Mental health outcomes associated with childhood exposure to domestic violence and abuse in low- and middle-income countries

Background and Rationale

Research has found that children exposed to domestic violence and abuse (DVA) are at an increased risk of poorer outcomes, including an increased risk of psychiatric disorders, substance misuse, and a higher likelihood of committing violent crimes in adulthood (English et al., 2003; Evans et al., 2008; Herrera & McCloskey, 2001). However, the majority of research on this topic is based on studies conducted in high-income countries (HICs), and evidence on the scale, impact, and early appropriate interventions for children is extremely limited in low- and middle-income countries (LMICs), with many gaps in knowledge. Without this information, a potentially large number of children will grow up without their experiences being acknowledged or recorded, limiting the potential interventions to reduce their risk of poor outcomes.

Whilst there is a lack of standardization in research studies with concerning what constitutes exposure, the most widely accepted definition is that exposure to DVA occurs when an individual visually observes, overhears, is directly involved in (i.e., attempting to intervene) or witnesses the effects (i.e., seeing injuries or emergency services involved) of violent acts between adults or caregivers (Evans et al., 2008). This is reflected in Holden's (2003) taxonomy of exposure. Alongside general methodological issues with measuring exposure to DVA (such as underreporting), there is also a lack of standardisation in how exposure should be measured, with many existing tools not being validated within LMICs, meaning that accurate estimates of childhood exposure to DVA globally cannot be obtained (Harris, Channon and Morgan, 2024).

The last global figures estimate that close to 300 million children have been exposed to DVA (UNICEF, 2006), with LMICs estimated to have a much higher number of children exposed when compared to HICs. However, these estimates are over 15 years old, and include gaps in crucial regions (Northern Africa and South-Eastern Asia), and so a true picture of the state of exposure to DVA in LMICs (and globally), cannot be captured. In addition to this, there is likely to have been an increase in the number of children who have been exposed to DVA in recent years, notably due to the 'shadow pandemic' of COVID-19 (UN Women, 2020; World Health Organization, 2020), which saw a global increase in the number of cases of DVA reported. The closure of schools and restriction of movement outside of homes means that should any DVA occur in a household where children are present, they are much more likely to have been exposed to DVA. Childhood exposure to DVA, and obtaining updated global estimates, is therefore an urgent research priority.

This work contributes to the understanding of childhood exposure to DVA within LMICs – an emerging but essential area of research. It does this through secondary data analysis of existing survey data, aiming to estimate figures on the number of children exposed to DVA in 10 LMICs, along with trying to understand the mental health outcomes of childhood exposure to DVA. Addressing these gaps in knowledge is both timely and imperative and is essential for meeting the Sustainable Development Goals (SDGs; United Nations, 2015)[1] and ensuring the protection and wellbeing of all children globally.

Data and Methods

The CDC Violence Against Children and Youth Surveys (VACS; Chiang et al., 2016) are nationally representative cross-sectional household surveys of males and females aged 13-24, exploring physical, emotional and sexual violence against children and youth up to the age of 24. An application to access the datasets and perform secondary data analysis was made to the managing body, Together for Girls. Following examination of the datasets received to see which explored childhood exposure to DVA, 10 VACS country datasets were used for analysis: Cambodia, Colombia National (referred to only as 'Colombia' from now on), Côte d'Ivoire, Honduras, Lesotho, Malawi, Moldova, Namibia, Nigeria, and Zambia. Further details on the sampling methods and calculation of participation rates can be found within the VACS Country Reports (CDC, 2022).

The prevalence of childhood exposure to physical DVA was assessed by asking VACS participants aged 13-24 how many times they saw or heard their parent punched, kicked, or beaten up by their other parent, or their boyfriend or girlfriend prior to the age of 18. Whilst this definition is relatively constricted when considered with the emerging body of literature about exposure, this was the only question the VACS asked about childhood exposure to DVA, and so this is what was used for the purpose of this study. For the purpose of the analysis, the results were dichotomised, and an exposure "yes/no" variable was created to allow for analysis of childhood exposure to DVA, with responses recorded depending on whether the answer had indicated there had been any exposure, regardless of the frequency, to allow for an overall exposure statistic to be obtained at both the country level, and then for both males and females within each country. StataSE 17.0 was used for all analysis.

