

Title: Health-related behaviours and conditions of Southern African young women who experienced childhood violence and early pregnancy: results from population-based national surveys

Abstract:

This study investigated the extent to which the co-occurrence of early pregnancy and childhood violence affects adverse health-related outcomes among young women aged 18–24. We used data from the Violence Against Children Surveys in Lesotho (in 2018), Namibia (in 2019), and Zimbabwe (in 2017). 36% of respondents reported childhood violence; 18% reported early pregnancy. Childhood violence and early pregnancy were associated with increased probability of self-reported HIV-risk behaviours in the past year, intimate partner violence (IPV) in early adulthood, substance use and mental distress in the past 30 days. Early pregnancy interacted synergistically with childhood sexual violence to increase the risks of past-year multiple sexual partnership and IPV in early adulthood. Co-occurrence of early pregnancy and childhood physical violence synergistically increases the risks of IPV in early adulthood. Interventions that consider the full scope of childhood violence and early pregnancy rather than addressing individual conditions separately, may be beneficial.

Significance

Violence against children (VAC) is recognized as a public health problem worldwide. Data from a systematic review shows that one in every two children aged 2–17 years experiences physical, sexual or emotional violence in a year (Hillis et al., 2016). Children and adolescents who have experienced violence are potentially at higher risks of immediate and long-term adverse health-related behaviours and conditions in adulthood (Orrigio et al., 2021; Wiens et al., 2020). The existing literature has shown that early pregnancy has the potential to disproportionately increase adverse health conditions of victims of childhood violence (Gartland et al., 2019; Salah et al., 2019). However, little is known about how the co-occurrence of both childhood violence and early pregnancy affects young women’s health behaviours and conditions. This study aims to assess—in the Southern African context of high HIV and violence incidence—the extent to which childhood violence and early pregnancy may interact to increase young women’s odds of experiencing adverse health-related behaviours and conditions.

Methods

This study draws on cross-sectional data from the Violence Against Children Surveys (VACS) conducted in three Southern African countries: Lesotho (in 2018), Namibia (in 2019), and Zimbabwe (2017). VACS are nationally representative household surveys that collect information on a wide range of development indicators, including health, violence, and education, among young people aged 13 to 24. Details on the VACS methodology can be found elsewhere (Chiang et al., 2016). These countries were chosen for this study because their surveys used standardised questionnaires, allowing for cross-country comparability of measures. We restricted our analyses to females aged 18–24 (n = 10635 in all three countries, n = 3690 in Lesotho, n = 2434 in Namibia, and n = 4511 in Zimbabwe).

We assessed multiple health-related behaviours and conditions and sexual risk-taking behaviours outcomes (presented in Table 1).

Table 1. Definition of study outcomes

Measure	Definition
Inconsistent condom use in the past 12 months	Self-reported no or infrequent condom use in the past 12 months.
Age-disparate sex partnership in the past 12 months	Self-reported sex with sexual partner at least five years older than the participant.
Transactional sex in the past 12 months	Self-reported sex in exchange for material support of any kind with sexual partners in the past 12 months.
Sex with multiple partners in the past 12 months	Self-report of two or more sexual partners in the past 12 months.
Substance abuse in the past 30 days	Self-reported (1) consumption of four or more drinks of alcohol in a row, or (2) daily smoking or cigarette, or (3) use of drug in the past 30 days.
Mental distress in the past 30 days	Kessler Psychological Distress Scale (K6) was used to measure mental distress (Kessler et al., 2003). The measure comprises six items designed to screen for serious mental illness in the general population (Kessler et al., 2010). Items ask respondents to indicate distress symptoms over the past 30 days using a 5-point Likert scale, with response options ranging from '0= none of the time' to '4=all of the time'. Items are summed to calculate a total score between 0 and 24. We recoded the score into a binary indicator taking the value '1' representing probable presence of mental distress for a score of 8 or more, and 0 otherwise (Prochaska et al., 2012).
Intimate Partner Violence in early adulthood	Self-report of as being slapped, pushed, hit with a fist, kicked, beaten with an object, or threatened with or attacked with a knife or other weapon, at or after the age of 18 by a romantic partner or husband.

