community.

We examined self-reports of having tested positive for an STI or disease (syphilis, gonorrhoea, chlamydia, herpes, other infections besides HIV) and/or of having symptoms (unusual discharge or oozing from vagina/penis, unexplained sores or bumps on vagina/penis, pain when urinating, and other pain) when they thought they might have an STI or disease.

We explored mental distress using the Kessler Psychological Distress Scale (K6), which consists of six questions – feeling nervous, hopeless, restless, so sad that nothing could cheer them up, that everything was an effort, worthless – that assess a person’s general emotional state in the past 30 days (Kessler et al., 2003). Responses to each of the questions for an individual are scored between 0 (for none of the time) and 4 (for all of the time) and summed for a total possible score of between

0 and 24. The data were categorized into ‘none or less severe mental distress’ for scores of less than 12, and ‘severe mental distress’ for scores of 13 points or higher.

We also examined contemplation and/or attempt of suicide based on self-reports of ever thinking about killing themselves and/or trying to kill themselves, and as a separate concept to the measures of mental distress.

Analysis

The analysis is based on data from 2,217 respondents (1,311 females and 906 males) aged 13-24 years who answered disability questions, excluding those who declined or did not know their disability status (n=48). We employed descriptive statistics (frequency and percentage distribution) and cross-tabulation with Chi-square tests to explore experiences of violence (sexual, physical, emotional) by disability status and their health implications—mental distress, contemplation/attempted suicide, STIs (for sexual violence), and sustaining injuries (for physical violence) for females and males. We also conducted subgroup analyses to examine whether associations between the occurrence of childhood violence and disability varied according to the nature of the limitation(s), that is, visual, cognitive, mobility, self-care, physical task performance, and communication. We use logistic regression to examine the association between type of limitations and childhood sexual, physical, and emotional violence separately for females and males adjusting for age. We considered a p-value <0.05 as indicative of statistically significant associations with 95% confidence intervals. All analyses were performed using Stata® version 15.1, accounting for the complex survey design by applying weights to the estimates.

Ethical considerations

The Uganda HVACS was approved by the Population Council Institutional Review Board (Protocol 986 dated 21 October 2021) and the Mildmay Uganda Research Ethics Committee (MUREC), REF 0310-2021 dated 24 November 2021. The research was also granted regulatory approval by the Uganda National Council for Science and Technology (UNCST) – REF SS1130ES dated 10 January 2022. All participants provided verbal consent or assent to participate in the research and this process was electronically recorded on the ODK platform.

Results

Socio-demographic characteristics by disability status

There were no socio-demographic differences in females and males without disabilities when compared to those with disabilities (**Table 1**). Considering all categories of participants – females and males with and without disabilities– majority of the participants (between 72.4% and 82.6%) had completed primary or lower levels of education, between 38.7% and 52.2% indicated that they had ever been married or lived with a partner, and between 30.6% to 50.3% reported having worked for money or other payments in the past 12 months. Most of the participants were nationals of South Sudan, followed by the Democratic Republic of Congo (DRC), and other countries including Rwanda, Burundi, Somalia, Ethiopia, Eritrea, and Sudan. There was no significant difference between females and males by disability status.

Experiences of violence by disability status

A statistically significantly higher proportion of children and youth with disabilities had experienced sexual violence in childhood compared to those without disabilities – (23.2% compared to 11.5% for females, and 15.7% compared to 7.6% for males; **Table 2**). Among females,

a significantly higher percentage of those with disabilities (24.3%) compared to those without disabilities (9.1%) had experienced 'unwanted attempted sex.' Among males, a higher proportion of those with disabilities (15.5%) compared to those without disabilities (5.7%) had experienced 'unwanted sexual touch'. Unlike for males, a statistically significantly higher percentage of females with disabilities compared to those without disabilities had experienced physical violence (39.5% and 29.1%, respectively) and emotional violence (22.6% and 15.0%, respectively).

