

The Co-Occurrence of Intimate Partner Violence and Violence Against Children: A Systematic Review on Associated Factors in Low- and Middle-Income Countries

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Abstract

Violence against women (VAW) and violence against children (VAC) are public health issues of global concern. Intimate partner violence (IPV) is a commonly occurring form of VAW and there is evidence to suggest that IPV and VAC frequently co-occur within the same families. This systematic literature review searched for studies published in any language between 1st January 2000 to 16th February 2021 and identified 33 studies that provided findings for co-occurring IPV and VAC in 24 low- and middle-income countries (PROSPERO: CRD42020180179). These studies were split into subgroups based on the types of co-occurring violence they present and meta-analyses were conducted to calculate pooled odds ratios (ORs) within these subgroups. Our results indicate a significant association between IPV and VAC, with all pooled ORs showing a significant positive association between the two. Almost half of the studies focused exclusively on co-occurrence between male-to-female IPV and female caregiver-to-child VAC; few authors reported on male caregiver-to-child violence. Only three studies identified risk factors for co-occurring IPV and VAC, and those that did suggested conflicting findings on the risks associated with maternal age, alcohol and drug use, and parental education level. We also found incongruity in the violence definitions and measurements used across studies. Future research should aim to develop more consistent definitions and measurements for co-occurrence and move beyond solely examining dyadic and unidirectional violence occurrence in families; this will allow us to better understand the interrelationships between these different forms of abuse.

Keywords

anything related to child abuse, anything related to domestic violence, child abuse, domestic violence, violence exposure

Introduction

Violence against women (VAW) and violence against children (VAC) are both recognised as internationally important public health, human rights and gender equality issues (United Nations Children's Fund, 2014; World Health Organization, 2021). Intimate partner violence (IPV) is the most common form of VAW; globally, the lifetime prevalence of IPV amongst ever married or partnered women aged over 15 years is 26% and an estimated 6% of women over the age of 15 years have been subjected to non-partner sexual violence during their lifetime (World Health Organization, 2021). It is also estimated that over half of all children aged 2–17 years (1 billion) experience violence annually, with 6 in 10 children aged 2–14 years experiencing regular physical punishment and roughly 7 in 10 experiencing psychological aggression (Hillis et al., 2016; World Health Organization, 2014).

Lifetime exposure to sexual violence in childhood varies depending on the context from 0.3% to 44% (Laurin et al., 2018). Even though IPV and VAC are often researched and targeted using separate interventions, there is widespread

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evidence to suggest that these multiple forms of violence frequently co-occur within the same family, both within and across generations (Fry & Elliott, 2017; Guedes et al., 2016). Recently, this has led to questions about the co-occurrence of these types of violence within families and the potential of interventions to address these multiple forms of family violence together (Guedes et al., 2016). Efforts to prevent violence would benefit from better evidence on the shared risk factors and corresponding vulnerabilities and consequences of both IPV and VAC. Identifying the potential effectiveness and cost-effectiveness of joined-up interventions to reduce violence in families will be an important advancement towards meeting the 2030 sustainable development goals' commitment to end both forms of violence (Council of Europe, 2017).

International reviews of both types of violence demonstrate that both VAW and VAC share many overlapping risk factors, for example, both are more common in settings with social norms that condone violence, high levels of gender inequality and inadequate legal sanctions against violence and in families presenting marital conflict, economic stress, parental substance abuse, depression, criminal activity and male unemployment, among others (Guedes et al., 2016). Further, there is strong evidence from high-income countries (HICs) that VAC and IPV co-occur together in the same households, with one study in the USA citing that in 40% of households reporting IPV, physical child abuse is also reported (Appel & Holden, 1998).

Currently, most evidence for the co-occurrence of VAW and VAC comes from HICs leaving a significant gap in our knowledge regarding the co-occurrence of violence in low- and middle-income countries (LMICs) (Alhusen et al., 2014; Bidarra et al., 2016; Herrenkohl et al., 2008; Knickerbocker et al., 2007; Sijtsema et al., 2020). Moreover, there is a need to understand what risk factors are associated with the co-occurrence of multiple violence types in resource-poor settings. In this study, we sought evidence on the co-occurrence of violence within the same family unit, where IPV was defined as violence occurring with the current or most recent partner and VAC was defined as the use of VAC and/or sexual abuse by a parent or caregiver, occurring within childhood (aged 0–18 years). The aim of this systematic review was to identify and synthesise research on co-occurring violence in LMICs, to identify the individual, social and environmental risk factors associated with co-occurring violence and consider the implications for future joined-up interventions.

Methods

For this review, co-occurrence was defined as IPV and VAC occurring within the same family in an overlapping time period. Based on the definitions of the World Health Organization (WHO), the IPV had to either have occurred in the past year or have been reported as perpetrated by the current or most recent partner of one of the child's caregivers; VAC was

defined as physical, sexual and/or emotional abuse, including violent discipline as well as neglect, occurring before the child turned 18 years old, where the perpetrator was a parent or caregiver. Neglect was defined as the failure to meet the child's physical and psychological needs or protect them from danger, which included physical neglect, psychological neglect, neglect of a child's physical or mental health, educational neglect, or abandonment (World Health Organization, 2020). IPV included physical, sexual violence and/or emotional abuse, including controlling behaviours and economic abuse. Studies in which children reported experiences of violence from their parents and witnessing IPV at home were also included because they met our definition for co-occurrence, where witnessing the IPV was included as evidence of IPV occurring within the home. The review protocol was pre-registered (PROSPERO: CRD42020180179) and followed PRIMA Guidelines (Page et al., 2021).

Search Strategy and Selection Criteria

We searched for studies published in any language, with an English abstract, between 1st January 2000 to 16th February 2021, including studies from LMICs and HICs. However, during a search in November 2020, a scoping review was identified in which studies of co-occurring IPV and VAC for high-income countries were well-represented (Sijtsema et al., 2020). We therefore restricted our review to studies from LMICs, as defined by the World Bank ranking (World Bank, 2021). We included any studies that measured any variable associated with the co-occurrence of IPV and VAC, as well as studies that analysed the association between IPV and VAC that occurred within the same family during overlapping time periods. When exploring risks factors, no strict definition of risk factor was used and evidence of temporal relationship between a 'risk factor' and its 'outcome' was not required. We included quantitative or mixed methods studies with an experimental, quasi-experimental or observational study design that included a comparison group of either no IPV, no VAC or neither IPV nor VAC. Studies had to provide an effect size or a measure of significance for the association outcome. Studies were excluded when: they used qualitative methods only; the IPV was not defined as occurring within the past year or by the current or most recent partner; the VAC was not perpetrated by a caregiver before the child turned 18 years; they reported only on intergenerational co-occurrence, for example, childhood maltreatment as a risk factor for perpetration of IPV during adulthood; they measured only the prevalence of co-occurring IPV and VAC. Books, conference abstracts, theses, dissertations and editorial pieces were excluded, systematic reviews were also excluded but, if relevant, hand-searched for references.

A search strategy was developed that used Boolean operators to combine search terms for IPV, VAC and measures of association (Supplementary Appendix 1). High-income studies were excluded at the full text stage for the initial

search and at the abstract stage for the updated searches. This search strategy was adapted and applied to OVID (including MEDLINE, Embase, APA PsycINFO, Global Health and Social Policy and Practice), SciELO, Africa Wide Information Service and WHO Global Index Medicus (including regional index medici from African, Eastern Mediterranean, South-East Asian and the Western Pacific regions, along with the Latin American and Caribbean Literature on Health Sciences). Grey literature, such as organisational reports, was also found by searching key organisational websites. All search results were downloaded into Endnote for de-duplication before being uploaded to Rayyan for abstract screening.

Screening

The titles and abstracts of all studies were independently double screened (masked) using Rayyan, with IP screening 100% of studies and HS and SP screening 94% and 6% of the studies, respectively. Reviewers were blind to each other's inclusion/exclusion decisions. Where the abstract of the study could not be found, the study was included to the full text screening stage. All excluded studies were tagged with an exclusion reason. The list of studies included at the abstract stage was downloaded into an Excel workbook and the full texts found online. Each of the full texts were reviewed independently in full by two blinded reviewers, IP and SP, and included or excluded from the study based on the aforementioned criteria.