The main predictors assessed in this study includes self-report of sexual violence (defined as self-report of unwanted sexual touching, unwanted attempted sex, physically-forced sex, or pressured sex), physical violence (including any experiences of being hit with a fist, kicked, beaten with an object, or threatened with or attacked with a knife or other weapon), emotional violence (including any experiences of an adult making a child feel unwanted or humiliated or threatening abandonment) and pregnancy prior to age 18.

Covariates included (1) household wealth quintile estimated using a method developed by the DHS Program (Rutstein & Johnson, 2004), (2) orphanhood (defined as having lost one or both biological parents prior to age 18), (3) being in a relationship, and participant's age.

We performed multivariable analysis in two steps. First, we fit multivariable logistic regression of individual health-related behaviours and conditions outcomes and sexual risk-taking behaviours on violence and pregnancy prior to age 18. Then, we conducted marginal effects analyses introducing interaction between childhood violence and early pregnancy in the models fit in the first step. At this stage, we tested interaction effects between each childhood violence and early pregnancy, calculating marginal interaction effects. All analyses were weighted using sampling weights (to account for the 3-stage complex survey design of VACS), and weights were multiplied by a survey-specific constant. The survey-specific constant equalizes the effective weighted sample size across all 3 surveys.

Key (preliminary) findings

Covariates-adjusted estimates from the pooled sample used in this analysis (Table 2) show that early pregnancy was associated with significantly increased probability of reporting

inconsistent condom use, age-disparate sexual partnership, transactional sex in the past 12 months, intimate partner violence in early adulthood, and mental distress in the past 30 days. All three forms of childhood violence were associated with significantly increased probability of reporting intimate partner violence in early adulthood, and mental distress in the past 30 days. Both childhood sexual and physical violence were associated with a significantly increased probability of self-report of transactional sex in the past 12 months. Only childhood physical violence was associated with a significantly increased probability of self-reported multiple sexual partnership in the past 12 months. These findings are quite similar across the three countries. The marginal interaction effects analysis reveals that the exposure to both early pregnancy and childhood sexual violence synergistically increases the risks of multiple sexual partnership in the past 12 months and intimate partner violence in early adulthood (Figure 2). The co-occurrence of both early pregnancy and childhood physical violence synergistically increases the risks of intimate partner violence in early adulthood.

Table 2. Self-reports of health-related conditions and behaviours and sexual risk-taking behaviours reported by young women aged 18–24 years, who had or had never had experience of violence and pregnancy before age 18 years

