

Co-occurring violent discipline of children and intimate partner violence against women in Latin America and the Caribbean: a systematic search and secondary analysis of national datasets

Sarah Bott , Ana P Ruiz-Celis, Jennifer Adams Mendoza, Alessandra Guedes

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Gender and Development Research, UNICEF Office of Research Innocenti, Florence, Italy

Correspondence to
Alessandra Guedes;
aguedes@unicef.org

ABSTRACT

Introduction Intersections between violent discipline (physical punishment and/or verbal aggression) of children and intimate partner violence (IPV) against women have received growing international attention. This study aimed to determine how many Latin American and Caribbean (LAC) countries had national data on co-occurring IPV and violent discipline in the same household, how estimates compared and whether violent discipline was significantly associated with IPV.

Methods A systematic search (following Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines) was used to identify which LAC countries had eligible, national co-occurrence data. The most recent eligible dataset in each country was obtained and reanalysed for comparability. Standardised national estimates were produced for prevalence of violent discipline, physical and/or sexual IPV and co-occurrence among ever partnered women of reproductive age living with a child aged 1–14. Bivariate analyses and logistic regressions produced levels and odds ratios (ORs) of physical punishment and verbal aggression in households affected by IPV (past year and before past year) compared with never, adjusted for sociodemographic characteristics.

Results Nine countries had eligible datasets. Co-occurring physical punishment with past year IPV ranged from 1.7% (Nicaragua) to 17.5% (Bolivia); and with IPV ever from 6.0% (Nicaragua) to 21.2% (Haiti). In almost all countries, children in IPV affected households experienced significantly higher levels and ORs of physical punishment and verbal aggression, whether IPV occurred during or before the past year. Significant adjusted ORs of physical punishment ranged from 1.52 (95% CI 1.11 to 2.10) in Jamaica to 3.63 (95% CI 3.26 to 4.05) in Mexico for past year IPV; and from 1.50 (95% CI 1.23 to 1.83) in Nicaragua to 2.52 (95% CI 2.30 to 2.77) in Mexico for IPV before past year.

Conclusions IPV is a significant risk factor for violent discipline, but few national surveys in LAC measure both. Co-occurrence merits greater attention from policymakers and researchers.

Key questions

What is already known?

- Intimate partner violence (IPV) against women and violence against children often co-occur in the same household.
- Co-occurrence estimates vary widely, are difficult to compare across sites due to methodological diversity and come primarily from high-income countries.
- Some studies suggest that IPV is associated with a higher risk of violent discipline of children (physical punishment and/or verbal aggression), with mixed findings about whether associations persist beyond the past year.

What are the new findings?

- Most national data on IPV and violent discipline in Latin America and the Caribbean come from separate streams of research; 9 of 35 countries had national surveys measuring both, providing a rare opportunity for a standardised multicountry analysis.
- IPV and violent discipline co-occurred in a substantial proportion of households, ranging from 6.0% to 21.2% for co-occurring physical punishment and IPV ever.
- In almost all countries, IPV was significantly associated with a higher risk of physical punishment and/or verbal aggression, whether IPV occurred during or before the past year, even after controlling for socio-demographic characteristics.

What do the new findings imply?

- Co-occurrence merits greater attention from policymakers and service providers, with implications for children's and women's health, well-being and rights.
- Until countries expand the number of high-quality, comparable surveys measuring both forms of violence, evidence needed to inform prevention strategies will remain incomplete.

INTRODUCTION

Research and programmes addressing violence against children and violence against women historically proceeded along parallel but separate pathways, leaving important

gaps.^{1 2} Recently however, researchers and policymakers have paid growing attention to intersections between violent discipline of children and intimate partner violence (IPV) against women—the two most common forms of violence in the household.³ United Nations (UN) Member States have recognised both forms of violence as global public health and human rights problems and agreed to work towards eliminating them as part of 2030 Sustainable Development Goals (SDGs).⁴ As of February 2020, at least 10 Latin American and Caribbean (LAC) countries had prohibited corporal punishment of children in all settings including the home, and six others had expressed a commitment to full prohibition.⁵

Large proportions of children aged 1–14 in the LAC region experience violent discipline (defined by SDG indicator 16.2.1 as physical punishment and/or verbal aggression by caregivers in the past month), with estimates ranging from 45% in Panama to more than 80% in Haiti, Jamaica and Suriname.⁶ IPV against women and girls is also widespread in the region, with national estimates of physical and/or sexual IPV ever against ever partnered women and girls ranging from 7.6% in Uruguay to more than 58.5% in Bolivia.⁷

Both violent discipline and child exposure to IPV against women have negative consequences for children. Evidence indicates that physical punishment is both ineffective and detrimental to children's health, well-being and human rights.⁸ Verbal aggression by caregivers also has negative consequences for children's health, well-being and development.⁹ Studies link child exposure to IPV to emotional impairment and mental health disorders,¹⁰ malnutrition and stunting,¹¹ and aggression towards peers and siblings.¹²

Research and programmes have paid increasing attention to *co-occurrence*,^{2 3} defined for purposes of this study as caregiver violence against children and IPV against women that has occurred in the same household (ever, not necessarily concurrently). Evidence suggests that co-occurrence may compound negative effects of direct violence against children or exposure to IPV alone.¹³ For example, research from Uganda found that children who witnessed IPV in the home *and* experienced violence had about two times the odds of mental health difficulties as children who experienced violence but did not witness IPV.¹⁴

The international evidence on co-occurrence has limitations. A 2020 review identified 132 studies on co-occurring IPV and child maltreatment, with co-occurrence rates ranging from 1% to 89%.¹⁵ Studies used highly diverse research designs, operational definitions and respondent characteristics, however. Some limited the definition of co-occurrence to households affected by both forms of violence in the past year; others did not include clear temporal bounds. These differences make it difficult to compare co-occurrence estimates across sites. The vast majority of co-occurrence studies in that 2020 review came from Europe and the USA;¹⁵ however, some studies from LAC have explored levels and/or correlates

of co-occurring IPV and violent discipline^{16–18} and/or IPV as an independent risk factor for violent discipline of children.^{19–21}

Globally, co-occurrence research has been hampered by a lack of nationally representative surveys measuring both IPV and child discipline. UNICEF-supported Multiple Indicator Cluster Surveys (MICS) are considered the gold standard for measuring child discipline,²² but they do not usually measure IPV against women. Multicountry analyses of MICS data exploring correlates of violent discipline in low- and middle-income countries have found significant associations with caregiver attitudes supporting violence, younger age of children, lower caregiver education, parental depression and socioeconomic status,^{23–25} however, because MICS do not measure IPV, they have not been able to explore associations with IPV. Similarly, Demographic and Health Surveys (DHS) and World Health Organization (WHO) surveys, the most common sources of national IPV prevalence estimates,²⁶ often ask about violent discipline in women's childhood but not in current households, with some exceptions.^{19 20}