Data Extraction and Quality Appraisal

The following data were extracted from all included studies into an Excel workbook: study publication details; country of study; study design; study population and setting details; sample characteristics, including inclusion and exclusion criteria; definitions of IPV and VAC used; violence measurement tools used; all information regarding exposures and outcomes and all relevant results, including measures of effect and any associated significance values. Due to time constraints, data extraction was carried out by one reviewer (IP), but all extracted data was checked for accuracy by SP. Quality appraisal for all included studies was conducted using the Appraisal tool for Cross-Sectional Studies (AXIS tool) for risk of bias in cross-sectional studies and the Joanna Briggs quality appraisal checklists for case control and cohort studies.

Data Analysis

Due to the broad inclusion criteria used in this review, a thorough heterogeneity analysis was conducted to identify studies eligible for inclusion in the meta-analyses. We followed a methodology for evidence-based mapping of design heterogeneity and compared studies based on their

population's characteristics, the definitions of violence used, the types of violence measured and the reported perpetrators and targets of the violence (Althuis et al., 2014). From this, subgroups were formed based on the reported perpetrators of the co-occurring violence that they measured. In each subgroup, homogenous studies were identified, and subgroup meta-analyses were performed where appropriate.

We used a narrative synthesis textual approach for all included studies to map the types of violence measured, the studies definitions of violence and to compare the target populations of each study. To be eligible for inclusion in the meta-analyses, studies had to be deemed homogenous enough from heterogeneity analysis. They also had to provide measures of the association between either reported risk factors and co-occurring IPV and VAC, or between IPV and VAC in a co-occurring relationship, where the association was presented as an odds ratio (OR) with an associated *p*-value, 95% confidence interval or standard error, or in a way that allowed the odds ratios to be estimated using an online effect size calculator. Pooled ORs and 95% confidence intervals were then calculated within subgroups using the random effect method to account for heterogeneity between the studies in terms of populations studied and the methods used. Pooled ORs were calculated for physical IPV, emotional/psychological IPV and sexual IPV separately. Where subgroups contained 10 or more studies, funnel plots to present the risk of publication bias were produced.

Ethics Statement

All data included in this study were available in the public domain and ethical approval was not required.

Results

The database search returned a total of 11,234 studies and the grey literature search found two studies for inclusion. After de-duplication, a total of 6520 unique studies remained, of which all abstracts were screened. The abstract screen identified 416 studies for full text screening. Four full texts could not be accessed and were therefore excluded. This left 412 studies to be screened at the full text stage, of which 378 were excluded and 34 remained for inclusion in this study, see [Supplementary Appendix 2](#) (PRISMA Flow Chart) for exclusion reasons. Two studies provided results of the same study, so both are included, but are hereafter counted as one study, leaving a total of 33 separate studies for inclusion in this review. Thirty-one of the included studies were cross-sectional, one was a case-control study, and one was a population-based birth-cohort study. A summary of the study characteristics is shown in [Table 1](#).

The results of the quality appraisal of each of the studies can be found in [Supplementary Appendix 3, Tables 1-3](#). Regarding the 31 cross-sectional studies, reasons for downgrading most frequently included: not reporting on measures taken to address and categorise non-responders, not describing

Table 1. Overview of Included Studies.

Study Reference	Country	Study Population (n)	Type of Risk Factor(s) for Co-Occurrence Studied
Africa			
Afifi & von Bothmer, 2007; Afifi, 2009	Egypt	5249 married women	Association between IPV and VAC
Antai et al., 2016	Egypt	19,474 ever married women	Association between IPV and VAC
Ayinmode & Tunde-Ayinmode, 2008	Nigeria	250 female caregivers	Association between IPV and VAC
Carlson et al., 2020	Uganda	535 adolescent-caregiver dyads	Caregiver: age, education, religious status, SES, mental distress, alcohol use, intimate partner current living status, length of intimate relationship, intimate partner emotional attachment, attitudes against VAC. Adolescent: age, sex, mental distress, physical disability, lives with at least one biological parent, lives with both biological parents, sense of belonging and safety at home, had GST intervention – as risk factors for co-occurring IPV and VAC
Crombach & Bambonyé, 2015	Burundi	282 men and women	Association between IPV and VAC
Dalal et al., 2010	Egypt	14,016 married caregivers	Association between IPV and VAC
Devries et al., 2017	Uganda	3706 students	Association between IPV and VAC
Laurenzi et al., 2020	Kenya	465 male and female caregivers	Association between IPV and VAC
Swahn et al., 2017	Uganda	1134 children	Association between IPV and VAC
Eastern Europe and Asia			
Balabukha et al., 2016	Ukraine	483 women	Association between IPV and VAC
Emery et al., 2014	Vietnam	269 families	Association between IPV and VAC
Emery et al., 2015	Nepal	233 married or partnered female caregivers	Association between IPV and VAC
Gul et al., 2020	Turkey	336 married female caregivers	Association between IPV and VAC
Hidroğlu et al., 2006	Turkey	146 women	Association between IPV and VAC
Hunter et al., 2000	India	500 female caregivers	Association between IPV and VAC
Kelmendi et al., 2019	Kosovo	208 adolescents	Association between IPV and VAC
Malik & Rizvi, 2009	Pakistan	146 mother-child dyads	Association between IPV and VAC
Saed et al., 2013	Iraq	275 college students	Association between IPV and VAC
Şahin & Yetim, 2011	Turkey	275 married female caregivers	Association between IPV and VAC
Sriskandarajah et al., 2015	Sri Lanka	210 male and female caregivers and 359 children	Association between IPV and VAC
Vahip & Doğanavşargil, 2006	Turkey	100 married women	Association between IPV and VAC
Xiang & Han, 2020	China	236 students	Association between IPV and VAC
South America			
Benavides et al., 2015	Peru	598 child-caregiver dyads	Association between IPV and VAC

(continued)

Table 1. (continued)

Study Reference	Country	Study Population (n)	Type of Risk Factor(s) for Co-Occurrence Studied
Buffarini et al., 2021	Brazil	3533 mothers and 3723 children	Neighbourhood violence score, paternal age, maternal age, maternal education, paternal education, family income, father antisocial behaviour, father lives with child, mother–partner relationship, maternal depression, maternal use of alcohol, maternal use of illicit drugs (birth-cohort study)
Bhona et al., 2014	Brazil	480 female caregivers	Association between IPV and VAC
Gage & Silvestre, 2010	Peru	12,601 married female caregivers	Association between IPV and VAC
Klevens et al., 2000	Colombia	89 male–female couples	Association between IPV and VAC (case–control study)
Silva et al., 2017	Brazil	1133 pregnant women	Association between IPV and VAC
Ochoa et al., 2019	Colombia	187 caregivers	Association between IPV and VAC
Reichenheim et al., 2006	Brazil	205 households	Maternal age, companion's education, presence of child <5 years, misuse of alcohol/drugs at home, number of relationships between parents and sons as risk factors for co-occurring IPV and VAC
Salazar et al., 2014	Nicaragua	10,156 female caregivers	Association between IPV and VAC
Multiple			
Fulu et al., 2017	Bangladesh, Cambodia, China, Indonesia, Papua New Guinea, Sri Lanka	13,284 caregivers	Association between IPV and VAC
Kieselbach et al., 2021	Cambodia, Malawi, Nigeria	8618 children/youth aged 13–24	Association between IPV and VAC

Abbreviations: GST, Good School Toolkit; IPV, intimate partner violence; SES, socioeconomic status; VAC, violence against children.

any information about non-responders in the results section and not justifying the sample size used. No studies were excluded based on the results of their quality appraisal.