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[1] In particular, the topic of this paper addresses SDG 5.2 (Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation), and SDG 16.2 (End abuse, exploitation, trafficking and all forms of violence against children) (United Nations, 2015).

Mental health was conceptualised by internalising and externalising symptoms, as these dimensions provide a comprehensive understanding of an individual's mental health status, covering emotional and behavioural aspects (Masten et al., 2005), along with contextual aspects (Nikstat & Riemann, 2020), making them a valuable measure in assessing mental health across an individual's life. The 10 VACS datasets were examined in line with the literature review for variables related to internalising and externalising behaviours which were consistently asked across the datasets to allow for a multi-country analysis. Internalising symptoms consisted of psychological distress in the last 30 days, lifetime prevalence of intentional self-harm, lifetime prevalence of suicidal thoughts, lifetime prevalence of suicide attempt; externalising symptoms explored were risky behaviours in the last 30 days (any one of: binge drinking, drug use and smoking tobacco), lifetime prevalence of perpetration of physical DVA, and lifetime prevalence of perpetration of physical non-partnered violence.
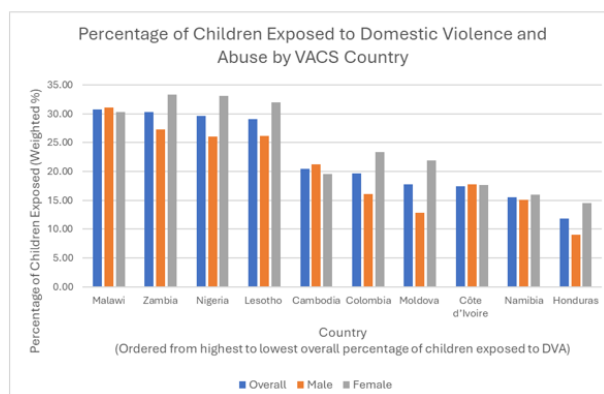

Figure 1 A clustered bar graph displaying estimates of children's exposure to domestic violence and abuse by VACS country (using weighted percentages)

To assess the relationship between childhood exposure to DVA and mental health in adolescence and early adulthood, bivariate analysis, followed by multilevel binary logistic regression modelling[2] was applied.

Findings

Prevalence of Childhood Exposure to DVA

Cross-tabulations revealed the percentages of children exposed to DVA within the 10 LMICs explored, which are presented in Table 1. These exposure statistics indicate that exposure to DVA is a prevalent issue, with Malawi having the highest overall percentage of childhood exposure to DVA (30.68%), and Honduras the lowest (11.80%), as illustrated in Figure 1. In general, females appear to be more likely to be exposed to DVA than males (see Figure 1 and Table 1). This was the case in seven of the ten countries, with the exceptions being Côte d'Ivoire, Malawi, and Cambodia, where males reported a higher prevalence of exposure to DVA. The largest absolute difference when comparing males and females was in Moldova, where the prevalence rate for males was 12.82%, and females 21.92%.

To gain a better understanding of the number of children exposed to DVA in the 10 LMICs explored, the figures presented in Figure 1 were compared with the actual numbers of people aged 13-24 from each country at the time of the survey. This was done using the World Population Prospects (United Nations Department of Economic and Social Affairs, Population Division, 2024). This allows for the weighted percentages to be actualised into numbers of children who have been exposed to DVA. The results from this can be found in Table 1.

These figures demonstrate that amongst the ten countries explored, it is estimated that over 19 million children have been exposed to DVA[3]. Whilst the existing figures are out of date and not directly comparable, the most recent global statistics estimate that 133 to 275 million children have been exposed to DVA (UNICEF, 2006), meaning that these ten countries alone account for 7.01-14.50% of the latest global estimates. We cannot be certain that these numbers would apply outside of the ten countries explored, but these figures indicate that exposure to DVA is a prevalent issue in LMICs.