This article presents a secondary analysis of nine national datasets from LAC identified through a systematic search. The study aimed to determine which countries had national data on IPV and child discipline in the current household, how co-occurrence estimates compared across countries, and whether children in IPV-affected households had a higher risk of violent discipline than other children. Specific research questions were: (1) How many LAC countries have nationally representative, population-based surveys that gathered data on co-occurring IPV against women of reproductive age and violent discipline of children in the current household? (2) How comparable are these data in terms of sample characteristics, violence measures and risk of bias? (3) How do co-occurrence estimates vary across countries after standardising variables for comparability? (4) Are the odds of physical punishment and verbal aggression by caregivers significantly higher in households affected by IPV (past year and before past year) compared with households in which women did not report IPV, after adjusting for sociodemographic characteristics? Henceforth, this article refers to women and girls of reproductive age (15–49) as 'women' for simplicity, while acknowledging that the Convention on the Rights of the Child considers girls aged 15–17 to be children, not adults, regardless of marital status.²⁷

METHODS

Search strategy

A systematic search was carried out in two stages (December 2018 and December 2019) following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (figure 1). At all stages, eligibility was assessed independently by at least

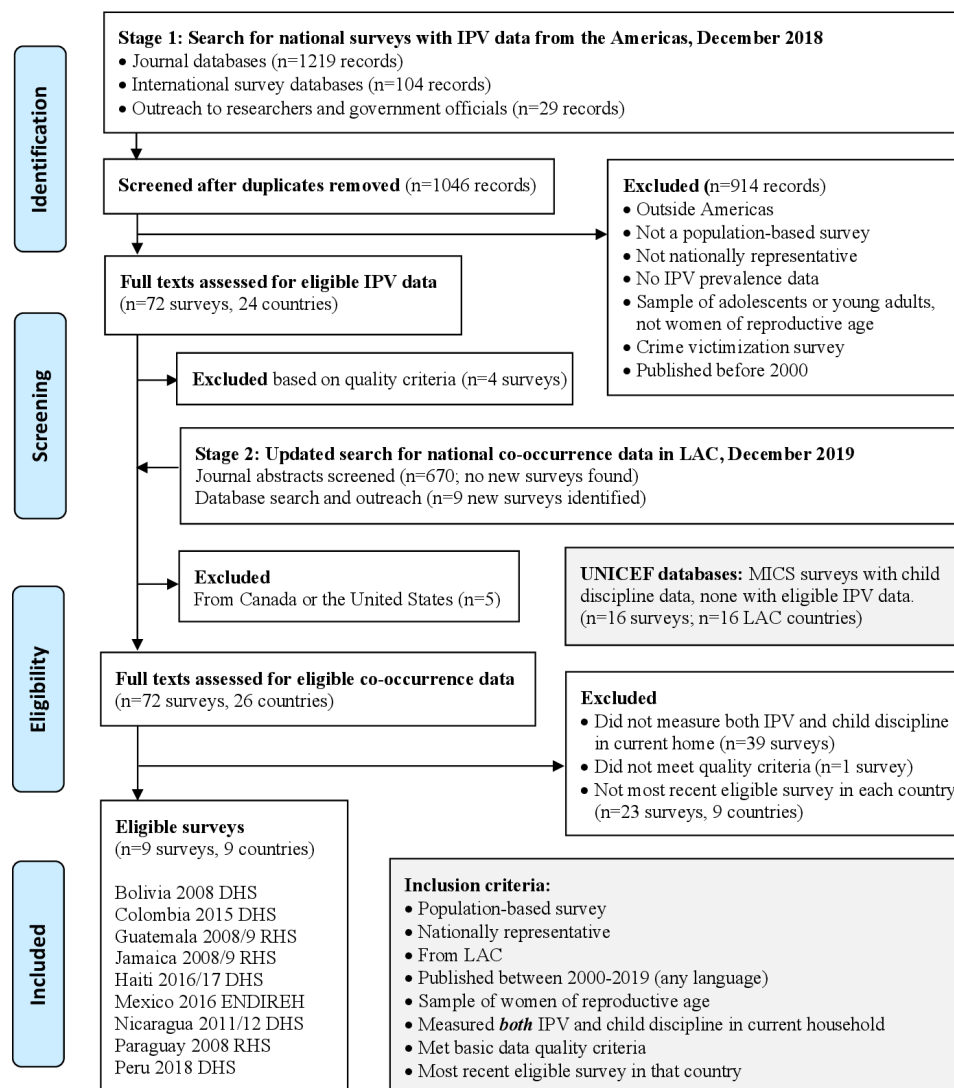


Figure 1 PRISMA flow chart: Systematic search for national surveys with co-occurrence data. IPV, Intimate partner violence; LAC, Latin America and the Caribbean; DHS, Demographic and Health Survey; RHS, Reproductive Health Survey; ENDIREH, Encuesta Nacional sobre la Dinámica de las Relaciones en los Hogares.

two authors (ARC, JAM, SB), with differences resolved by consensus.

In the first stage, described elsewhere,⁷ a systematic search used the following *a priori* inclusion criteria: (a) nationally representative, population-based survey, (b) from the Americas, (c) with a report published (at least online) between January 2000 and July 2018 in any language, (d) measured IPV against women of reproductive age, not just adolescents or young adults, (e) adequate information to clarify data quality (instruments were requested directly from research teams if unavailable from published documents), (f) using measures that met basic quality criteria, for example, no filter questions about violence ‘by anyone’ before asking about partner violence and no emotionally laden terms such as ‘violence’, ‘abuse’ or ‘assault’—known to reduce disclosure.²⁸

The search included databases of journals (Pubmed, Lilacs, SciELO, EBSCO, Web of Science and Google

Scholar), international organisations and research programmes; national institutes of statistics websites; article bibliographies; and personal contacts with researchers and government officials throughout the region. Search terms included names of each Member State of the Pan American Health Organization (PAHO) combined with terms such as: *gender-based violence, intimate partner violence, domestic violence, spouse abuse, violence against women and family violence* (and Spanish equivalents, online supplemental table A). After removing duplicates, 1046 records were screened. Full text records (e.g. articles, reports, manuals and survey instruments) were retrieved and reviewed for 72 surveys from 24 countries.