Definitions and Severity of Parental Violence

VAC measurements and definitions varied greatly across each of the 33 included studies, and the definitions used are shown in [Supplementary Appendix 4](#). Throughout this results section, the terms used by the authors of each study to describe the VAC measured will be used when talking about the results of each individual study. Twelve studies measured parental VAC or violent discipline restricted to physical violence only ([Afffi, 2009](#); [Benavides et al., 2015](#); [Emery et al., 2015](#); [Fulu et al., 2017](#); [Gage & Silvestre, 2010](#); [Hidroğlu et al., 2006](#); [Kieselbach et al., 2021](#); [Klevens et al., 2000](#); [Reichenheim et al., 2006](#); [Salazar et al., 2014](#); [Vahip & Doğanavşargil, 2006](#); [Şahin & Yetim, 2011](#)). [Kieselbach et al. \(2021\)](#) only included severe forms of physical violence in their definition of VAC. Fourteen studies measured parental VAC using a definition of violence that included physical, emotional and/or psychological violence ([Antai et al., 2016](#); [Balabukha et al., 2016](#); [Bhona et al., 2014](#); [Carlson et al., 2020](#); [Devries et al., 2017](#); [Gul et al., 2020](#); [Laurenzi et al., 2020](#); [Malik & Rizvi, 2009](#); [Ochoa et al., 2019](#); [Silva et al., 2017](#); [Sriskandarajah](#)

[et al., 2015](#); [Xiang & Han, 2020](#)), four of these studies also included verbal discipline or shouting in their definition ([Antai et al., 2016](#); [Dalal et al., 2010](#); [Hunter et al., 2000](#); [Ochoa et al., 2019](#)) and one study only included severe forms of physical, emotional and psychological violence ([Xiang & Han, 2020](#)). Five studies included neglect in their definitions of violence, with [Swahn et al. \(2017\)](#) including alcohol-related abuse and alcohol-related neglect and two studies included measurements of sexual abuse ([Buffarini et al., 2021](#); [Saed et al., 2013](#)).

Of the 33 studies presented here, 13 either measured or reported the outcome for VAC as a single dichotomous outcome (e.g. recorded as the presence or absence of violence, within a specified timeframe), which means the results were not specific to the severity of violence. For 12 of the 33 studies, the outcome variables were measured by the presence of certain types of violence within a specified timeframe. For four of these studies ([Afffi, 2009](#); [Antai et al., 2016](#); [Dalal et al., 2010](#); [Gage & Silvestre, 2010](#)), the analyses were conducted for each specific type of violence, for example, ‘hitting on the face/head/body’ or ‘shouting at the child’, whereas for the other eight studies, the analyses were grouped by the overall type of violence, for example, physical violence, psychological violence and, in one example, alcohol-related violence ([Bhona et al., 2014](#); [Devries et al., 2017](#); [Emery et al., 2014](#); [Gul et al., 2020](#); [Reichenheim et al., 2006](#); [Saed et al.,](#)

Table 2. The Types of Co-Occurring IPV and VAC Presented in the Included Study Populations ($n = 33$).

Subgroup Name	IPV Perpetrator	Parent Asked/Reported on Use of VAC	# of Studies
M>F>C	Male caregiver/female caregiver's male partner	Female caregiver	16
M>F, U>C	Male caregiver/female caregiver's male partner	Unspecified/either caregiver	7
M>F, M>C	Male caregiver/female caregiver's male partner	Male caregiver	5
F>M, F>C	Female caregiver	Female caregiver	1
F>M, U>C	Female caregiver	Unspecified/either caregiver	1
U>U, U>C	Unspecified caregiver	Unspecified/either caregiver	7
U>U, M&F>C	Unspecified caregiver	Male and female caregiver	1

Abbreviations: C, child; F, female caregiver; IPV, Intimate partner violence; M, male caregiver; U, unspecified caregiver.

2013; Silva et al., 2017; Swahn et al., 2017). These studies most often used the Parent-Child Conflict Tactics Scale (CTSPC) to measure the parents' use of violence against the children and seven conducted analyses using a continuous variable for child abuse severity.

Reported Perpetrators and Recipients of Violence

Table 2 outlines the type of co-occurrence based on the direction and the perpetrators and recipients of violence. The violence type subgroups outlined in Table 2 align with those by (Sijtsema et al., 2020), with some studies falling within multiple subgroups because they presented results for more than one type of co-occurrence. Our study did not identify any published results for same-sex IPV. Caregivers were defined in the studies as either caregivers or mothers/fathers; thus, for consistency, we refer to all as either female or male caregivers. As highlighted in Table 2, the female caregiver was most often the focus of the study and the parent who was asked about the use of violence against the child(ren). In most studies, the relationship between the male IPV perpetrator and the child(ren) is not defined, and in only nine studies was the male IPV perpetrator defined as a male caregiver.

Associations Between Intimate Partner Violence and Violence Against Children

Thirty studies measured the association between IPV and VAC when co-occurring in the same family unit (Table 3). To explore the results of these studies, we analysed them within the subgroups of the type of co-occurrence.

Male Perpetrated Intimate Partner Violence, Female Caregiver or Male Caregiver's Female Partner Use of Violence Against Children (M>F>C). The most frequent type of co-occurrence, measured in 15 studies, was where male-to-female IPV (perpetrated by the male caregiver or female caregiver's male partner) co-occurred with mother to child VAC, a summary of these studies can be found in [Supplementary Appendix 5](#). For these studies, the number of participants ranged from 100 married women (Vahip & Doğanavşargil, 2006) to 19,474 ever married women (Antai et al., 2016). Seven studies had the specific aim of investigating the association of mothers'

experiences of IPV and their use of VAC, presenting data from Peru, Egypt, Turkey and Brazil (Afifi, 2009; Benavides et al., 2015; Dalal et al., 2010; Gage & Silvestre, 2010; Hıdıroğlu et al., 2006; Silva et al., 2017; Şahin & Yetim, 2011). Three studies aimed to establish a range of factors associated with the use of VAC, with IPV investigated alongside other factors such as demographic and socioeconomic variables, employment, family size, generational IPV, views on violence, mental health, alcohol use and exposure to mass trauma. These studies presented data from Sri Lanka, Egypt and India (Antai et al., 2016; Hunter et al., 2000; Sriskandarajah et al., 2015). Two studies, both from Turkey, aimed to measure the prevalence of multiple types of violence and in their results, presented the association between IPV and VAC as co-occurring, among other forms of overlapping forms of violence (Gul et al., 2020; Vahip & Doğanavşargil, 2006). Fulu et al. (2017) was the only study that combined data from multiple countries (Bangladesh, Cambodia, China, Indonesia, Papua New Guinea and Sri Lanka) and included an overall measurement for the association between IPV and VAC across countries.

All 15 studies found a significant ($p \leq 0.05$) association between at least one type of IPV from a male-to-female caregiver and at least one type of female caregiver-to-child VAC. Nine of these studies provided evidence for a positive association and five studies provided evidence for only the presence of an association using the chi-squared statistic. Emery et al. (2015) in their study of the impact of informal social control of IPV on child abuse severity, found that protective informal social control¹ of IPV was negatively associated with child abuse severity, meaning that when increased levels of social control existed, both IPV and child abuse severity decreased. They also found that when a husband's violence severity and other controls were considered in the model, IPV (defined as intimate terrorism in this study, 'where one partner uses violence to control the other') remained a significant predictor of child abuse severity.

Two studies provided evidence for a significant negative association between at least one type of male-to-female caregiver IPV and at least one method of female caregiver-to-child violence: Gage & Silvestre (2010) presented a negative association between frequent physical

IPV and physical VAC limited to slapping and spanking only (RR: 0.579, $p < 0.01$). However, this study found a significant positive association between physical IPV ‘sometimes’ and physical VAC limited only to beating (RR: 1.341, $p < 0.05$). A high emotional IPV variety score² was also found to be significantly positively associated with all types of physical VAC measured. Dalal et al. (2010) was the other study to find significant negative associations between the co-occurring violence types. Interestingly, they found that sexual IPV perpetrated against the mother was significantly negatively associated with all forms of VAC types and no significant results were provided for the association between emotional IPV or physical IPV and any of the VAC types.