Likelihood of experiencing violence by type of disability

In **Table 3** we explore the odds of experiencing violence by type of functional limitation (i.e., visual, cognitive, mobility, self-care, task performance, and communication). For both females and males, the odds of experiencing sexual violence in childhood were 2.3 times higher among those with disability (any limitation) compared to those without disability (no limitations). Among females, the odds of experiencing sexual violence in childhood were higher for those with cognitive limitations (serious difficulty concentrating, remembering, or making decisions; odds ratio (AOR= 3.4; CI=1.7-6.8), mobility (AOR=2.4; CI=1.0-5.7), or task performance (AOR= 2.2; CI=1.0-4.7) related disability compared to those without such limitations. Among males, the odds of experiencing sexual violence in childhood were higher for those with mobility (AOR= 3.5; CI=1.3-9.3), task performance (AOR=3.5; CI=1.3-9.7), or communication (AOR=3.0; CI=1.0-8.7) related disability compared to those without such limitations.

Compared to males, females with disability (any limitation) had higher odds of experiencing childhood physical (AOR=1.9; CI=1.3-2.8) or emotional violence (AOR=1.8; CI=1.1-2.9) compared to those without disability. For females, the odds of experiencing childhood physical violence were higher among those with selfcare (AOR=7.3; CI=1.4-38.7) and communication

(AOR= 3.4; CI=1.2-10.1) related disabilities compared to those without such limitations. In contrast, males had lower odds (AOR= 0.5; CI=0.2-0.8) of experiencing childhood physical violence if they had a visual impairment but higher odds (AOR=2.4; CI=1.1-5.4) if they had task-performance related limitation, compared to those without such limitations. The odds of experiencing childhood emotional violence were higher among females with visual impairments (AOR= 2.1; CI=1.1-3.9) compared to those without it. Among males, the odds of experiencing emotional violence were higher among those with mobility (AOR= 5.0; CI=1.7-15.0), self-care (AOR= 4.8; CI=1.1-21.5), or task performance (OR=3.7; CI=1.1-12.4) related limitations compared to those without such limitations.

Perpetrator types by disability status

In **Table 4**, we examined perpetrator types by disability status for females and males. We report on perpetrator type by category of offenders for the first incident of sexual violence and most recent incident of physical and emotional violence (in the past 12 months). There were no statistically significant differences in types of perpetrators of sexual and physical violence between females with and without disabilities or between males with or without disabilities. Females with and without disabilities were vulnerable to sexual violence from any type of perpetrator, while among the males with and without disabilities, 'family members, neighbors, and friends' were the most common perpetrators of sexual violence. Following childhood experiences with emotional violence, a statistically significantly higher percentage of females with disabilities (80.7%) compared to those without disabilities (61.1%) reported perpetration by a 'current or previous intimate partner', while a significantly higher percentage of males with disabilities (98.3%) compared to those without (89.5%) reported perpetration by a 'parent, adult caregiver, or other adult relative'.

Health consequences of violence by disability status

Overall, exposure to any form of childhood violence was associated with severe mental distress among females and males irrespective of their disability status (range 46.9% - 90.5%). As shown in **Table 5**, a statistically significantly higher percentage of females with disabilities who had experienced physical violence in childhood (88.2%) reported severe mental distress in the past 30 days compared to females without disabilities (67.1%). Among males who had experienced emotional violence in childhood, a significantly higher proportion with disabilities (85.1%) reported severe mental distress in the past 30 days compared to those without disabilities (53.2%). A significantly higher proportion of females with disabilities who had experienced childhood sexual violence (24.8%) reported contemplating and/or attempting suicide compared to those without disabilities (13.7%).

While the differences are not statistically significant, a substantial proportion of both females and males who experienced sexual violence in childhood, regardless of their disability status, reported symptoms or a diagnosis of a STI (range 34.3% - 59.2%). Similarly, a high proportion of males (range 48.6% - 69.4%) and nearly a third of females (range 31.1% - 32.1%) reported experiencing injuries following physical violence, irrespective of their disability status.

Discussion

Experiences of violence and the intersection between violence and gender among PWDs have received limited attention in the literature (Namatovu et al., 2018; Ozemela et al., 2019; World Bank, 2019), particularly in humanitarian settings and among children with disabilities. In this paper, we examined the differences in the experience of violence by disability status for females and males aged 13-24 years in refugee settings in Uganda.