The second stage (December 2019) updated the search using all stage one criteria, modified as follows: (a) publication deadline was extended to December 2019, (b) surveys had to measure *both* IPV prevalence and child discipline in the current household, (c) from LAC, not Canada or the USA and (d) the most recent eligible

survey in each country. Expanded search terms included: *child maltreatment, child abuse, violent discipline, child punishment and corporal punishment* (and Spanish equivalents, online supplemental table A). This stage excluded five surveys and added nine others. Full text records for 72 surveys from 26 countries were assessed for eligible co-occurrence data, along with MICS surveys from 16 LAC countries.

All nine eligible surveys were open access, allowing authors to obtain the following datasets, listed by country, data collection year(s) and type: Bolivia 2008 DHS,²⁹ Colombia 2015 DHS,³⁰ Guatemala 2008/2009 Reproductive and Health Survey (RHS),³¹ Haiti 2016/2017 DHS,³² Jamaica 2008/2009 RHS,³³ Mexico 2016 *Encuesta Nacional sobre la Dinámica de las Relaciones en los Hogares* (ENDIREH),³⁴ Nicaragua 2011/2012 DHS,³⁵ Paraguay 2008 RHS³⁶ and Peru 2018 DHS.³⁷ Henceforth, each survey is referred to by country name.

Risk of bias assessment

As noted earlier, the search limited eligible datasets to population-based surveys using violence measures that met basic international quality standards. All nine eligible surveys included in the secondary analysis were assessed in duplicate (ARC, SB) for other potential risks of bias/data quality limitations as required by PRISMA guidelines. The following risk of bias checklist was adapted from existing tools,³⁸ informed by good practice guidelines^{6 28}: (1) measured IPV with a module, not a dedicated violence survey, (2) collected data >10 years ago, (3) used a child discipline or IPV subsample that could not be fully standardised, (4) did not use the MICS child discipline module, considered the gold standard,²² (5) gathered child discipline data among household questionnaire respondents who were not always the same as women's questionnaire respondents asked about IPV, (6) measured IPV during the past year but not ever, (7) measured IPV by any partner in life but not by the current/most recent partner specifically and (8) deviated from WHO ethical and safety guidelines.³⁹ Results are reported alongside prevalence estimates.

Safety and ethical measures

All surveys used ethical and safety measures for IPV research, including informed consent, privacy, confidentiality and interviewer training on violence against women, although reports provided different levels of detail on these measures. Some surveys did not adhere to all WHO ethical and safety recommendations for researching IPV,³⁹ however. For example, Bolivia strongly recommended but did not require privacy. Bolivia and Colombia asked all women in the household about IPV, not just one woman (posing a risk to confidentiality). And, informed consent instructions in Mexico did not emphasise women's right to refuse any question. Published reports did not explain how interviewers responded to disclosures of violence against children (e.g. whether they provided referrals to local services).

Public involvement

All surveys were developed with the participation of civil society organisations and women's advocates working on violence against women. In most countries, all stages of design, implementation and dissemination were guided by specialised committees comprised of a wide array of government, academic, civil society and international organisations and advocates with expertise in violence research, prevention and services.

Sample design

All surveys used multistage, probability samples. Primary sampling units (PSUs) were selected from master sampling frames, usually a census. Households were randomly selected within each PSU. All surveys except Bolivia and Colombia randomly selected one woman in the household for violence questions. Women were interviewed face to face, usually in or around the woman's residence. All surveys had response rates >85% and used weights for producing nationally representative estimates for women, children and households.

The types of respondents eligible for child discipline questions varied by survey (online supplemental table B). In some surveys, women were asked about child discipline even if their children were infants, already adults and/or not living in the household. Jamaica and Mexico asked all women but included 'no children' as a response option. Haiti gathered child discipline data among male and female household questionnaire respondents, only some of whom were women asked about IPV or even a primary caregiver of the selected child. Most surveys limited female respondents to women of reproductive age, but Mexico had no upper age limit.

The secondary analysis eliminated most of these differences by restricting datasets to subsamples of ever-partnered women of reproductive age (15–49) living with a daughter or son aged 1–14 with data on *both* IPV against women and child discipline in the current household (online supplemental table B). Full standardisation was not always possible, however. Women in the Haiti subsample were usually but not always the same respondent who provided child discipline data. Bolivia limited IPV questions to women with a partner in the past year. Jamaica and Paraguay did not gather enough data to definitively exclude all women whose children aged 1–14 all lived elsewhere. And, Paraguay capped women's age at 44 years.

Child discipline measures

Surveys used diverse child discipline measures (table 1). Haiti used the MICS module, asking closed-ended questions about whether one randomly selected child in the household (specified by name) was disciplined with specific acts in the past month. Mexico asked closed-ended questions about whether she or her partner hit the children when they became 'angry' or 'desperate' ("*se enoja o desespera*"). The other seven asked open-ended questions about *how* children were disciplined,