Fulu et al. (2017) in their multi-country study found that caregivers’ use of harsh parenting was most strongly associated with their partner’s use of harsh parenting; women’s use of harsh parenting was most strongly driven by their male partners use of harsh parenting, which was found to mediate the association between her partner’s use of IPV and her own use of harsh parenting. Similarly, Şahin & Yetim (2011) found that the odds of physical child abuse among the female caregivers increased 2.7 times in the presence of a partner’s child abuse. Of the fifteen studies that measured the association between male-to-female IPV and female caregiver VAC, only three also collected information on the male caregivers’ (or female caregivers’ male partners’) use of VAC. Benavides et al. (2015) and Gage & Silvestre (2010) both stated that perpetration of violence by other family members was measured during their studies, but it was not examined in the results. Sriskandarajah et al.’s (2015) study did ask fathers about their use of psychological aggression, physical assault and neglect towards children, but did not measure the association of this violence with IPV, which meant that they only presented results for the co-occurrence of IPV and mother to child violence.

A meta-analysis was conducted of the studies included in the M>F>C subgroup that were deemed sufficiently homogenous from the heterogeneity analysis. That is, the measurement of IPV and VAC were similar enough to be comparable, particularly concerning the age range of the children, and the outcomes employed comparable metrics. Of the three studies based on the 2005 Egypt DHS, only Dalal et al.’s (2010) study was included in the meta-analysis due to the likelihood of overlapping populations, chosen as it provided a breakdown of IPV type. Furthermore, within these homogenous studies, only a sub-set of studies included the relevant information required to calculate ORs. The studies excluded from the meta-analysis and the reasons for this are presented in Supplementary Appendix 6 Table 1.

Studies where odds ratios and their associated p -values or confidence intervals could be calculated for the associations between physical, emotional/psychological, or sexual IPV and physical VAC were included in the analysis as physical VAC was the only outcome similar enough to compare across

studies. All included studies measured violence either in the past year or ever perpetrated by the current or most recent partner. The resulting ORs and the information used to calculate them are presented in Supplementary Appendix 7.

The results of the meta-analysis show that physical, sexual and emotional/psychological IPV were significantly associated ($p \leq 0.05$) with the presence of physical VAC in the subgroup of studies. Within the M>F>C subgroup, the random effects pooled OR for the association between physical IPV and physical VAC ($n = 8$ studies) was 1.57 (95% CI: 1.47–1.67; $z = 13.95$; $p < 0.001$; $I^2 = 0.00\%$), shown in the forest plot in Figure 1. For the association between emotional/psychological IPV and physical VAC ($n = 3$), the random effects pooled OR was 1.77 (95% CI: 1.43–2.19; $z = 5.20$; $p < 0.001$; $I^2 = 58.43\%$) and for the association between sexual IPV and physical VAC ($n = 2$), the random effects pooled OR was 1.78 (95% CI: 1.22–2.60; $z = 2.97$; $p < 0.001$; $I^2 = 25.16\%$) (emotional/psychological IPV and sexual IPV forest plots shown in Supplementary Appendix 8 Figures 1 and 2, respectively).

The funnel plot to assess the risk of publication bias of the studies included in the meta-analysis in Figure 2 shows some asymmetry, with more studies spread to the right-hand side, which could suggest a risk of publication bias. Due to the small number of studies, funnel plots were not produced for the pooled ORs for emotional/psychological IPV and VAC, or for sexual IPV and VAC.

Male Perpetrated Intimate Partner Violence, Unspecified Caregiver’s Use Violence Against Children (M>F, Unspecified > C). Another type of co-occurrence examined by five cross-sectional studies was where male-to-female IPV (perpetrated by the male caregiver or mother’s male partner) co-occurred with VAC from an unspecified caregiver (see Supplementary Appendix 9). The number of participants ranged from 275 college students (Saed et al., 2013) to 10,156 female caregivers (Salazar et al., 2014) and two specifically investigated the link between IPV and VAC (Devries et al., 2017; Malik & Rizvi, 2009). Both studies found significant associations between at least one type of co-occurring IPV and VAC. Malik & Rizvi’s (2009) study in Pakistan concluded that not only were the inter-correlations of the different subscales of IPV and child abuse significantly positively associated, but children of illiterate mothers were at higher risk of abuse compared to those of literate mothers, whereas a fathers’ education level did not alter their child’s risk of being abused. Salazar et al.’s (2014) study in Nicaragua examined how women’s use of corporal punishment was affected by their experience of IPV and the protective effects of their education. The authors found that not only were women’s experiences of IPV associated with a 10–17% increase in their child’s risk of experiencing corporal punishment, but that a women’s lifetime exposure to emotional IPV and their partner’s controlling behaviour both significantly decreased the protective effect of female

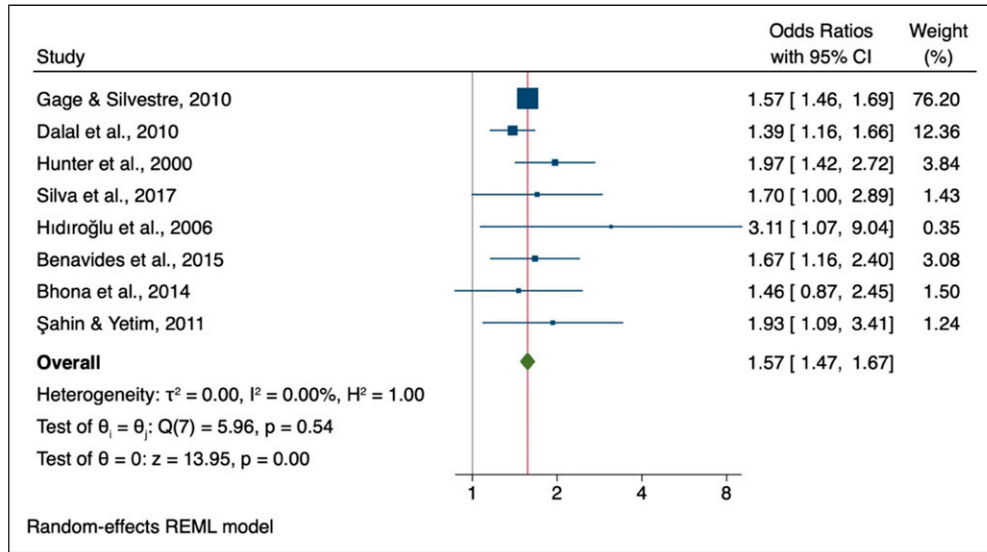


Figure 1. Forest plot for the association between physical and/or overall IPV on VAC in the M>F>C subgroup.

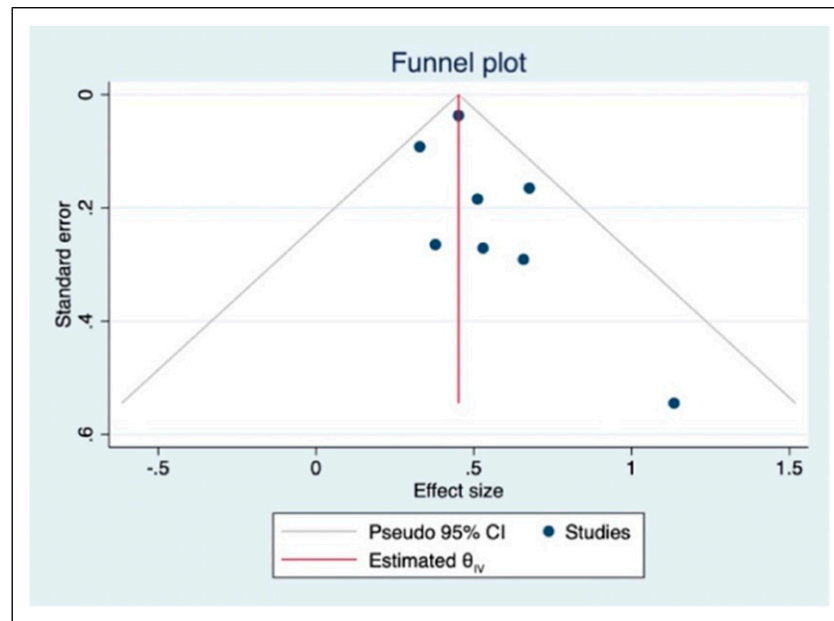


Figure 2. Funnel plot to assess the risk of bias in the studies included in the meta-analysis for the M>F>C subgroup.

caregivers' education on corporal punishment (Salazar et al., 2014).