	Any sexual violence prior to age 18		Any physical violence prior to age 18		Any emotional violence prior to age 18		Early pregnancy: pregnant before age 18		N
	Adjusted ORs (95% CI)	p-value	Adjusted ORs (95% CI)	p-value	Adjusted ORs (95% CI)	p-value	Adjusted ORs (95% CI)	p-value	
All three countries									
Inconsistent condom use in the past 12 months	1.13 (0.85–1.51)	0.399	0.90 (0.71–1.14)	0.389	1.31 (0.90–1.91)	0.165	1.94 (1.34–2.79)	<0.001	6405
Age-disparate sex partner in the past 12 months	1.08 (0.85–1.36)	0.523	1.15 (0.96–1.37)	0.128	1.11 (0.87–1.40)	0.397	1.68 (1.36–2.07)	<0.001	6030
Transactional sex in the past 12 months	1.97 (1.14–3.40)	0.015	1.97 (1.26–3.06)	0.003	1.21 (0.68–2.14)	0.522	1.70 (1.02–2.84)	0.042	6410
Sex with multiple partners in the past 12 months	1.40 (0.95–2.05)	0.086	1.49 (1.11–1.98)	0.007	1.43 (0.95–2.16)	0.086	1.20 (0.78–1.82)	0.408	6908
Substance abuse in the past 30 days	1.25 (0.83–1.89)	0.278	1.12 (0.83–1.53)	0.453	1.00 (0.66–1.51)	0.901	1.02 (0.70–1.49)	0.917	6336
Mental distress in the past 30 days	2.05 (1.60–2.62)	<0.001	1.50 (1.24–1.83)	<0.001	2.45 (1.91–3.14)	<0.001	1.33 (1.05–1.69)	0.019	7315
Intimate Partner Violence in early adulthood	2.17 (1.63–2.87)	<0.001	1.56 (1.18–2.06)	0.002	1.98 (1.33–2.93)	<0.001	1.84 (1.35–2.50)	<0.001	6904
Lesotho									
Inconsistent condom use in the past 12 months	1.37 (0.96–1.95)	0.085	1.04 (0.82–1.31)	0.755	1.09 (0.75–1.58)	0.664	1.46 (0.95–2.25)	0.086	2402
Age-disparate sex partner in the past 12 months	1.10 (0.78–1.54)	0.599	1.21 (0.95–1.53)	0.117	1.21 (0.95–1.53)	0.365	1.21 (0.95–1.53)	0.005	2403
Transactional sex in the past 12 months	1.45 (0.76–2.78)	0.256	2.13 (1.22–3.70)	0.008	1.47 (0.64–3.36)	0.359	2.90 (1.67–5.03)	<0.001	2403
Sex with multiple partners in the past 12 months	1.55 (1.08–2.23)	0.017	1.30 (0.93–1.82)	0.128	1.21 (0.72–2.03)	0.482	1.24 (0.83–1.86)	0.287	2659
Substance abuse in the past 30 days	1.40 (0.79–2.50)	0.246	1.07 (0.74–1.54)	0.713	1.03 (0.67–1.57)	0.894	1.15 (0.72–1.84)	0.568	2601
Mental distress in the past 30 days	1.82 (1.35–2.46)	<0.001	1.62 (1.21–2.16)	0.001	2.62 (1.83–3.75)	<0.001	1.22 (0.80–1.84)	0.359	2660
Intimate Partner Violence in early adulthood	2.27 (1.59–3.24)	<0.001	1.34 (0.99–1.80)	0.057	1.91 (1.09–3.34)	0.024	1.86 (1.31–2.66)	<0.001	2516
Namibia									
Inconsistent condom use in the past 12 months	1.03 (0.62–1.70)	0.921	0.79 (0.50–1.26)	0.321	1.89 (0.92–3.88)	0.081	2.89 (1.34–6.25)	0.007	1535
Age-disparate sex partner in the past 12 months	1.29 (0.78–2.14)	0.323	1.13 (0.76–1.68)	0.552	1.41 (0.84–2.35)	0.189	2.30 (1.20–4.40)	0.012	1472
Transactional sex in the past 12 months	1.71 (0.31–9.43)	0.539	3.28 (1.05–10.27)	0.041	0.18 (0.04–0.76)	0.019	1.74 (0.30–10.15)	0.539	1542
Sex with multiple partners in the past 12 months	0.71 (0.27–1.89)	0.489	1.78 (1.02–3.10)	0.041	1.58 (0.78–3.17)	0.202	1.46 (0.58–3.64)	0.420	1777
Substance abuse in the past 30 days	0.93 (0.48–1.80)	0.827	1.25 (0.72–2.16)	0.422	0.77 (0.39–1.53)	0.453	1.02 (0.43–2.40)	0.959	883
Mental distress in the past 30 days	3.84 (1.09–13.58)	0.037	1.12 (0.40–3.16)	0.83	1.40 (0.34–5.74)	0.638	2.42 (0.53–11.11)	0.254	1775
Intimate Partner Violence in early adulthood	1.80 (0.90–3.59)	0.097	1.74 (0.90–3.34)	0.098	2.59 (1.18–5.67)	0.018	2.42 (1.03–5.65)	0.041	1688
Zimbabwe									
Inconsistent condom use in the past 12 months	1.07 (0.60–1.91)	0.814	1.02 (0.62–1.68)	0.937	0.84 (0.47–1.50)	0.552	1.49 (0.89–2.51)	0.131	2468
Age-disparate sex partner in the past 12 months	0.93 (0.67–1.31)	0.691	1.10 (0.85–1.43)	0.467	1.26 (0.90–1.77)	0.185	1.54 (1.22–1.93)	<0.001	2215
Transactional sex in the past 12 months	3.78 (1.86–7.65)	<0.001	1.06 (0.58–1.96)	0.847	2.18 (1.11–4.27)	0.023	0.96 (0.56–1.64)	0.87	2465
Sex with multiple partners in the past 12 months	4.76 (2.34–9.68)	<0.001	1.75 (0.90–3.39)	0.101	1.26 (0.61–2.60)	0.532	0.60 (0.34–1.05)	0.073	2472
Substance abuse in the past 30 days	1.60 (0.83–3.09)	0.157	1.21 (0.71–2.06)	0.484	1.54 (0.78–3.03)	0.214	0.78 (0.45–1.36)	0.38	2852
Mental distress in the past 30 days	1.97 (1.48–2.64)	<0.001	1.47 (1.15–1.87)	0.002	2.59 (1.95–3.43)	<0.001	1.35 (1.05–1.73)	0.018	2880
Intimate Partner Violence in early adulthood	2.57 (1.63–4.07)	<0.001	1.93 (1.33–2.80)	<0.001	0.99 (0.59–1.65)	0.969	1.28 (0.91–1.78)	0.154	2700