Table 1 Survey items*† used to measure violent discipline of children

Survey	Original survey items (translated into English if needed)	Physical (verbal) acts measured‡
Bolivia 2008	Who punishes your sons (daughters) in the household? Anyone else? FATHER; MOTHER; STEPFATHER; STEPMOTHER; GRANDFATHER; GRANDMOTHER; OLDER SISTER; HOUSEHOLD WORKER; OTHER; NO ONE (NOT PUNISHED) IF FATHER: How does your husband/partner punish your sons/daughters? IF MOTHER: How do you punish your sons/daughters? IF OTHER: How does that person punish your sons/daughters?	PULL EARS OR SLAP/SMACK BEAT ON THE BODY (VERBAL: SHOUT, INSULT)
Colombia 2015	Who punishes your sons (daughters) (or your step or adopted sons (daughters)) in the household? Anyone else? FATHER/STEPFATHER; MOTHER/RESPONDENT/ STEPMOTHER; OTHER; NO ONE (NOT PUNISHED) IF FATHER/STEPFATHER: How does your partner punish your (step, adopted) sons (daughters)? IF RESPONDENT: How do you punish your (step, adopted) sons (daughters)? IF OTHER: How does that person punish your (step, adopted) sons (daughters)?	SLAP/SMACK PUSH BEAT WITH OBJECTS
Guatemala 2008/2009	Who punishes your sons/daughters in the household? FATHER; MOTHER; OTHER; NO ONE (NOT PUNISHED) IF FATHER: How does the father punish your sons/daughters? IF MOTHER: How do you/the mother punish your sons/daughters? IF OTHER: How does that person punish your sons/daughters?	SPANK BEAT OR 'PHYSICAL PUNISHMENT' BURN MAKE KNEEL ON CORN OR ROCKS
Haiti 2016/2017	In the past month, did you or anyone else in your household: ...shake (NAME)? ... yell or shout at (NAME)? ...pull (NAME's) ears? ...make (NAME) kneel? ...spank or hit (NAME) on the bottom with a bare hand? ...hit (NAME) on the bottom or elsewhere on the body with something like a belt, whip, stick or other hard object? ...call (NAME) an idiot, lazy, ugly or something like that? ...slap or punch (NAME) on the face, head or ears? ...hit (NAME) on the hand, arm or leg? ...beat (NAME), that is to say... hit over and over as hard as possible?	Shake Pull ears Make kneel Spank/hit on bottom with bare hand Hit with belt, whip, stick, or other hard object Slap or punch on face, head, ears Hit on hand, arm, leg Beat (hit over and over as hard as possible) (VERBAL: Yell or shout; Call names)
Jamaica 2008/2009	In this household, are the children punished when they do not behave well? YES; NO; NO CHILDREN (AGE 1–15) IN THE HOUSEHOLD IF YES: How are the children punished when they don't behave well? Another way?	CUFF OR SPANK HIT WITH HAND OR FIST HIT WITH BELT, STICK, OTHER OBJECT
Mexico 2016	When your husband or partner becomes angry or desperate with his/ your daughters and sons, does he hit them... When you become angry or desperate with your daughters and sons, do you hit them... ... sometimes? frequently? does not hit them? no sons/daughters?	Hit
Nicaragua 2011/2012	In this household, how are children disciplined when they behave badly?	SMACK/SLAP HIT WITH HAND OR FIST BEAT WITH BELT, RULER, WHIP/ROPE, STICK, OTHER OBJECT
Paraguay 2008	In your household, how are children punished? Anything else?	SAME AS NICARAGUA
Peru 2018	Who reprimands or punishes your daughters or sons in the household? Anyone else? BIOLOGICAL FATHER; BIOLOGICAL MOTHER; OTHER; NO ONE (NOT PUNISHED) IF BIOLOGICAL FATHER: How does your husband/partner punish your daughter(s) or son(s)? IF BIOLOGICAL MOTHER: How do you punish your daughter(s) or son(s)? IF OTHER: How does that person punish your daughter(s) or son(s)?	SLAP/SMACK BEAT OR 'PHYSICAL PUNISHMENT'

*Spanish and French survey items were translated into English by authors.

†Words in small caps font were coded but not read to respondent.

‡All surveys except Mexico also measured acts of non-violent discipline, which are not shown.

coding spontaneous answers using predetermined categories. Bolivia, Colombia, Guatemala and Peru asked *who* punishes ("*castiga*") children (e.g. mother, father/partner, anyone else) before asking *how*. No survey other than Haiti asked about a timeframe. Bolivia, Guatemala, Mexico and Peru asked about respondents' own daughters and sons. Colombia asked about biological, step and adopted children. Jamaica, Nicaragua and Paraguay asked about children in the household generally. Some surveys used wording such as 'punish', likely to elicit disclosure of negative discipline; others used neutral language such as 'teach' designed to elicit disclosure of positive and negative discipline.⁴⁰ For example, the MICS preamble used in Haiti (in English) reads: "Adults use certain ways to teach their children the right behaviour".

For the secondary analysis, standardised violent discipline variables were constructed using operational definitions that aligned with SDG indicators²² as much as possible within limits of available data. Although specific acts measured by each survey varied (table 1), all surveys measured *physical punishment* (1=1+ act; 0=none) defined as any act of physical discipline except 'pouring/throwing water' ("*echándoles agua*"), which did not clearly meet the UN definition of corporal punishment.⁴¹ Only Bolivia and Haiti measured *verbal aggression* (1=1+ act; 0=none), defined as shouting or insults, separate from more ambiguous acts such as 'verbal reprimands' or 'scolding' ("*reprimenda verbal*"/"*regañó*"). Otherwise eligible women who reported that children were 'not punished' were retained in denominators and coded as 'no physical punishment' (or 'no verbal aggression'), in keeping with the approach used by the MICS, but in contrast to the 2018 Peru DHS report.⁴²

Measures of IPV against women

Measures of physical IPV were highly comparable across surveys. All nine surveys used a modified conflict tactics scale, asking about behaviourally specific acts (e.g. slapped, punched, etc) by an intimate partner, considered good practice for measuring IPV.²⁸ Five surveys (Bolivia, Colombia, Haiti, Mexico and Peru) measured violence by the *current or most recent* partner. Four (Guatemala, Jamaica, Nicaragua and Paraguay) measured violence by *any partner in life*. Sexual IPV measures were fairly comparable, with some exceptions. All surveys asked about forced sex. In addition, some DHS surveys also asked about forced sex 'acts', and some RHS surveys also asked about sex that occurred due to fear of what a partner might do if she refused. Mexico measured a wider range of acts, including being forced to watch pornography and to have unprotected sex. Emotional/psychological IPV was measured in highly diverse ways across surveys, and therefore, was not included in this analysis.

For the secondary analysis, IPV was defined as any act of physical and/or sexual violence by an intimate partner. Dichotomous variables were constructed for the prevalence of IPV *ever* (1=ever; 0=never) and *past year* (1=pastyear; 0=not in the past year). In addition, a

trichotomous variable for IPV by *timeframe* was constructed with three mutually exclusive categories: 0=never (reference category); 1=pastyear; 2=before (but not during) the past year.

Two *co-occurrence* variables were created: one for women who reported both physical child punishment in the current household *and* IPV against themselves ever (1=yes; 0=no), and one for women who reported both physical child punishment in the current household *and* IPV against themselves in the past year (1=yes; 0=no). Women who completed the violence module (or equivalent in Mexico) but were missing responses to select child discipline or IPV items (online supplemental table C) were retained in denominators and classified as 'no' for that act, in keeping with the DHS and MICS.

Sociodemographic variables

Partnership was defined as currently versus previously married or cohabited with a partner, except in Jamaica, which also included 'visiting partners', a common form of long-term, non-cohabiting partnership in that setting. *Women's age* was grouped into 5-year categories. *Residence* was defined as urban or rural, except in Mexico where three original categories were collapsed into urban ($\geq 1\,000\,000$ inhabitants) and rural/semi-urban ($< 1\,000\,000$ inhabitants). *Education* was defined as the highest level reached (not necessarily completed), including: lower primary (≤ 3 years) or less, upper primary (> 3 years), lower secondary (≤ 3 years except in Bolivia, where it included seventh and eighth years of 'primary school'), upper secondary and postsecondary. In Jamaica, few (nine) women reported less than upper primary, so they were combined into a category of primary and below for regression analyses.