Within these five studies, the questions on VAC did not ask which parent used these violent methods. In three of the six studies, it was the children themselves who were asked about their experiences of VAC. While the college students in Saed et al.'s (2013) study in Iraq reported some parent-specific examples, such as '4.7% of students recall being hit, pushed, or punched by their fathers', there is no overall summary of the results broken down by parent. In Devries et al. (2017), the results were not disaggregated based on the parents' gender but

were split by the sex of the children, which was not found in most other studies. Salazar et al.'s (2014) study in Nicaragua and Laurenzi et al.'s (2020) study in Kenya asked the female caregivers about both IPV (from their male partners) and then asked how the children in their household were disciplined 'by any adults' in the household overall. This complicates the definition of co-occurrence, as this could have included grandparents or other close relatives who may live in the household and be involved in caring for or disciplining the children.

After assessing the heterogeneity and eligibility for inclusion into the meta-analysis as for the M>F>C subgroup, only one of

the studies was deemed suitable for a meta-analysis (Saed et al., 2013). Hence, no pooled OR was calculated (see Table 2 of Supplementary Appendix 6 for detailed reasons).

Unspecified Intimate Partner Violence, Unspecified Violence Against Children. A total of seven studies presented results where, for the association of IPV and VAC, the gender of the perpetrators was not presented; these studies are presented in Supplementary Appendix 10. For example, Kelmendi et al. measured the association between IPV and VAC using a variable that represented the total score of experiencing child maltreatment by both parents from a sample of 208 students in Kosovo, despite having collected data for individual scales on female and male caregivers' perpetration of violence (Kelmendi et al., 2019). This study explored co-occurring psychological IPV and corporal punishment and found a significant association even after controlling for sociodemographic factors such as gender, average grades, parents' education, number of sisters/brothers, and financial income. The study also found that parental IPV was not associated with extreme physical violence and neglect.

Four studies directly asked children or young adults about their experiences of violence (for young adults, these were experiences prior to being 18 years old). For example, Swahn et al. (2017) conducted a study to examine the patterns of alcohol-related abuse among 1134 children living in the slums of Kampala, Uganda. The authors found that children's past year alcohol use was significantly related to their experiences of alcohol-related neglect and alcohol-related physical abuse. Furthermore, parental IPV was significantly associated with both child physical abuse (adjusted OR: 5.51; 95% CI: 4.09–7.43) and alcohol-related child physical abuse (adjusted OR: 7.51; 95% CI: 5.01–11.25). Kieselbach et al. (2021) produced a multi-country study including 13- to 24-year-olds from Cambodia ($n = 2373$), Malawi ($n = 2147$) and Nigeria ($n = 4098$) that found that both males and female students who witnessed parental IPV had significantly higher odds of mental distress in Cambodia and Malawi but in Nigeria, the odds ratio was only significant for male students. The study also found that there was a significant association between IPV and parental VAC for both male and female respondents in Cambodia and Malawi, but this was only significant for male respondents in Nigeria (all $p \leq 0.05$, besides female respondents in Nigeria, where $p = 0.736$).

The heterogeneity and eligibility for inclusion into the meta-analysis was assessed as previously described and only two studies were heterogeneous enough and provided adequate results for a random effect meta-analysis. The excluded studies and their reasons are presented in Supplementary Appendix 6, Table 3.

Two studies were included in the random effects meta-analysis: Swahn et al., 2017, which provided an adjusted OR for the association between parental IPV and physical VAC

and Ochoa et al., 2019, which provided two ORs for inclusion in the analysis (one for the association of parental IPV and VAC from the subgroup of those reporting perpetration of IPV and one from the subgroup of those reporting being exposed to IPV). The random effects meta-analysis resulted in a pooled OR of 3.82 (95% CI: 2.28–6.42; $z = 5.07$; $p < 0.001$; $I^2 = 62.51\%$). Due to there being a small number of studies ($n < 10$) for each of the subgroup meta-analyses, funnel plots were not produced to test for publication bias.

Male Caregiver or Female Caregiver's Male Partner Intimate Partner Violence and Violence Against Children (M>F, M>C). Overall, four studies specifically reported on male caregivers' use of VAC, presented in Supplementary Appendix 11. Two of these studies assessed male caregivers use of VAC (Fulu et al., 2017; Şahin & Yetim, 2011) and two included male caregiver-specific results along with female caregiver-specific results (Ayinmode & Tunde-Ayinmode, 2008; Klevens et al., 2000). Ayinmode & Tunde-Ayinmode (2008) conducted a cross-sectional study amongst 250 married female caregivers attending a primary healthcare facility in Ilorin, Nigeria, establishing that female caregivers who experienced physical IPV were more likely to have reported 'child cruelty' by their husbands, when compared to those who did not report experience of IPV. The study did not enquire about female caregivers' episodes of child cruelty. Fulu et al. (2017) found that men's use of harsh parenting practices are most strongly associated with their female partners use of harsh parenting, which in turn is associated with the men's perpetration of physical IPV, showing the indirect association between men's co-occurring perpetration of IPV and use of harsh discipline.

Heterogeneity was analysed using the same assessment process as above, and only one study provided adequate results for a random effect meta-analysis (Ayinmode & Tunde-Ayinmode, 2008). Hence, no pooled OR was calculated and the reason for exclusion is presented in Table 4 of Supplementary Appendix 6.

Unspecified Intimate Partner Violence Perpetrator and Separate Results for Male and Female Caregivers Use of Violence Against Children. We identified one study measuring the association between co-occurring IPV and VAC where the results were presented for male and female caregivers use of VAC separately, but the IPV perpetrator was not specified (Emery et al., 2014). This study, presented in Supplementary Appendix 12, found that children of parents who had themselves both experienced childhood maltreatment and severe IPV had 23 times higher odds of experiencing child maltreatment, holding all other variables in the model constant. When the results were separated based on the sex of the parent, for female caregivers, 'severe IPV' was significantly associated with increased use of VAC (OR: 22.42, $p < 0.05$), whereas 'injury IPV' was significantly protective

Table 3. Critical Findings.

Thirty studies presented measures for the association between co-occurring IPV and VAC, all but one of these studies showed a significant association between the two
Three studies presented analyses for factors associated with the co-occurrence of IPV and VAC, of these, results were conflicting as to whether factors such as maternal age and parental education level were significant risk factors or not
Almost half of the studies (16) specifically focused on male-to-female caregiver IPV co-occurring with female caregiver-to-child VAC, very few studies attempted to analyses male caregivers use of violence or consider how female caregiving responsibilities (including time spent by females on caregiving) may impact findings
Failing to include male's violent parenting is important: two studies found that the strongest association with women's use of harsh discipline was her partners use of harsh discipline. Conversely, very few studies measured female-to-male IPV
A wide spectrum and variation in the types and of violent acts included in VAC measurements was reported, and often frequency and severity were not measured

against VAC (OR: 0.09, $p < 0.05$), 'minor IPV' was not significantly associated with VAC. For male caregivers, severe IPV was significantly associated with VAC (OR: 77.81, $p < 0.001$), but 'minor IPV' and 'injury IPV' were not significantly associated at the 95% level. Interestingly, for men, full-time employment was associated with large increases in the odds of male caregiver perpetrated VAC (OR: 62.78, $p < 0.001$), whereas full-time employment was a protective, although not significant, factor for female caregiver perpetrated VAC (OR: 0.21, $p = \text{NS}$).