Our finding shows no statistically significant differences between females and males aged 13 to 24 years by disability status with respect to socio-demographic factors such as formal educational attainment, marriage or partnering status, or working for earnings. However, social, economic and structural inequalities may further exclude PWDs from meaningful participation in society (Rohwerder, 2017). We also found no statistically significant differences between the proportions of females and males with disability, which may seem misaligned with global estimates showing a higher prevalence of disabilities among women than men (Lee, Meijer, Phillips, & Hu, 2021; World Health Organization, 2011); however, age may factor into this since women generally live longer and may be more likely to do so with disabilities. A further plausible explanation is that children and youth in refugee settings are inherently and comparably vulnerable, with limited social mobility, regardless of their sex and disability status (Beltramo, Calvi, De Giorgi, & Sarr, 2023).

Our findings – drawn from the results of a well-designed study with validated measures of disability and violence on a representative sample of refugee settlements in Uganda – confirm that female and male children and youth with disabilities experience a significantly higher prevalence of sexual violence in childhood compared to those without disabilities. Variations by type of sexual violence show that among females, experience of ‘unwanted attempted sex’ was significantly higher among those with disabilities than those without, while among males, ‘unwanted sexual touch’ was more common among those with disabilities than those without. These variations notwithstanding, the high proportions of sexual violence experienced by females and males in these settings is concerning and warrants attention, reflecting the needs and vulnerabilities of children with disabilities. Additionally, our findings reveal significantly higher percentages of females with disabilities compared to those without disabilities reporting childhood experiences

of physical and emotional violence. Research has shown that women with disabilities experience more violence than women without disabilities (Ferres, Megías, & Expósito, 2013) and men with or without disabilities (Ozemela et al., 2019; World Bank, 2019).

Females had significantly higher odds of experiencing sexual, physical, and emotional violence if they had disabilities (any limitation), while for males the differences were statistically significant in the case of sexual violence. This finding further highlights the increased vulnerability of female children with disabilities to all forms violence compared to female children without disabilities and to male children with or without disabilities. Variations in the likelihood of experiencing different forms of violence by type of disability or functional limitation among females and males showed that females with cognitive and physical (mobility, task performance) limitations, and males with physical (mobility) and communication disabilities were more predisposed to sexual violence than their counterparts without such limitations. Similar to prior findings in older populations, which showed that men with physical disabilities reported higher risks of physical and emotional violence compared to those without disabilities (Namatovu et al., 2018), our study found that females with physical (self-care) and communication disabilities, and males with physical (visual and task performance) limitations were more susceptible to physical violence. In addition, females with visual limitations, and males with physical (mobility, self-care, task performance) disabilities were more vulnerable to emotional violence. Intellectual disabilities, particularly cognitive limitations among young people and especially girls have been shown to be associated with higher susceptibility to all types of violence (Jones et al., 2012).

The findings show that there were no differences in perpetrator types associated with childhood sexual or physical violence among females and males by disability status, which contrasts with some earlier reports (Anyango et al., 2023; Cramer et al., 2019; Hughes et al., 2019; Namatovu et

al., 2018). Rather, we found that for both females and males, all perpetrator types were commonly reported as offenders of sexual and physical violence, drawing our attention to the extent of broken social and protective networks in these settings. There was a significantly higher perpetration of childhood emotional violence by 'current or previous intimate partners' among females, and by 'parents, adult caregivers, or other adult relatives' among males. Children in these refugee settlements are exposed to perpetration of sexual, physical, and emotional violence largely by individuals situated in close proximity to them, and particularly in and around their home environments.