Table 1 Estimates of Children Exposed to DVA in 10 LMICs

MDG Region	Country (Survey Year)	Estimates of People Aged 13-24 Exposed to DVA before the age of 18 in 10 LMICs					
		Weighted Percentage (%, 95% CI)			Number of Children Exposed (rounded to the nearest person, 95% CI)		
		Overall	Male	Female	Overall	Male	Female

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[2] This method was chosen to allow for the differences in sampling and clustering between countries to be considered so more accurate conclusions could be drawn from the results (Goldstein, 2011). Variables also included in the model: respondent sex, education level, wealth, death of a biological parent, living with both biological parents, multiple children in household, exposure to community violence, and societal acceptance of DVA. The variable of 'suicide attempt' was not included in the regression analyses, as everyone within this variable would have also been included under the 'suicidal thoughts' variable. The 'suicide attempt' variable also had relatively low sample sizes across some countries.

[3] The analysis within this paper estimates that the number of children exposed to DVA across the 10 LMICs explored is 19,278,862 (17,420,549-21,281,664). It is also important to note that the 10 VACS used all collected data prior to the COVID-19 pandemic, meaning that if this data were to be collected today, it would likely be much higher.

Sub-Saharan Africa	Côte d'Ivoire (2018)	17.69 (15.48-20.15)	17.77 (15.06-20.84)	17.62 (14.27-21.55)	1,137,388 (955,295-1,295,555)	577,813 (489,694-677,638)	559,952 (453,491-684,845)
	Lesotho (2018)	29.12 (26.83-31.52)	26.23 (22.27-30.61)	32.02 (30.31-34.10)	156,076 (143,802-168,940)	70,043 (59,469-81,739)	86,116 (81,517-91,710)
	Malawi (2013)	30.68 (27.43-34.14)	31.12 (27.13-35.41)	30.29 (25.28-35.81)	1,073,726 (1,200,945-1,336,384)	587,932 (512,552-668,981)	613,428 (511,966-725,218)
	Namibia (2019)	15.45 (13.64-17.46)	15.05 (12.41-18.13)	15.95 (13.60-18.62)	88,027 (77,715-99,479)	42,294 (34,875-50,950)	46,053 (39,268-53,762)
	Nigeria (2014)	29.60 (27.19-32.13)	25.99 (23.09-29.12)	33.10 (29.34-37.09)	12,398,109 (11,388,688-13,457,812)	5,527,761 (4,910,965-6,193,474)	6,824,131 (6,048,942-7,646,737)
	Zambia (2014)	30.31 (27.97-32.76)	27.27 (24.44-30.30)	33.25 (30.27-36.36)	1,202,811 (1,109,951-1,300,036)	536,238 (480,589-595,820)	665,653 (605,995-727,914)
Latin America and the Caribbean	Colombia (2018)	19.68 (16.21-23.68)	16.12 (12.50-20.54)	23.39 (17.73-30.21)	1,999,058 (1,646,582-2,405,371)	830,079 (643,671-1,057,681)	1,171,476 (889,501-1,513,052)
	Honduras (2017)	11.80 (10.77-12.91)	8.95 (7.70-10.39)	14.54 (13.03-16.18)	290,459 (265,106-317,782)	112,494 (96,795-130,593)	175,151 (156,961-194,906)
South-Eastern Asia	Cambodia (2013)	20.41 (18.32-22.68)	21.24 (18.50-24.28)	19.57 (16.47-23.09)	732,177 (657,201-813,610)	381,015 (331,863-435,548)	350,986 (295,388-414,117)
Eastern Europe	Moldova (2019)	17.36 (14.70-20.39)	12.82 (9.78-16.62)	21.92 (18.03-26.37)	73,812 (62,502-86,695)	27,501 (20,979-35,652)	46,180 (37,984-55,554)

Mental Health Outcomes Associated with Childhood Exposure to DVA

When looking at bivariate analysis, four outcomes were examined that fall under the category of internalising symptoms: psychological distress, intentional self-harm, suicidal thoughts, and attempted suicide. In general, all four of these variables had higher prevalence amongst those who had been exposed to DVA when compared to those who had not been exposed to DVA (Figure 3). For psychological distress, the exposed group had a higher prevalence of any psychological distress[4] (including mild/moderate and severe psychological distress) at the overall population level