Wealth quintiles (poorest, poorer, middle, richer, richest) were precoded by original research teams, except in Mexico and Nicaragua, which were produced by authors (ARC, JAM) using SPSS (V.26) following DHS methodology.⁴³ Household assets and other characteristics were assigned weights generated through principal components analysis. Scores were standardised in relation to a normal distribution with a mean of zero and SD of one. Standardised scores were summed to create the household wealth index. Households were ranked and divided into quintiles, applying household weights, adjusted for household size.

Data analysis

Statistical analyses were done with Stata V.16 (StataCorp LP). Prevalence of each form of violence (physical punishment, verbal aggression, any violent discipline, past year IPV, IPV ever, co-occurring physical punishment and past year IPV and co-occurring physical punishment and IPV ever) was estimated with percentages and 95% confidence intervals (CIs). To explore whether children in households affected by IPV experienced higher levels of physical punishment and verbal aggression than other children, bivariate analyses were carried out by

IPV timeframe (never, past year, before past year), with significance testing using Pearson's χ^2 test corrected for survey design effects and converted into an F-statistic. Logistic regression produced odds ratios (ORs) of physical punishment and verbal aggression in households affected by IPV past year and before past year compared with never, adjusted for partnership, age, residence, education and wealth. Sensitivity testing was carried out for physical versus physical and/or sexual IPV.

Survey design effects were taken into account for all CIs, regressions and significance testing, using domestic violence module weights (if available) or women's individual weights, which were normalised to equalise weighted and unweighted numbers of women in each study subsample. Each survey was analysed separately, not pooled because: (a) the diversity of child discipline measures posed a risk of bias, (b) surveys were conducted over a 10-year period from a limited number of countries, so the reference population would have been unclear and (c) violence was not rare, so pooling could not be justified by a need to increase statistical power.

RESULTS

Systematic search results

As of December 2019, 25 LAC countries had nationally representative data on the prevalence of IPV against women that met basic quality and reporting criteria, but only nine (Bolivia, Colombia, Guatemala, Haiti, Jamaica, Mexico Nicaragua, Paraguay and Peru) had a survey that met those criteria and measured both IPV and child discipline in the *current* household. National data on co-occurring IPV and verbal aggression against children were even more limited, measured by only two of nine eligible surveys. All MICS surveys in the region measured child discipline, but none measured IPV against women. Among eligible surveys, Mexico was dedicated specifically to violence against women; all others were DHS or RHS surveys using violence modules within larger health surveys. Eligible surveys were carried out between 2008 and 2018. Four (Bolivia, Guatemala, Jamaica and Paraguay) were >10 years old.

Characteristics of secondary analysis subsamples

Reanalysed subsample sizes ranged from 3291 women in Haiti to 43 095 in Mexico. Women's sociodemographic characteristics varied by country (table 2). In all countries, most women were currently partnered. Relatively few (1%–5%) were adolescent girls aged 15–19. Education levels varied widely; more than half of women in the Guatemalan subsample had less than 4 years of primary education, but only nine women in Jamaica fell into that category.

Prevalence of violence

In all countries, except Nicaragua, levels of violent discipline were higher than levels of IPV (table 3). Reports of physical child punishment ranged from 22.1% (95% CI 20.7 to 23.4) in Nicaragua to 82.0% (95% CI 80.1 to

84.0) in Haiti. Past year IPV ranged from 7.2% (95% CI 6.4 to 8.1) in Nicaragua to 26.8% (95% CI 25.5 to 28.1) in Bolivia. IPV ever ranged from 21.3% (95% CI 20.7 to 21.9) in Mexico to 33.7% (95% CI 32.5 to 34.9) in Colombia (not measured in Bolivia). Co-occurring physical punishment and past year IPV ranged from 1.7% (95% CI 1.3 to 2.1) in Nicaragua to 17.5% (95% CI 16.3 to 18.6) in Bolivia. Co-occurring physical punishment and IPV ever ranged from 6.0% (95% CI 5.3 to 6.7) in Nicaragua to 21.2% (95% CI 19.3 to 23.2) in Haiti. In Bolivia and Haiti, levels of verbal aggression were 40.6% (95% CI 38.8 to 42.3) and 64.2% (95% CI 61.7 to 66.7) respectively, and levels of any violent discipline (physical and/or verbal) were 69.9% (95% CI 68.5 to 71.2) and 87.1% (95% CI 85.6 to 88.7).

Associations between IPV and violent discipline

Bivariate analyses found significant associations between IPV and physical punishment in all nine countries and between IPV and verbal aggression in Bolivia and Haiti, the only two countries that measured this indicator (table 4). In all countries, ORs of physical punishment were higher in households affected by IPV (past year and before past year) than in households where women reported no IPV, before and after adjusting for partnership, age, residence, education and household wealth. All elevated ORs were statistically significant, except in Haiti, where only the unadjusted OR for past year IPV was significant, and in Nicaragua, where ORs (adjusted and unadjusted) were significantly elevated for children in households affected by IPV *before past year* but not by IPV *in the past year*. Significant adjusted ORs of physical child punishment ranged from 1.52 (95% CI 1.11 to 2.10, $p=0.010$) in Jamaica to 3.63 (95% CI 3.26 to 4.05, $p<0.001$) in Mexico for *past year* IPV, and from 1.50 (95% CI 1.23 to 1.83, $p<0.001$) in Nicaragua to 2.52 (95% CI 2.30 to 2.77, $p<0.001$) in Mexico for IPV *before past year*.

In Bolivia and Haiti, ORs of verbal aggression were significantly elevated for both *past year* IPV and IPV *before past year*, before and after adjusting for sociodemographic characteristics ($p<0.001$ for both surveys and timeframes, except IPV *before past year* in Haiti, which was $p=0.001$).

Sensitivity testing did not find notable statistical differences between physical versus physical and/or sexual IPV for any survey or type of discipline.