Exploration of the health consequences of violence by disability status revealed unique patterns. Mental health disorders, including severe mental distress, intention to hurt oneself, and suicidal thoughts, have substantial comorbidity with experiencing sexual, physical, and mental violence. Females with disabilities and who had experienced childhood sexual or physical violence were more likely to report contemplating and/or attempting suicide or severe mental distress in the past 30 days compared to their peers without disabilities. For males, experiences of emotional violence in childhood were associated with significantly higher reports of severe mental distress among those with disabilities compared to those without disabilities. While data from females and males were analyzed separately, these findings may be indicative of differences in the coping strategies, or survival mechanisms employed by females and males with disabilities in response to violence victimization. This is an area for further research. Our results align with existing literature showing that health consequences of violence can vary by sex and by the form of violence experienced (Rivara et al., 2019). Overall, however, we found that exposure to any form of violence in childhood and in these settings was associated with high proportions of females and males reporting negative consequences including severe mental distress, contemplation and/or

attempting suicide, having symptoms and/or diagnosis of a STI (for sexual violence), and physical injuries resulting from physical violence. Similar reports in the literature emphasize the significant impact of violence, in its various forms, on individuals' physical and psychological well-being (Hossain et al., 2020; Hughes et al., 2019; Rivara et al., 2019).

Strengths and limitations

This study has several strengths. It utilized a robust, representative, dataset from children and youth aged 13-24 years, drawn from all 13 refugee settlements in Uganda, which is unique relative to standard VACS. It represents the first of its kind, examining the differences between female and male childhood violence by disability status, and related health consequences for children and youth in humanitarian settings. In addition to advancing our understanding of the temporal relationship between disability and violence, our study also assessed the association between specific types of disabilities (visual, cognitive, mobility, self-care, task performance, and communication limitations) and vulnerability to sexual, physical, and emotional violence.

Limitations of the Uganda HVACS are similar in some respects to those of the standard VACS. For example, as with the standard VACS, the cross-sectional nature of the Uganda HVACS does not allow for causal inferences about relationships observed in the data generated. There is a potential for recall bias since participants reported on events that occurred in the past, or a reporting bias due to the sensitive nature of violence that participants are self-reporting. As with any household survey, interviewer bias might be a limitation although interviewers were extensively

trained prior to data collection. Unique limitations include the exclusion of those with hearing disabilities (one of the eligibility criteria), and that in the refugee settlements unlike in the standard VACS, there is a high mobility of households, which resulted in a low response rate at the household level (53.3%) compared to overall response rates in the standard VACS, where both household and individual response rates at over 80% in most countries (Chiang et al., 2016). While a reflection of the challenges related to tracing sampled households are expected in refugee settings, once these households were identified, the likelihood of eligible participants assenting/consenting to participate in the survey was high for both females (87.5%) and males (90.1%).

Conclusion

The findings of this study confirm that in Uganda refugee settlements, both female and male children and youth with disabilities experience a significantly higher prevalence of violence in childhood compared to those without disabilities. While there are some variations in the type of sexual violence experienced, we raise alarm about the high proportions of sexual violence experienced by females and males in these settings, reflecting a dire need to consider the heightened vulnerabilities of children and youth with disabilities in preventing and responding to sexual violence. We also found significantly higher percentages of females with disabilities compared to those without reporting childhood experiences of both physical and emotional violence, suggestive of a higher susceptibility to violence of all forms among female children with disabilities compared to female children without disabilities and male children with or without disabilities. With all perpetrator types commonly reported as offenders of sexual, physical, and emotional violence, the pervasiveness is suggestive of an acceptability of violence against children in these settings, and a need to tackle social norms at multiple community levels. There were some

notable differences in the probability of experiencing various forms of violence by type of functional limitation, and the negative consequences of violence varied by sex and by the form of violence experienced.

Taken together, these findings have implications for policy and practice, and could further strengthen the targeting of preventative and response measures in humanitarian settings. To better identify and support children with disabilities who have experienced childhood violence, our findings underscore the need for implementing targeted interventions. For instance, these could include awareness training targeted at those in close proximity to children, screening for childhood violence in spaces such as schools where high numbers could be reached, and tailoring interventions for those with disability. Furthermore, our findings could inform discussions about policies and guidelines regarding how child protection actors across all institutions and child protection organizations should respond to the vulnerabilities of children with disabilities.