Figure 3 Clustered bar graphs illustrating the percentage of respondents reporting internalising symptoms

across all ten countries – a finding which remained in the regression analyses (Table 2) after controlling for a range of other factors. The same was found for the variable of intentional self-harm at the bivariate analysis stage, except for Zambia, but these differences were minimal. However, this link was only found for Honduras and Cambodia when looking at the regression analysis, indicating that other factors were more important in explaining the relationships observed. For the variables of suicidal thoughts and attempted suicide, those who had been exposed to DVA had a higher lifetime prevalence when compared to the non-exposed groups at the overall population level, with the same finding when both the male and female populations are examined separately (except for Nigerian males, where those exposed to DVA had a prevalence rate of suicidal thoughts of 2.61%, but 3.41% if they had not been exposed to DVA – however, again, these differences are minor). When looking at regression analysis, in all countries except Nigeria, those who had been exposed to DVA as a child had a significantly higher likelihood of having ever had suicidal thoughts than those who had not been
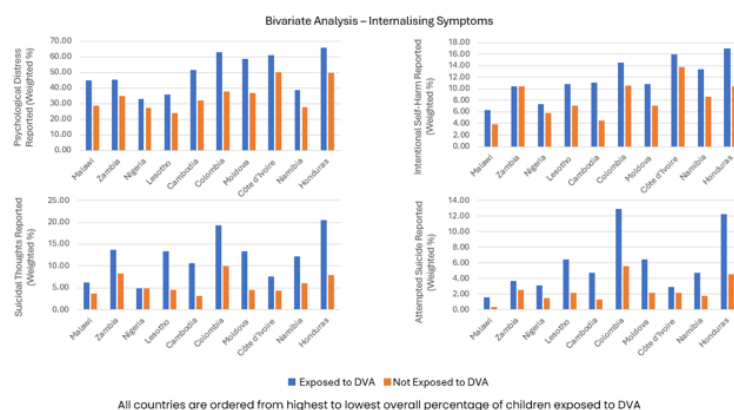
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[4] Respondents were classed has having any psychological distress if they fit into the 'mild/moderate psychological distress' or 'severe psychological distress' category. The variable was based on the Kessler 6 (K6) scale (Kessler et al., 2003), an instrument which has demonstrated excellent internal consistency and reliability across different cultures and ethnic groups, including in many LMICs (Easton, Safadi, Wang, & Hasson, 2017; Krieger, Kosheleva, Waterman, Chen, & Koenen, 2011; Muth et al., 2017; Van der Auwera, Debacker & Hubloue, 2012; Vissoci et al., 2018).

exposed to DVA. These findings suggest that those who have been exposed to DVA as a child are at a higher likelihood of experiencing internalising symptoms in adolescence and early adulthood than those who have not been exposed to DVA.

Figure 4 Clustered bar graphs illustrating the percentage of respondents reporting externalising symptoms
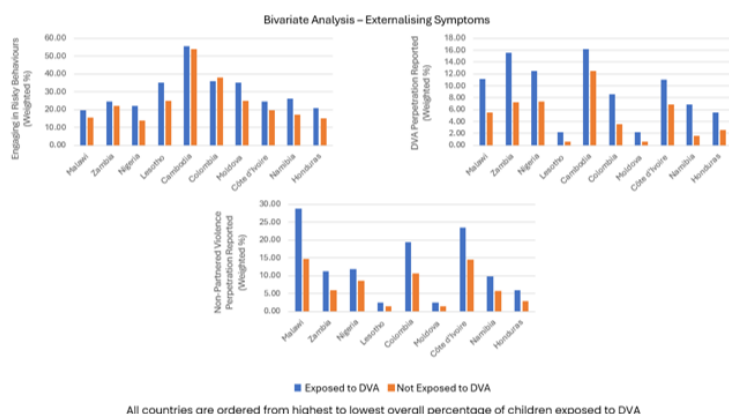
Three variables were examined that fall under the category of externalising symptoms: engaging in behaviours harmful to health ('risky behaviours'), perpetration of DVA, and perpetration of physical non-partnered violence. In general, all three of these variables had higher prevalence amongst those who had been exposed to DVA when compared to those who had not been exposed to DVA when examining at the stage of bivariate analysis (Figure 4). For engaging in risky behaviour, the group who had been exposed to DVA as a child had a higher prevalence at the overall