DISCUSSION

This is the first study from LAC to present a systematic search and secondary analysis of national data on co-occurring IPV against women and violent discipline of children in the current household. The search confirmed that nationally representative, population-based data on co-occurring IPV and violent discipline remain limited in the region. National prevalence data on these forms of violence are often generated by separate research streams. Only nine LAC countries had eligible datasets, and only five had data gathered in the past decade. Published

Table 2 Sociodemographic characteristics of women in secondary analysis subsamples*

Women's characteristics		Bolivia 2008 DHS	Colombia 2015 DHS	Guatemala 2008/2009 RHS	Haiti 2016/2017 DHS	Jamaica 2008/2009 RHS	Mexico 2016 ENDIREH	Nicaragua 2011/2012 DHS	Paraguay 2008 RHS	Peru 2018 DHS
Number of women	N	8735	17097	10664	3291	4585	43095	9045	3459	19680
Partnered										
Currently	%	95.9	79.4	89.1	88.1	84.2	85.4	77.2	88.4	84.0
Previously	%	4.1	20.6	10.9	11.9	15.8	14.6	22.8	11.6	16.0
Age										
15–19	%	2.3	2.4	3.7	1.2	1.9	2.2	4.5	2.0	1.0
20–24	%	11.8	12.9	15.1	11.3	12.7	12.2	15.3	13.3	8.6
25–29	%	21.1	20.7	21.3	18.4	20.4	17.8	22.5	22.1	18.4
30–34	%	21.3	22.3	20.9	23.9	22.5	21.3	22.3	24.4	22.7
35–39	%	19.7	19.2	17.8	20.7	21.1	21.5	18.3	20.5	21.3
40–44	%	14.1	13.8	12.3	13.4	13.9	16.7	10.9	17.8	18.3
45–49†	%	9.7	8.7	8.8	11.1	7.5	8.3	6.2	NA	9.8
Residence										
Rural‡	%	38.9	24.4	57.5	61.0	45.2	49.9	44.0	39.0	22.8
Urban	%	61.1	75.6	42.5	39.0	54.8	50.1	56.0	61.0	77.2
Education§										
≤Lower primary	%	26.6	8.5	54.7	34.9	0.3	6.0	25.4	8.5	8.3
Upper primary	%	23.6	13.6	22.4	25.1	3.5	16.8	25.6	35.4	15.7
Lower secondary¶	%	9.2	11.7	8.7	18.4	22.4	38.5	19.2	15.7	12.0
Upper secondary	%	27.6	35.3	10.1	17.6	64.0	22.4	17.4	21.1	30.1
Postsecondary	%	13.0	30.9	4.0	4.0	9.7	16.3	12.3	19.2	34.0
Wealth quintile										
Poorest	%	19.0	21.4	22.2	20.2	26.5	23.2	20.1	23.4	21.8
Poorer	%	19.2	21.6	21.6	19.3	21.1	22.3	20.8	21.0	23.4
Middle	%	21.7	21.0	20.6	19.7	20.4	20.4	21.0	19.7	20.5
Richer	%	21.7	18.8	20.3	23.7	17.1	18.7	20.4	18.8	18.9
Richest	%	18.4	17.3	15.3	17.1	14.9	15.4	17.6	17.1	15.5

NA, not available because not measured. All numbers are unweighted.

*Secondary analysis subsamples were limited to ever-partnered women of reproductive age, living with a daughter or son aged 1–14.

†Paraguay capped women's age at 44.

‡In Mexico, residence was urban (≥100 000 inhabitants) and rural/semi-urban (<100 000 inhabitants).

§One woman in Mexico was missing education level; no other sociodemographic data were missing from any survey.

¶In Bolivia, lower secondary included seventh and eighth years of what they consider 'primary' school.

analyses of national co-occurrence data from LAC were even more limited. Most co-occurrence data gathered by surveys in this study had not been previously analysed, although secondary analyses of co-occurrence have been published using data from Bolivia (2008) and previous rounds of DHS and RHS surveys from Colombia (2010), Nicaragua (2006–2007) and Peru (2000 & 2012).^{19 20 44 45}

As a result, this secondary analysis provided a rare opportunity to explore standardised national estimates of co-occurring IPV and violent discipline across different countries. High levels of violent child discipline (physical and/or verbal), physical and/or sexual IPV against women, and co-occurrence were found in all nine LAC countries. The range of co-occurrence estimates (1.7% to 17.5% for physical punishment and past year IPV and

6.0% to 21.2% for physical punishment and IPV ever) was narrower than the 1%–89% range found by Sijtsema and colleagues,¹⁵ but wider than 5%–10% reported by reviews of community-based surveys with representative samples.^{46 47}

In almost all countries with data, IPV against women was significantly associated with a higher risk of physical punishment and verbal aggression against children, even after controlling for sociodemographic characteristics, compared with households in which women reported no IPV. This finding echoes many studies from the USA⁴⁸ and a more limited number from LAC countries,¹⁵ including Nicaragua¹⁹ and Peru.^{17 20} Notably, most ORs of physical punishment and verbal aggression were significantly elevated whether IPV occurred during or before the past year, which

Table 3 Percentage of ever partnered women aged 15–49 living with a daughter or son who reported* each form of violence

Survey country and year	Violent discipline of children				Physical and/or sexual IPV†				Co-occurrence (Physical punishment and IPV)				Risk of bias‡		
	Physical punishment		Verbal aggression		Physical and/or verbal		Past year		Ever		With IPV past year			With IPV ever	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI		%	95% CI
Bolivia 2008	56.5	55.0 to 57.9	40.6	38.8 to 42.3	69.9	68.5 to 71.2	26.8	25.5 to 28.1	NA	NA	17.5	16.3 to 18.6	NA	NA	1, 2, 3a, 4, 6, 8
Colombia 2015	47.0	45.7 to 48.3	NA	NA	NA	NA	19.1	18.0 to 20.1	33.7	32.5 to 34.9	10.6	9.8 to 11.3	18.4	17.4 to 19.4	1, 4, 8
Guatemala 2008/2009	47.0	45.5 to 48.4	NA	NA	NA	NA	10.3	9.5 to 11.1	28.0	26.8 to 29.3	5.9	5.3 to 6.5	16.5	15.6 to 17.5	1, 2, 4, 7
Haiti 2016/2017	82.0	80.1 to 84.0	64.2	61.7 to 66.7	87.1	85.6 to 88.7	14.7	12.8 to 16.5	24.7	22.6 to 26.9	12.5	10.9 to 14.2	21.2	19.3 to 23.2	1, 5
Jamaica 2008/2009	58.7	56.4 to 60.9	NA	NA	NA	NA	8.3	7.2 to 9.5	22.1	20.1 to 24.1	5.6	4.6 to 6.5	15.2	13.5 to 16.8	1, 2, 3b, 4, 7
Mexico 2016	40.0	39.3 to 40.8	NA	NA	NA	NA	9.9	9.5 to 10.3	21.3	20.7 to 21.9	6.4	6.1 to 6.8	12.9	12.5 to 13.4	4, 8
Nicaragua 2011/2012	22.1	20.7 to 23.4	NA	NA	NA	NA	7.2	6.4 to 8.1	22.8	21.4 to 24.2	1.7	1.3 to 2.1	6.0	5.3 to 6.7	1, 4, 7
Paraguay 2008	27.3	25.1 to 29.5	NA	NA	NA	NA	7.9	6.7 to 9.1	21.4	19.5 to 23.3	3.1	2.4 to 3.7	7.9	6.8 to 9.1	1, 2, 3b, 4, 7
Peru 2018	39.0	37.7 to 40.3	NA	NA	NA	NA	11.8	11.0 to 12.7	32.5	31.2 to 33.8	6.3	5.7 to 6.9	15.7	14.7 to 16.7	1, 4

*In Haiti, some child discipline data were reported by another member of the woman's household.