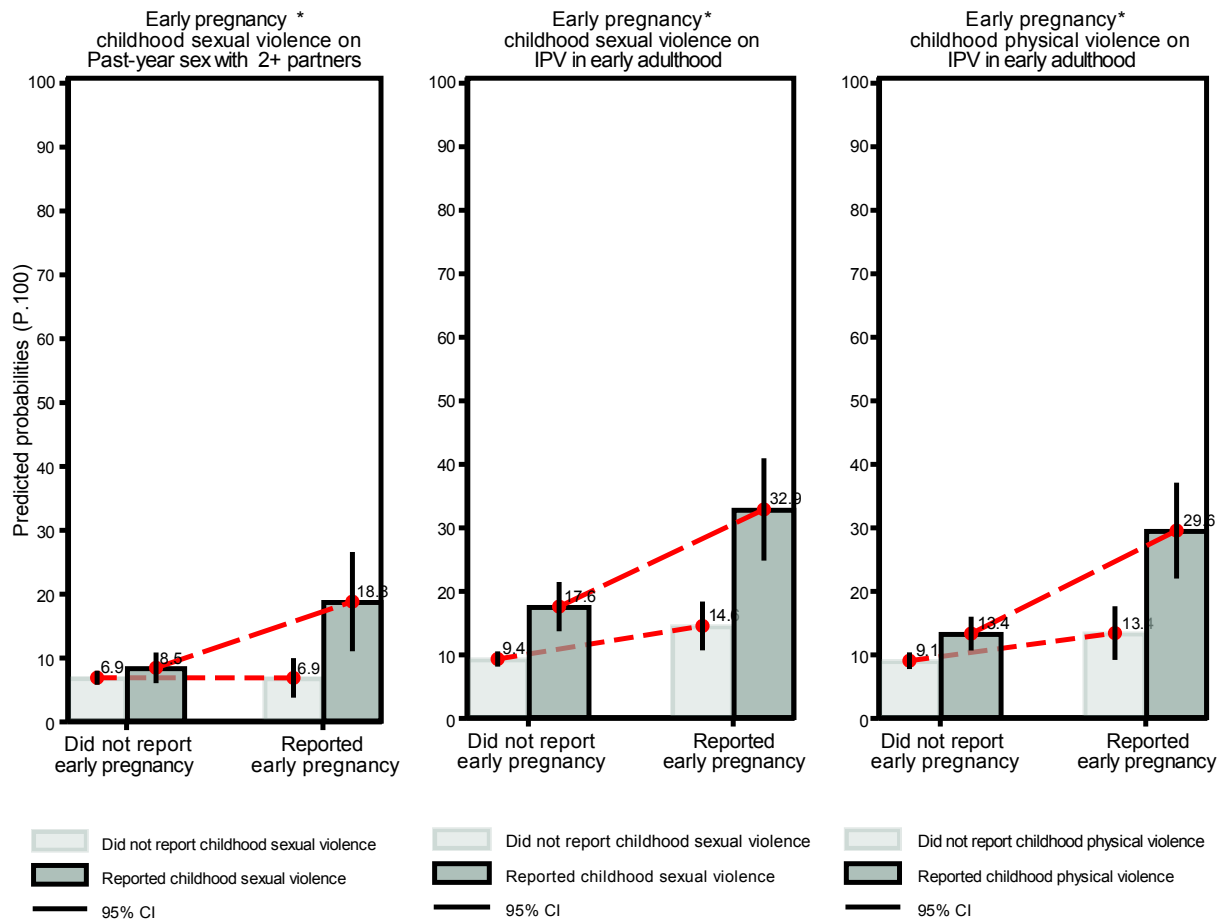


Figure 2. Interacting effects of (1) early pregnancy and childhood sexual violence on past-year multiple sexual partnership; (2) early pregnancy and childhood sexual violence on IPV in early adulthood; and (3) early pregnancy and childhood physical violence on IPV in early adulthood in three Southern African countries

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