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Table 1: Socio-demographic characteristics by disability status for females and males – Uganda HVACS 2022

	Females					Males				
	Without disabilities		With disabilities			Without disabilities		With disabilities		
	Unweighted n	Weighted % (95% CI)	Unweighted n	Weighted % (95% CI)	p-value	Unweighted n	Weighted % (95% CI)	Unweighted n	Weighted % (95% CI)	p-value
Age										
13-17	541	51.8[45.9,57.6]	158	48.8[40.6,57.2]	0.516	371	50.6[45.0,56.1]	146	42.5[29.4,56.7]	0.328
18-24	459	48.2[42.4,54.1]	153	51.2[42.8,59.4]		279	49.4[43.9,55.0]	110	57.5[43.3,70.6]	
Education (completed)										
None	101	6.5[4.4,9.6]	26	7.0 [2.6,17.4]	0.572	30	3.1[1.9,5.0]	15	2.6[1.0,6.4]	0.809
Primary or less	798	82.0[77.4,85.8]	251	82.6[77.9,86.5]		500	73.1[61.8,82.1]	207	72.4[65.5,78.4]	
Secondary or more	101	11.5[8.7,15.0]	34	10.8[8.4,13.7]		120	23.7[15.0,35.5]	34	24.6[18.5,32.0]	
Ever married/lived with a partner										
No	572	56.0[48.8,62.9]	160	47.8[41.3,54.4]	0.122	409	61.3[52.2,69.7]	165	59.6[38.8,77.4]	0.850
Yes	428	44.0[37.1,51.2]	151	52.2[45.6,58.7]		241	38.7[30.3,47.8]	91	40.4[22.6,61.2]	
Worked for money or other payment in the past 12 months										
No	686	68.9[62.4,74.8]	207	69.4[58.7,78.3]	0.939	375	52.3[40.8,63.5]	143	49.728.0,71.5]	0.836
Yes	314	31.1[25.2,37.6]	104	30.6[21.7,41.3]		275	47.7[36.5,59.2]	112	50.3[28.5,72.0]	
Country of origin										
South Sudan	507	68.4[44.3,85.5]	133	57.7[31.1,80.4]	**0.026**	333	62.9[39.0,81.8]	108	72.6[51.2,87.0]	0.251
DRC	437	26.9[13.6,46.3]	161	32.716.8,53.9]		285	27.9[16.9,42.5]	129	20.9[11.3,35.6]	
Others	56	4.6[1.1,17.9]	17	9.6[1.7,40.4]		32	9.2[2.4,29.3]	18	6.5[2.0,19.0]	
TOTAL*	1000	76.9[72.6,80.7]	311	23.1[19.3,27.4]		650	68.0[58.2,76.5]	256	32.0[23.5,41.8]	

*The overall p-value [0.079] for the difference in the total number of females and total number of males with and without disabilities was not significant.

Table 2: Prevalence of sexual, physical, and emotional violence by disability status for females and males – Uganda HVACS 2022

	Females					**Males**				
	Without disabilities,		**With disabilities**			**Without disabilities**		**With disabilities**		
	Unweighted n	Weighted % (95% CI)	Unweighted n	Weighted % (95% CI)	p-value	Unweighted n	Weighted % (95% CI)	Unweighted n	Weighted % (95% CI)	p-value
Experienced any type of sexual violence before age 18	1000	11.5[5.2,23.3]	311	23.2[15.2,33.7]	**0.003**	650	7.6[5.4,10.7]	255	15.7[9.0,26.0]	**0.014**
Unwanted sexual touch	1000	9.1[3.3,22.9]	311	14.0[7.7,24.2]	0.233	650	5.7[3.7,8.8]	255	15.5[8.8,25.9]	**0.011**
Unwanted attempted sex	428	9.1[4.0,19.8]	151	24.3[11.9,43.3]	**0.001**	241	7.9[4.5,13.6]	91	13.2[5.9,27.0]	0.159
Pressured sex	428	12.2[5.9,23.6]	151	19.9[13.2,28.8]	0.144	241	3.6[2.0,6.4]	91	3.4[0.9,12.3]	0.903
Physically forced sex	428	8.0[3.9,15.8]	151	16.2[11.0,23.2]	0.107	241	6.9[4.1,10.8]	91	**	**
Experienced any physical violence before age 18	1000	22.6[18.5,27.3]	311	39.5[29.5,50.4]	**0.011**	650	47.9[36.1,60.0]	255	54.5[43.7,65.0]	0.388
Experience any emotional violence before age 18	1000	15.0[11.1,20.0]	311	29.1[20.6,39.4]	**0.000**	650	24.8[19.8,30.5]	255	28.7[14.9,48.1]	0.450