†Bolivia, Colombia, Haiti, Mexico and Peru measured IPV by the current/most recent partner; Guatemala, Jamaica, Nicaragua and Paraguay measured IPV by any partner in life.

‡Risk of bias items: (1) Measured IPV with a module, not a dedicated violence survey. (2) Collected data >10 years ago. (3a) Limited IPV questions to women with a partner in the past year. (3b.) Did not gather enough data to exclude all women without children age 1–14 in the household. (4) Did not use MICS questions to measure child discipline. (5) Gathered child discipline data from household questionnaire respondents. (6) Measured IPV during the past year but not ever. (7) Measured IPV by any partner in life not the current/most recent partner specifically. (8) Deviated from WHO ethical and safety guidelines.

§ MICS, Multiple Indicator Cluster Survey; NA, not available, because not measured.

Table 4 Odds ratios that children were disciplined with physical punishment or verbal aggression, by timeframe of IPV

Survey IPV timeframe	Total	No	Yes	Unadjusted odds ratio (OR)			Adjusted odds ratio (aOR)†					
	n	%	%	OR	95% CI	p value	aOR	95% CI	p value			
Children in the household were physically punished:												
Bolivia 2008												
No past year IPV‡	6396	46.7	53.3	***	Ref		Ref					
IPV past year	2339	34.8	65.2		1.64	1.45 to 1.86	<0.001	***	1.69	1.48 to 1.92	<0.001	***
Colombia 2015												
Never IPV	11 339	56.9	43.1	***	Ref		Ref					
Past year IPV	3260	44.6	55.4		1.64	1.46 to 1.85	<0.001	***	1.77	1.57 to 1.99	<0.001	***
IPV before past year	2498	46.2	53.8		1.54	1.31 to 1.81	<0.001	***	1.59	1.35 to 1.87	<0.001	***
Guatemala 2008/2009												
Never IPV	7675	57.7	42.3	***	Ref		Ref					
Past year IPV	1096	42.1	57.9		1.87	1.61 to 2.18	<0.001	***	1.96	1.68 to 2.28	<0.001	***
IPV before past year	1893	40.4	59.6		2.01	1.75 to 2.31	<0.001	***	2.01	1.75 to 2.32	<0.001	***
Haiti 2016/2017												
Never IPV	2483	19.3	80.7	*	Ref		Ref					
Past year IPV	478	14.1	85.9		1.46	1.00 to 2.13	0.047	*	1.33	0.92 to 1.93	0.126	
IPV before past year	330	13.8	86.2		1.49	0.93 to 2.39	0.099		1.46	0.89 to 2.38	0.132	
Jamaica 2008/2009												
Never IPV	3571	44.2	55.8	***	Ref		Ref					
Past year IPV	383	33.4	66.6		1.58	1.16 to 2.14	0.004	**	1.52	1.11 to 2.10	0.010	*
IPV before past year	631	30.3	69.7		1.82	1.43 to 2.32	<0.001	***	1.67	1.31 to 2.14	<0.001	***
Mexico 2016												
Never IPV	33926	65.6	34.4	***	Ref		Ref					
Past year IPV	4264	35.0	65.0		3.55	3.20 to 3.94	<0.001	***	3.63	3.26 to 4.05	<0.001	***
IPV before past year	4906	42.8	57.2		2.54	2.32 to 2.78	<0.001	***	2.52	2.30 to 2.7)	<0.001	***
Nicaragua 2011/2012												
Never IPV	6982	79.2	20.8	***	Ref		Ref					
Past year IPV	653	76.7	23.3		1.15	0.89 to 1.50	0.279		1.13	0.87 to 1.48	0.359	
IPV before past year	1409	72.4	27.6		1.45	1.20 to 1.75	<0.001	***	1.50	1.23 to 1.83	<0.001	***
Paraguay 2008												
Never IPV	2718	75.3	24.7	***	Ref		Ref					
Past year IPV	274	61.0	39.0		1.95	1.46 to 2.59	<0.001	***	1.92	1.44 to 2.57	<0.001	***
IPV before past year	467	64.2	35.8		1.70	1.33 to 2.17	<0.001	***	1.82	1.42 to 2.35	<0.001	***
Peru 2018												
Never IPV	13278	65.5	34.5	***	Ref		Ref					
Past year IPV	2330	46.9	53.1		2.15	1.82 to 2.53	<0.001	***	2.23	1.89 to 2.64	<0.001	***
IPV before past year	4072	54.5	45.5		1.59	1.37 to 1.83	<0.001	***	1.83	1.58 to 2.13	<0.001	***
Children in the household experienced verbal aggression:												
Bolivia 2008												
No past year IPV‡	6396	61.9	38.1	***	Ref		Ref					
IPV past year	2339	52.7	47.3		1.46	1.29 to 1.64	<0.001	***	1.49	1.33 to 1.68	<0.001	***
Haiti 2016/2017												
Never IPV	2483	38.8	61.2	***	Ref		Ref					
Past year IPV	478	26.7	73.3		1.74	1.29 to 2.35	<0.001	***	1.77	1.31 to 2.39	<0.001	***
IPV before past year	330	26.6	73.4		1.75	1.29 to 2.37	<0.001	***	1.69	1.24 to 2.31	0.001	**

All numbers, percentages and ORs are weighted. *p<0.05; **p<0.01; ***p<0.001.

†Adjusted for women's partnership status, age, urban/rural residence, education level and household wealth.