population level across nine of the ten countries explored. The same was found for the variable of perpetration of DVA and again for perpetration of physical non-partnered violence, with the exposed group having a higher prevalence in all of the countries in which these variables were assessed. These patterns remain when placing these mental health outcomes in regression models (Table 2), although this was only significant in six of the nine countries explored. For engaging in risky behaviours, childhood exposure to DVA had a significantly higher likelihood than those who had not been exposed in five of the ten countries, a similar finding when looking at those who had perpetrated physical DVA. Similarly, in six of the nine countries where the outcome could be assessed[5], those who had been exposed to DVA as a child had a significantly higher likelihood of perpetrating non-partnered violence than those who had not been exposed. These findings suggest that those who have been exposed to DVA as a child are at a higher likelihood of experiencing externalising symptoms in adolescence and early adulthood than those who have not been exposed to DVA.

Table 2 A regression model for mental health outcomes for those exposed to childhood DVA, presented as Odds Ratios.

MDG Region	Country (Survey Year)	Mental Health Outcome (Period Measured)					
		Internalising Symptoms			Externalising Symptoms		
		Psychological Distress (Last 30 Days)	Intentional Self-Harm (Lifetime)	Suicidal Thoughts (Lifetime)	Engaging in Risky Behaviours (Last 30 Days)	Perpetration of Physical DVA (Lifetime)	Perpetration of Physical Non-Partnered Violence (Lifetime)
Sub-Saharan Africa	Côte d'Ivoire (2018)	1.46 ***	1.09	2.01 **	1.15	1.50	1.46 *
	Lesotho (2018)	1.57 ***	1.36	1.98 ***	1.54 ***	1.82 ***	1.90 ***
	Malawi (2013)	1.94 ***	1.39	1.78 *	1.27	2.01 ***	2.39 ***
	Namibia (2019)	1.40 **	1.30	1.70 **	1.61 ***	3.95 ***	1.24
	Nigeria (2014)	1.31 **	1.32	0.93	2.38 ***	1.41	1.11
	Zambia (2014)	1.40 **	0.95	1.71 ***	1.18	2.24 ***	1.88 ***
Latin America and the Caribbean	Colombia (2018)	2.61 ***	1.29	1.84 **	0.83	2.04	3.09 **
	Honduras (2017)	1.61 ***	1.43 ***	2.32 ***	1.47 ***	1.67 **	1.72 ***
South-Eastern Asia	Cambodia (2013)	2.15 ***	2.48 ***	3.43 ***	0.97	1.25	-
Eastern Europe	Moldova (2019)	2.25 ***	1.34	2.22 ***	1.70 ***	3.38	1.73

Note: *p < .10, **p < .05, ***p < .01.

Conclusions:

The findings from this paper suggest that there is a need to gain accurate and updated global statistics, and for further research to be conducted into the prevalence of childhood exposure to DVA in LMICs. While only a small selection of internalising and externalising symptoms are included, the findings of this paper support existing literature suggesting that childhood exposure to DVA has an adverse effect on mental health in later life. The findings from this paper indicate an urgent need for further research into childhood exposure to DVA in LMICs, so that children can be better protected.

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[5] This outcome was not possible to assess in Cambodia, as the questions from which the variable was derived were not asked.