** Estimate is unreliable and hence not reported for relative standard error >30% or cell size <5.

Table 3: Age-adjusted childhood violence experiences for females and males by disability (limitation) type – Uganda HVACS 2022

	Females				Males			
Type of functional limitation	Age-adjusted OR	95% CI		p-value	Age-adjusted OR	95% CI		p-value
Experienced any type of sexual violence before age 18								
Visual	1.089	0.335	3.546	0.879	1.101	0.452	2.681	0.821
Cognitive	3.434	1.722	6.848	**0.002**	1.892	0.536	6.680	0.298
Mobility	2.452	1.062	5.662	**0.037**	3.506	1.323	9.293	**0.015**
Self-care	1.728	0.806	3.706	0.147	1.042	0.202	5.374	0.958
Task performance	2.199	1.034	4.676	**0.042**	3.481	1.253	9.669	**0.020**
Communication	1.857	0.864	3.994	0.105	3.014	1.048	8.669	**0.042**
Any limitation	2.325	1.423	3.798	**0.002**	2.299	1.156	4.572	**0.021**
Experienced any type of physical violence before age 18								
Visual	1.204	0.814	1.780	0.328	0.461	0.241	0.882	**0.022**
Cognitive	1.788	0.896	3.569	0.093	1.105	0.474	2.575	0.805
Mobility	1.775	0.766	4.111	0.166	1.294	0.462	3.626	0.602
Self-care	7.321	1.385	38.681	**0.022**	1.795	0.422	7.628	0.402
Task performance	3.341	0.919	12.150	0.065	2.412	1.073	5.421	**0.035**
Communication	3.434	1.163	10.138	**0.028**	2.576	0.671	9.897	0.155
Any limitation	1.883	1.274	2.785	**0.004**	1.223	0.653	2.289	0.504
Experienced any type of emotional violence before age 18								
Visual	2.064	1.102	3.865	**0.026**	0.791	0.446	1.404	0.398
Cognitive	1.426	0.900	2.260	0.121	1.099	0.313	3.865	0.875
Mobility	1.527	0.657	3.545	0.301	5.029	1.688	14.979	**0.007**
Self-care	2.571	0.805	8.211	0.104	4.847	1.093	21.501	**0.039**
Task performance	1.687	0.673	4.225	0.244	3.665	1.086	12.364	**0.038**
Communication	0.915	0.246	3.403	0.887	1.373	0.245	7.698	0.701
Any limitation	1.822	1.130	2.937	**0.017**	1.283	0.504	3.266	0.578

Table 4: Perpetrators of violence by disability status for females and males – Uganda HVACS 2022