Female Caregiver or Male Caregiver's Female Partner Perpetrated Intimate Partner Violence and Violence Against Children (F>M, F>C). Only one study provided results for the association between female-perpetrated IPV, and female caregivers use of VAC (presented alongside results for male perpetrated IPV). [Bhona et al. \(2014\)](#) found a significant association between female-perpetrated psychological IPV and all types of female caregiver VAC reported, as well as a significant association between female-perpetrated physical IPV and female caregivers use of psychological VAC and corporal punishment and between 'injury IPV' and 'physical mistreatment' (all $p \leq 0.05$). Not significant were the associations between physical IPV and 'physical mistreatment', between sexual IPV and any type of VAC and between 'injury IPV' and either 'psychological mistreatment' or 'corporal punishment' ([Supplementary Appendix 13](#)).

Risk Factors for the Co-Occurrence of Intimate Partner Violence and Violence Against Children

Our search identified three studies that examined risk factors for co-occurring IPV and VAC, the results of which are shown in [Table 4](#). The first was [Carlson et al. \(2020\)](#) which sought to identify the overlap between IPV (emotional, physical and/or sexual) and physically and/or psychological VAC and their common contributing factors in a Ugandan population. The IPV was male to female and the VAC could be from either the male or female caregiver. The authors found that one third of

adolescent-caregiver dyads reported both IPV and VAC and those reporting IPV were also more likely to report VAC. This study found that when considering female caregiver-to-child violence, the female caregivers' higher education level (OR 0.23; 95% CI: 0.09–0.59; $p < 0.01$) and emotional attachment to their intimate partner (OR: 0.90; 95% CI: 0.85–0.97; $p < 0.01$) offered a significant protective effect for the risk of co-occurring IPV and VAC. Other caregiver-related variables such as caregiver age, religious status, socioeconomic status, alcohol use, mental distress, whether caregivers lived together, intimate relationship length in years, caregiver attitudes against VAC were not significant (at the 95% level). Furthermore, none of the adolescent-related variables such as their age or sex were significantly associated with co-occurring IPV and experiencing VAC. When the co-occurrence was defined as the male caregiver perpetrating both the IPV and VAC, male caregiver emotional attachment with their intimate partner (OR: 0.80; 95% CI: 0.71–0.91; $p < 0.001$) and 'attitudes against VAC' (OR: 0.86; 95% CI: 0.73–1.00, $p < 0.05$) offered a significant protective effect. For male caregivers' VAC, their education level did not offer a significant protective effect for the risk of co-occurring IPV, as did none of the adolescent-related variables such as sex and age.

The second study was [Reichenheim et al. \(2006\)](#) where the association between suspected risk factors for the co-occurrence of IPV during pregnancy (based on the CTS2, perpetrated by at least one member of the couple) and VAC (unspecified which parent, reported use of physical violence in the past month) were examined (M/F > U > C). This study found that older maternal age (≥ 25 years) and caregiver misuse of alcohol or drugs were significantly positively associated with the co-occurrence of IPV and VAC, whereas caregiver companion's education level and the presence of children aged under 5 years were significantly negatively associated with the risk of co-occurrence. The results of both studies are presented in [Table 4](#).

[Buffarini et al. \(2021\)](#) was the only cohort study that we identified. This study was conducted in Brazil with 3500

Table 4. Studies Providing Risk Factors for the Co-Occurrence of IPV and VAC ($n = 3$).

Study Details	Risk Factor	Effect	Significance
Carlson et al., 2020; Uganda; 535 adolescent-caregiver dyads	Caregiver age	OR: 0.96	95% CI: 0.9–1.01, $p = NS$
	Caregiver education (some secondary or higher vs primary or no)	OR: 0.23	95% CI: 0.09–0.59, $p < 0.01$
	Caregiver Religious status (Muslim affiliation compared to Christian/Catholic)	OR: 1.42	95% CI: 0.61–3.32, $p = NS$
	Caregiver SES	OR: 0.26	95% CI: 0.07–1.01, $p < 0.50$
	Caregiver Mental distress (SRQ)	OR: 1.12	95% CI: 1.01–1.22, $p < 0.50$
	Caregiver alcohol use	OR: 3.03	95% CI: 0.99–9.3, $p < 0.50$
	Caregiver intimate partner current living status (together vs not)	OR: 1.09	95% CI: 0.37–3.22, $p = NS$
	Caregiver intimate partner relationship length (years)	OR: 1.05	95% CI: 0.99–1.11, $p < 0.10$
	Caregiver intimate partner emotional attachment	OR: 0.90	95% CI: 0.85–0.97, $p < 0.01$
	Caregiver attitudes against VAC	OR: 0.95	95% CI: 0.84–1.07, $p = NS$
	Adolescent age	OR: 0.95	95% CI: 0.73–1.25, $p = NS$
	Adolescent sex (girl vs boy)	OR: 1.14	95% CI: 0.58–2.23, $p = NS$
	Adolescent mental distress (SDQ)	OR: 0.98	95% CI: 0.92–1.04, $p = NS$
	Adolescent physical disability	OR: 0.97	95% CI: 0.44–2.18, $p = NS$
	Adolescent lives with at least one biological parent (compared to none)	OR: 1.68	95% CI: 0.79–3.53, $p = NS$
	Adolescent lives with both biological parents	OR: 0.99	95% CI: 0.39–2.51, $p = NS$
	Adolescent sense of belonging and safety at home	OR: 1.00	95% CI: 0.86–1.16, $p = NS$
	Adolescent had GST intervention	OR: 0.63	95% CI: 0.32–1.23, $p = NS$
	Caregiver age	OR: 0.96	95% CI: 0.91–1.02, $p = NS$
	Caregiver education (some secondary or higher vs primary or no)	OR: 0.87	95% CI: 0.29–2.61, $p = NS$
	Caregiver Religious status (Muslim affiliation compared to Christian/Catholic)	OR: 1.62	95% CI: 0.51–5.1, $p = NS$
	Caregiver SES	OR: 1.52	95% CI: 0.23–10.07, $p = NS$
	Caregiver Mental distress (SRQ)	OR: 1.09	95% CI: 0.97–1.23, $p = NS$
	Caregiver alcohol use	OR: 1.26	95% CI: 0.95–1.67, $p < 0.10$
	Caregiver intimate partner current living status (together vs not)	OR: 6.42	95% CI: 0.46–90.02, $p = NS$
	Caregiver intimate partner relationship length (years)	OR: 1.03	95% CI: 0.97–1.09, $p = NS$
	Caregiver intimate partner emotional attachment	OR: 0.80	95% CI: 0.71–0.91, $p < 0.001$
	Caregiver attitudes against VAC	OR: 0.86	95% CI: 0.73–1.00, $p < 0.05$
	Adolescent age	OR: 1.27	95% CI: 0.86–1.88, $p = NS$
	Adolescent sex (girl vs boy)	OR: 1.11	95% CI: 0.45–2.72, $p = NS$
	Adolescent mental distress (SDQ)	OR: 0.95	95% CI: 0.87–1.05, $p = NS$
	Adolescent physical disability	OR: 0.63	95% CI: 0.25–1.52, $p = NS$
	Adolescent lives with at least one biological parent (compared to none)	OR: 0.93	95% CI: 0.34–2.51, $p = NS$
	Adolescent lives with both biological parents	OR: 0.90	95% CI: 0.25–3.22, $p = NS$
	Adolescent sense of belonging and safety at home	OR: 0.98	95% CI: 0.79–1.22, $p = NS$
	Adolescent had GST intervention	OR: 1.40	95% CI: 0.57–3.42, $p = NS$

(continued)

Table 4. (continued)