References

Centers for Disease Control and Prevention. (2022). *VACS Country Reports and Data*. https://www.cdc.gov/violenceprevention/childabuseandneglect/vacs/country-reports.html

Chiang, L., Kress, H., Sumner, S., Gleckel, J., Kawemama, P., & Gordon, R. (2016). Violence Against Children Surveys (VACS): Towards a global surveillance system. *Injury Prevention*, *22 Suppl 1*(Suppl 1), i17–i22. https://doi.org/10.1136/injuryprev-2015-041820

Easton, S. D., Safadi, N. S., Wang, Y., & Hasson, R. G. (2017). The Kessler psychological distress scale: Translation and validation of an Arabic version. *Health and Quality of Life Outcomes*, *15*(1), 215. https://doi.org/10.1186/s12955-017-0783-9

English, D. J., Marshall, D. B., & Stewart, A. J. (2003). Effects of Family Violence on Child Behavior and Health During Early Childhood. *Journal of Family Violence*, *18*(1), 43–57. https://doi.org/10.1023/A:1021453431252

Evans, S. E., Davies, C., & DiLillo, D. (2008). Exposure to domestic violence: A meta-analysis of child and adolescent outcomes. *Aggression and Violent Behavior*, *13*(2), 131–140. https://doi.org/10.1016/j.avb.2008.02.005

Goldstein, H. (2010). *Multilevel Statistical Models* (1st ed.). Wiley. https://doi.org/10.1002/9780470973394

Harris, R. J., Channon, A. A., & Morgan, S. A. (2024). *Child exposure to domestic violence: Can global estimates on the scale of exposure be obtained using existing measures?*

Herrera, V. M., & McCloskey, L. A. (2001). Gender differences in the risk for delinquency among youth exposed to family violence. *Child Abuse & Neglect*, *25*(8), 1037–1051. https://doi.org/10.1016/S0145-2134(01)00255-1

Holden, G. W. (2003). Children Exposed to Domestic Violence and Child Abuse: Terminology and Taxonomy. *Clinical Child and Family Psychology Review*, *6*(3), 151–160. https://doi.org/10.1023/A:1024906315255

Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., Howes, M. J., Normand, S.-L. T., Manderscheid, R. W., Walters, E. E., & Zaslavsky, A. M. (2003). Screening for Serious Mental Illness in the General Population. *Archives of General Psychiatry*, *60*(2), 184. https://doi.org/10.1001/archpsyc.60.2.184

Krieger, N., Kosheleva, A., Waterman, P. D., Chen, J. T., & Koenen, K. (2011). Racial Discrimination, Psychological Distress, and Self-Rated Health Among US-Born and Foreign-Born Black Americans. *American Journal of Public Health*, *101*(9), 1704–1713. https://doi.org/10.2105/AJPH.2011.300168

Masten, A. S., Roisman, G. I., Long, J. D., Burt, K. B., Obradović, J., Riley, J. R., Boelcke-Stennes, K., & Tellegen, A. (2005). Developmental Cascades: Linking Academic Achievement and Externalizing and Internalizing Symptoms Over 20 Years. *Developmental Psychology*, *41*(5), 733–746. https://doi.org/10.1037/0012-1649.41.5.733

Nikstat, A., & Riemann, R. (2020). On the etiology of internalizing and externalizing problem behavior: A twin-family study. *PLOS ONE*, *15*(3), e0230626. https://doi.org/10.1371/journal.pone.0230626

UN Women. (2020). *COVID-19 and ending violence against women and girls*. UN Women. https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2020/issue-brief-covid-19-and-ending-violence-against-women-and-girls-en.pdf?la=en&vs=5006

UNICEF. (2006). *Behind Closed Doors: The impact of domestic violence on children*. https://www.acesdv.org/wp-content/uploads/2014/06/BehindClosedDoors.pdf

United Nations Department of Economic and Social Affairs, Population Division. (2024). *World Population Prospects: The 2024 Revision*. https://population.un.org/wpp/

Van der Auwera, M., Debacker, M., & Hubloue, I. (2012). Monitoring the mental well-being of caregivers during the Haiti-earthquake. *PLoS Currents*, *4*, e4fc33066f1947. https://doi.org/10.1371/4fc33066f1947

Vissoci, J. R. N., Vaca, S. D., El-Gabri, D., de Oliveira, L. P., Mvungi, M., Mmbaga, B. T., Haglund, M., & Staton, C. (2018). Cross-cultural adaptation and psychometric properties of the Kessler Scale of Psychological Distress to a traumatic brain injury population in Swahili and the Tanzanian Setting. *Health and Quality of Life Outcomes*, *16*(1), 147. https://doi.org/10.1186/s12955-018-0973-0