	Females					Males				
	Without disabilities		With disabilities			Without disabilities		With disabilities		
	Unweighted n	Weighted % (95% CI)	Unweighted n	Weighted % (95% CI)	p-value	Unweighted n	Weighted % (95% CI)	Unweighted n	Weighted % (95% CI)	p-value
Perpetrators of first incident of any sexual violence										
Current or previous intimate partner	110	27.1[11.8,50.9]	59	34.1[12.8,64.6]	0.796	59	36.9[13.6,68.3]	39	9.2[2.9,25.8]	0.081
Classmate/schoolmate	110	26.9[10.8,52.7]	59	26.6[13.3,46.2]		59	7.0 [2.7,17.2]	39	16.3[7.4,32.4]	
Family member, neighbour, friend	110	20.7[12.9,31.4]	59	20.9 [6.5,50.2]		59	55.0[29.6,78.1]	39	71.0[60.8,79.4]	
Other*	110	25.314.3,40.8]	59	18.4 [7.8,37.7]		59	1.1 [0.1,9.9]	39	3.5[0.4,24.6]	
Perpetrators of incidents of physical violence										
Current or previous intimate partner	104	16.4 [7.7,31.4]	51	29.9 [9.3,64.0]	0.393	91	5.3 [1.6,16.1]	36	11.3 [4.6,25.1]	0.318
Peer	254	54.4[44.4,64.3]	104	49.8[31.0,68.7]	0.675	239	75.3[62.5,84.8]	102	66.9[42.6,84.6]	0.303
Parent, adult caregiver, other adult relative	254	66.3[54.5,76.4]	104	61.4[51.4,70.6]	0.404	239	77.5[65.8,86.1]	102	70.4[43.2,88.1]	0.523
Other*	254	23.6[14.9,35.4]	104	43.4[18.7,71.8]	0.129	239	54.9[44.1,65.2]	102	49.2[31.1,67.5]	0.545
Perpetrators of incidents of emotional violence										
Current or previous intimate partner	150	61.1[47.0,73.5]	71	80.7[51.9,94.2]	**0.032**	133	68.6[56.4,78.8]	64	73.4[54.8,86.3]	0.622
Peer	150	14.4 [8.2,23.1]	71	18.4[10.1,31.1]	0.536	133	14.4 [4.0,40.7]	64	8.0 [1.9,27.7]	0.544
Parent, adult caregiver, other adult relative	150	94.7[84.0,98.4]	71	95.5[87.1,98.5]	0.726	133	89.5[63.6,97.7]	64	98.3[91.5,99.7]	**0.057**

*Other includes teacher, police/security/solider, employer, neighbour, community/religious leaders, stranger, government/NGO/aid worker, medical professional, other adult in community.

Table 5: Health consequences associated with violence by disability status for females and males – Uganda HVACS 2022

	Females					Males				
	Without disabilities		With disabilities			Without disabilities		With disabilities		
	Unweighted n	Weighted % (95% CI)	Unweighted n	Weighted % (95% CI)	p-value	Unweighted n	Weighted % (95% CI)	Unweighted n	Weighted % (95% CI)	p-value
Experienced any type of sexual violence before age 18										
Severe mental distress in past 30 days	110	75.5[63.2,84.7]	59	90.5[75.9,96.4]	0.063	59	46.9[22.7,72.7]	39	49.5[23.1,76.1]	0.889
Contemplated/attempted suicide	110	13.7[9.0,20.2]	59	24.8 [16.5,35.4]	**0.034**	59	15.0[4.8,38.2]	39	26.5[9.8,54.4]	0.370
Symptoms or diagnosis of STI	110	38.8[20.5,60.9]	59	45.8[33.5,58.7]	0.569	59	34.3[17.8,55.7]	39	59.2[24.1,86.9]	0.157
Experienced any physical violence before age 18										
Severe mental distress in past 30 days	254	67.1[52.0,79.3]	104	88.2[69.6,96.1]	**0.044**	212	51.6[29.6,73.0]	95	65.1[35.6,82.2]	0.395
Contemplated/attempted suicide	254	8.1[4.4,14.3]	104	12.5[7.2,21.0]	0.242	239	11.4[5.2,22.9]	102	7.8[2.1,24.5]	0.421
Physical Injury	254	32.1[23.6,41.9]	104	31.1[17.1,49.7]	0.885	239	69.4[56.3,80.0]	102	48.6[28.8,68.9]	0.092
Experienced any emotional violence before age 18										
Severe mental distress in past 30 days	123	74.1[63.9,83.2]	57	69.3[35.8,90.1]	0.694	117	53.2[32.5,72.8]	58	85.1[62.0,95.2]	**0.031**
Contemplated/attempted suicide	159	10.9[5.8,19.8]	71	17.4[7.9,34.1]	0.273	133	19.0[8.9,36.0]	64	16.0[3.6,49.3]	0.7106