Study Details	Risk Factor	Effect	Significance
Reichenheim et al., 2006; Brazil; 205 households	Maternal age	B: 1.28	SE: 0.51, χ^2 : 9.95; $p = 0.019$
	Education of companion	B: 0.82	SE: 0.40, χ^2 : 9.87; $p = 0.020$
	Presence of children below 5 years	B: 0.56	SE: 0.44, χ^2 : 8.03; $p = 0.045$
	Misuse of alcohol or use of drugs at home	B: 1.37	SE: 0.36, χ^2 : 17.86; $p = 0.000$
	Number of relationships in-between parents and children	B: 0.54	SE: 0.64, χ^2 : 7.79; $p = 0.051$
Buffarini et al., 2021; Brazil; 3,533 mother-child dyads	Neighbourhood Violence (frequency)	Reference	Reference: Overall $p = 0.005$
	0-2 (lowest frequency)	PR: 1.5	95% CI: 1.1-2.1
	3-7	PR: 1.9	95% CI: 1.2-3.1
	8-12	PR: 0.5	95% CI: 0.2-1.1
	<20	PR: 0.7	95% CI: 0.5-1.0
	20-34	Reference	Reference: Overall $p = 0.115$
	≥35	PR: 2.8	95% CI: 1.5-5.4
	<20	PR: 1.5	95% CI: 0.9-2.7
	20-34	Reference	Reference: Overall $p = 0.003$
	≥35	PR: 1.7	95% CI: 0.9-3.4
	0-4	PR: 1.4	95% CI: 0.8-2.4
	5-8	PR: 0.9	95% CI: 0.6-1.5
	9-11	Reference	Reference: Overall $p = 0.19$
	12 or more	PR: 1.1	95% CI: 0.6-2.1
	0-4	PR: 1.0	95% CI: 0.6-1.8
	5-8	PR: 0.9	95% CI: 0.6-1.4
	9-11	Reference	Reference: Overall $p = 0.858$
	12 or more	PR: 1.4	95% CI: 0.7-2.7
Family income (quintiles)	Q1 (poorest)	PR: 1.3	95% CI: 0.7-2.5
	Q2	PR: 1.2	95% CI: 0.6-2.2
	Q3	PR: 1.1	95% CI: 0.6-2.0
	Q4	Reference	Reference: Overall $p = 0.915$
	Q5 (richest)	PR: 3.9	95% CI: 2.9-5.5
Father antisocial behaviour	Yes	Reference	Reference: Overall $p < 0.001$
	No	PR: 1.4	95% CI: 1.0-2.2
Father lives with child	No father at home	PR: 2.0	95% CI: 1.1-3.8
	Social father at home	Reference	Reference: Overall $p = 0.038$
Mother-partner relationship	Biological father at home	Reference	Reference: Overall $p = 0.013$
	Low criticism	PR: 1.7	95% CI: 1.1-2.7
	Low-to-medium criticism	PR: 1.8	95% CI: 1.1-2.8
	Medium-to-high criticism	Reference	Reference: Overall $p < 0.001$
	No	PR: 2.4	95% CI: 1.6-3.6
Maternal depression	Yes	Reference	Reference: Overall $p = 0.671$
	No	PR: 1.3	95% CI: 0.4-4.2
Maternal use of alcohol	Yes	Reference	Reference: Overall $p = 0.339$
	No	PR: 1.4	95% CI: 0.7-2.6

Abbreviations: CTS2, Conflict Tactic Scale 2; CTSPC, Conflict Tactic Scale Parent-Child; ICAT, International Society for the Prevention of Child Abuse and Neglect Child Abuse Screening Tool; OR, odds ratio; M, male caregiver; F, female caregiver; C, child; SDQ, Strength and Difficulties Questionnaire; SE, standard error; SES, socioeconomic status; SRQ, Self-Reporting Questionnaire; WHO-WHLEQ, WHO Women's Health and Life Events Questionnaire.

mother–child dyads, with maternal reports of both IPV and VAC when children were 4 years old. The authors analysed whether 11 neighbourhood, parental and family risk factors (measured between birth and age 4 years) were associated with the co-occurrence of both types of violence. Through multivariate analyses, they showed that co-occurring violence was strongly associated with the absence of the child’s father (biological or social) at the time of the survey (compared to the child’s biological father living at home at the time of survey), paternal antisocial behaviour, neighbourhood violence, a mother–partner relationship characterised by high levels of criticism, maternal depression and a younger maternal age. Not significant was younger paternal age, lower education (maternal or paternal), lower family income, maternal alcohol use and maternal illicit drug use. The study also reported that IPV and VAC co-occurred for 4.6% of the study population, as reported by mothers. The perpetrators of IPV were the mothers’ male partners and the perpetrators of VAC were unspecified. As this study also measured risk factors for IPV and VAC separately, as well as for their co-occurrence, some additional interesting findings were presented: *‘Five family and parent characteristics were strongly and significantly associated with all three violence outcomes: low family income, biological father not living with the child, father antisocial behaviour, poor mother–partner relationship and maternal depression. The following were associated with IPV and its co-occurrence with child maltreatment but were not associated with child maltreatment on its own: neighbourhood violence, low paternal education and maternal use of illicit drugs. For child maltreatment on its own and in co-occurrence with IPV, there were strong associations with low maternal education and young age of the mother, but these risk factors did not associate with IPV alone’*. The authors also reported that when households presenting four or more risk factors were compared to households presenting none, the risk of co-occurring IPV and VAC was increased by over six-fold (PR=6.4, 95% CI: 3.8–10.6, $p < 0.001$).

Discussion

Co-Occurrence of Intimate Partner Violence and Violence Against Children

Research on the co-occurrence of IPV and VAC is a growing area of study due to increasing recognition of the interconnectedness between these forms of violence (Appel & Holden, 1998; Gracia et al., 2018; Guedes et al., 2016; Herrenkohl et al., 2008; Osofsky, 2003). Our meta-analyses showed significant associations with substantial increases in odds between various types of IPV and VAC, providing evidence that these forms of violence do occur together in LMICs, in line with the existing evidence from HICs (Appel & Holden, 1998; Sijtsema et al., 2020). Although findings from this review suggest that violence against a female

partner is associated with her use of VAC, several studies found that IPV by a male against his female partner might in fact be protective against a mother’s use of VAC, especially when the IPV was sexual or emotional, but these seemed to be the exception. Additionally, current study designs present an important bias, as few (5/33 in this review) examined men’s abusive behaviours towards their children, even when men were perpetrating IPV. It remains unclear how much more likely men who abuse their partners are to also abuse their children, as most often only the female caregivers are asked about their parenting practices. This may be down to researchers’ assumptions as well as the ease of surveying just one respondent, in this case, the female caregiver. However, to understand co-occurrence better, researchers must be supported and encouraged to move beyond the simpler or cheaper options and instead conduct more complex and resource intensive studies that measure violence by multiple actors. As suggested by Bhona et al. (2014), to understand the dynamics of family violence, research needs to move beyond examining dyadic and unidirectional relationships and try to understand the interrelationships between the different forms of abuse that occur within a family from a gender-informed perspective. Furthermore, the results of our review show that co-occurring IPV and VAC is present in many LMICs, which indicates the need to consider the poly-victimisation of children exposed to various forms of violence and the impact that this will have on their health and development (Finkelhor et al., 2009). Additionally, only two of our included studies measured sexual VAC, showing an important gap in our knowledge around the occurrence of this violence within the home.

Omitting male caregivers’ violence against children or neglecting to disaggregate data by sex is likely to leave out an important aspect of the household violence equation and seems to reflect existing biases and assumptions about the roles of women and men. For example, Fulu et al. (2017) found that the strongest association with women’s use of physical child abuse was her male partner’s use of physical child abuse; the authors suggest that this finding highlights the role that male caregivers’ use of violent discipline plays in the co-occurring family violence types. These results were also in line with findings from Şahin & Yetim (2011), who reported that the rate of physical child abuse among the female caregivers increased 2.7 times in the presence of a partner’s physical child abuse. These types of findings underline the importance of including measurements for all potential persons who might use violence in the household, so that our understanding of abuse can move beyond examining simplistic, linear relationships related to violence – for example, husband hits wife, wife hits children – to understand how to address household dynamics (such as Fulu et al., 2017). Studies that focus exclusively on VAC by the female parent are likely to diminish or neglect the presence and influence of men’s VAC perpetration and further reinforce beliefs about women’s violent behaviour against their children. Moreover,

Table 5. Implications for Practice, Policy and Research.

The combination of IPV and VAC interventions should be encouraged, based on evidence of a significant association between these violence types in LMICs.
Studies require greater consistency when measuring and defining VAC to produce comparable data for future understanding and meta-analyses.
Longitudinal studies are needed to establish risk factors for co-occurring IPV and VAC.
Factors known to influence IPV and VAC separately should be explored as confounders, mediators and moderators in the research of co-occurring IPV and VAC.
Evidence of both male and female caregivers' use of VAC should be collected as a minimum for studies looking to measure violence occurring within families, and the division of childcare responsibilities should be considered when interpreting results.
More sex-disaggregated data is needed on the perpetrators and those experiencing the different violence types to aid our understanding of co-occurring violence, and a review of qualitative studies would greatly enhance our understanding of the multifaceted phenomenon of co-occurring IPV and VAC.

these research designs also risk missing the other potential disciplinarians or abusers in the family. That is, by asking solely about punishment or abuse by a parent, current research often leaves out the others who might have a caregiving and disciplinary role, such as grandparents, aunts and uncles or even older siblings. At the same time, as noted by Crombach and Bambonye, researchers must interpret data on child maltreatment with caution, especially disciplinary behaviours, because in most cultures, the mother or other females in the household remain the primary caregivers for children (Crombach & Bambonye, 2015).

Definitional Incongruity

An important methodological finding for IPV and VAC research is the inconsistent and therefore problematic study-based definitions of violence, especially for violence against children. Physical VAC was the most common form of VAC reported on in studies and ranged from corporal punishment to severe forms of physical violence, which varied in frequency. Where papers presented one overall outcome related to VAC with no measure of severity or frequency this presented problems for the analysis. It meant, for example, that a parent shouting once at a child would be equated with regular physical abuse or severe forms of discipline. This conflation of various levels of discipline and abuse also creates problems for studies intended to measure children's life-trajectory, especially their mental health, because there are likely to be distinct psychological effects from being punished (e.g. as the local culture dictates) versus suffering abuse that is perpetrated in anger or that is chronic child abuse (e.g. causes physical harm). Precision related to the perpetrator or perpetrators was also problematic; that is, seven studies did not distinguish which parent (mother or father) was abusive or meted out VAC. The terminology to describe VAC also varied greatly across studies and we chose to use the terminology presented in each individual study to highlight this. Unfortunately, it was beyond the scope of this paper to make determinations on terminology.

These findings suggest that, to date, there is currently uneven conceptualisation and measurement of parent-to child punishment and abuse, with one study even asking mothers about the fathers' 'child cruelty'. To prepare future interventions to address household violence, it seems evident that we need to gain a better understanding of the full dynamics of the use of various forms of physical and psychological abuse and a clearer picture of those who use these punishments and why. Furthermore, these findings highlight the limited exchange of knowledge across the VAW/VAC communities and demonstrate where knowledge sharing could be beneficial, particularly to the field of VAC research.

Risk Factors

The findings from this review indicate the limited availability of quantitative data to suggest risk and protective factors associated with the co-occurrence of IPV and VAC. Among the three studies that examined risk factors, the findings are inconsistent. Where one study found that education was protective, another did not. For example, Reichenheim et al. (2006) found a significant association between co-occurrence and higher maternal age, the companion's education and misuse of alcohol or drugs, each of which did not hold true in Buffarini et al. (2021), in whose study these risk factors were not significant and indeed found a significant association between younger maternal age and co-occurring IPV and VAC. It remains unclear whether the difference might be due, in part, to the focus of Reichenheim et al.'s study, which was IPV during pregnancy, where older maternal age whilst pregnant may cause additional stressors that can lead to violence. Interestingly, while maternal education has been considered protective for child health and well-being, the studies included in this review showed mixed results related to the protective effects of education against child maltreatment. For instance, in Salazar et al. (2014), the potential protective effects of maternal education on child corporal punishment seemed to be diminished when IPV was present, while in Carlson et al. (2020), the protective effects of higher education

seemed to remain, alongside emotional attachment to partner. These differences could, of course, be due to differences in the study design and quality, with higher quality studies doing a better job of accounting for biases, such as confounding, that may influence results. Studies such as Fulu et al.'s (2017) demonstrated that our perception of risk factors for violence must be considered beyond the linear relationship of X causing Y, and also consider a women's long-term history of IPV. The authors' finding of an indirect association between men's co-occurring perpetration of IPV and use of VAC highlights the needs to consider how one parent's use of violence may impact other forms of violence within the family and emphasises the need to collect data on the behaviours of all family members, not just the mothers (Fulu et al., 2017). The data on risk factors presented here shows that there is scope for joined-up interventions for both types of violence, as the studies show that these forms of violence do often occur together. However, more research is needed to understand the risk factors for co-occurrence and how interventions can target these.

As we limited our review to quantitative or mixed methods studies, there are very few qualitative findings in our results. Yet, findings from Klevens et al.'s (2000) mixed methods study used qualitative methods to try and understand why men were violent towards their children; this led to three main types of male perpetrator being identified. The first and most common group frequently reported stress, less social support and the tendency to react explosively based on their unrealistic expectations of their child's ability. The second group reported frequently using violence due to their child's disobedience and disrespect and described their use of violence as planned rather than explosive, and the final and least common group reported that the children were considered out-of-control or manifesting antisocial behaviour (Klevens et al., 2000). These types of findings demonstrate the potential for qualitative methods to enhance quantitative findings by helping to explain, and providing context, especially in respect to the underlying mechanisms of this co-occurrence. Furthermore, they support the call for more caregivers to be made aware of children's different developmental stages, which should also be considered when developing interventions.

Limitations

Due to small number of studies included in each subgroup meta-analyses, we could not rule out publication bias. Even for the subgroup where a funnel plot was produced, caution should be taken when interpreting and the assumption should be that there is a risk of publication bias due to the low number of studies. Furthermore, the lack of longitudinal studies means that conclusions cannot be drawn on the risk factors for co-occurring IPV and VAC, as we lack the temporal elements of the violence occurrence. In addition, as few studies per subgroup were eligible to be included in the meta-analysis, we did not divide the meta-analysis into

further subgroups based on the demographics of the sample, which means our pooled ORs may overlook differences between different demographic groups. Between the included studies there were inconsistencies in controlling for key cofounders, with many studies presenting unadjusted odds ratios; further, due to the inconsistencies in the measurements of the different types of violence between studies, their findings have limited comparability and all meta-analysis results presented in this study should be interpreted with caution. Further, we did not extract information on the ethnicity or race of the included sample populations and so we cannot comment on representativeness of these findings across different populations. Finally, the strong biases of the included studies towards recording female caregivers use of VAC and not the males should be acknowledged when drawing conclusions from and interpreting these results. The implications of the research for practice, policy and further research are presented in Table 5.

Conclusion

Our study shows that valuable data on IPV and VAC is being collected and studied across many LMICs. However, it also demonstrates the many missed opportunities to collect data on multiple perpetrator types, which would facilitate our understanding of the interactions between violence actions within the family. Future research should aim to understand the various interlinking factors among both male and female use of VAC, alongside sex-disaggregated data for caregivers and children. Further, interventions would benefit from better evidence on potential mediators, moderators and confounders of the interactions between violence types, which would help conceptualise the multifaceted nature of violent relationships. Finally, given the evidence of the significant associations between IPV and VAC in the same family, program and policy decision-makers will want to consider the potential effectiveness and cost-effectiveness of combined programming to simultaneously address both IPV and VAC.

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Supplemental Material

Supplemental material for this article is available online.

Notes

1. Informal social control was measured by response to the question: 'If my neighbours witnessed my spouse physically hurting me, my neighbours might' with multiple choice answer options reflecting different levels of neighbours' involvement in the situation.
2. IPV variety score measured as the total number of different acts of emotional violence that the respondent had ever experienced from her husband/partner.

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