‡Bolivia did not measure IPV before past year, therefore the reference category was no IPV in the past year.

aOR, adjusted OR; CI, confidence interval; IPV, intimate partner violence; Ref, reference category.

suggests it may be a mistake to limit attention to *recent* IPV when studying intersections between violent discipline and IPV. Previous research produced mixed findings about whether associations between IPV and violence against children in the household persist beyond 1 year, but most research has come from high-income countries.⁴⁸

The question of *why* children in IPV-affected households face a higher risk of violent discipline than other children is beyond the scope of this study. It is possible that IPV and violent discipline share risk factors that independently affect the likelihood of each form of violence.⁴⁹ Some researchers theorise that women living with partner abuse are more likely to discipline their children harshly due to stress or anxiety.⁴⁸ It is also possible that men who abuse partners are more likely to abuse children. Research indicates that children may experience violent discipline by fathers/partners and other household members, not just mothers/stepmothers.⁴²⁻⁵⁰ Five surveys eligible for this study examined *who* disciplined children and *how*, providing a future opportunity for research into how pathways linking IPV to violent discipline vary by caregiver.

Limitations

This study had many limitations. Surveys used diverse measures of violent discipline. Most lacked a preamble introducing the idea of positive and negative discipline, used open-ended questions, coded a small number of acts and did not ask about a specific child or timeframe. Therefore, co-occurrence estimates in this analysis included some households in which physical punishment occurred only in the past year but IPV occurred before past year or vice versa. MICS estimates of physical child punishment in the past month were available from three countries in this analysis, including 68.4% for Jamaica 2011, 43.7% for Mexico 2015 and 39.7% for Paraguay 2016.⁵¹ All three MICS estimates were higher than estimates from this analysis, even though MICS estimates were limited to only one child in the household in the past month. MICS reports do not include CIs however, so additional analyses would be required to confirm that differences were significant.

Haiti used the MICS module, but had other risks of bias. Consistent with MICS series 4 and 5, Haiti gathered child discipline data from household questionnaire respondents who were not always the women asked about IPV or even a primary caregiver of selected children.⁶ Moreover, Haiti limited child discipline and domestic violence modules to a subset (about two-thirds) of households, many of which did not have both an eligible child and an eligible woman. As a result, the final subsample from Haiti included only 3291 of 14371 women who participated in the full survey, the smallest subsample size of all nine surveys. These limitations made it hard to draw conclusions about why associations between physical punishment and IPV were not significant in that country after controlling for sociodemographic factors. Were levels of physical punishment so high (>80%) that IPV did not make a difference? Was the subsample size too small to detect significance differences? Or, was this an artefact of gathering some child discipline and IPV data

from different respondents in the household? Future surveys that include both the MICS child discipline module and the DHS domestic violence module could avoid these limitations by including both modules in the women's individual questionnaire.

Another limitation was that study subsamples did not include all households with children aged 15–17. Caregiver violence against older adolescents remains a research gap that merits attention. Nor did study subsamples include households in which no child lived with an ever-partnered mother of reproductive age, and violence patterns may be different in those households. However, household data from all six surveys that measured family structure (not shown) suggest that the vast majority of children lived with mothers, and generally, researchers have not found a universal relationship between family structure and violent discipline across low- and middle-income countries.²³

Another limitation was that the nine surveys were carried out over a 10-year period, and some are more than 10 years old. A 2019 analysis found preliminary evidence that IPV against women may have declined in some LAC countries.⁷ Meanwhile, other research suggests that the COVID-19 pandemic may have increased levels of violence in the household,⁵² although that evidence is still preliminary. Levels of physical child punishment may be changing as well, and co-occurrence estimates based on older datasets may be out of date.

Finally, any survey on violence may underestimate true prevalence due to barriers to disclosure such as respondents' fear of reprisal or social stigma. This study relied on survivor reports of IPV and caregiver reports of child discipline. In contrast, *Violence against Children Surveys* in Colombia, El Salvador, Haiti and Honduras have asked children aged 13–17 about violence they experienced by caregivers and IPV against parents they witnessed.⁵³ Surveys have also gathered *retrospective* data from women⁵⁴ and men⁵⁵ about childhood experiences of violent discipline and exposure to IPV. Retrospective data do not shed light on violence in *current* households, and *children* of IPV survivors may underreport levels of IPV even more than survivors. Nonetheless, these are important data sources that complement this study.

CONCLUSION

This study suggests that policymakers and professionals working on children's health and well-being should be aware that IPV in the household is often associated with an increased risk of violent discipline of children, with implications for children's rights, health, well-being and development. This study also suggests that research on correlates and consequences of violent discipline may be incomplete if researchers do *not* include exposure to IPV (ever and past year) as a possible risk factor. This study supports growing evidence from the programme literature suggesting that long-term efforts to prevent violence against children may be ineffective without greater attention to violence against women—and vice versa.³

The finding that national data on violence against children and violence against women continue to come from parallel but segregated data collection efforts suggests a need to expand the number, quality and comparability of national surveys that measure both forms of violence. Until researchers bridge these gaps, our understanding of how to prevent and respond to violence against children will remain fragmented. Ideally, more national surveys would include the MICS child discipline module within women's questionnaires that ask about IPV. Intersections between violence against children and violence against women deserve greater attention, both for advancing public health and protecting human rights.

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ORCID iD

Sarah Bott <http://orcid.org/0000-0003-1128-8612>

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Supplemental Table A.*Search terms*

Domain	English	Spanish
<i>Stage 1 and 2 of the search</i>		
Intimate partner violence	gender-based violence intimate partner violence domestic violence spouse abuse violence against women family violence	violencia basada en el género violencia de género violencia de pareja violencia doméstica violencia conyugal maltrato conyugal abuso conyugal violencia contras las mujeres violencia intrafamiliar
Other	prevalence statistics AND numerical data survey research	prevalencia estadísticas AND datos numéricos investigación de encuestas
<i>Stage 2 of the search</i>		
Violent discipline of children	violence against children child maltreatment child abuse violent discipline punishment AND child corporal punishment exposure to intimate partner violence	violencia contra los niños violencia contra la niñez maltrato infantil abuso infantil disciplina violenta castigo AND infantil castigo corporal castigo físico disciplina corporal
Child exposure to IPV	exposure to intimate partner violence	exposición a violencia doméstica exposición a violencia de pareja

These terms were combined with names of PAHO Member States and associate members (Canada and the United States not included stage 2 of the search):

“Antigua and Barbuda” OR Argentina OR Bahamas OR Barbados OR Belize OR Belice OR Bolivia OR Brazil OR Brasil OR Chile OR Colombia OR “Costa Rica” OR Cuba OR Dominica OR “Dominican Republic” OR “República Dominicana” OR Ecuador OR “El Salvador” OR Granada OR Grenada OR Guatemala OR Guyana OR Haiti OR Honduras OR Jamaica OR Mexico OR Nicaragua OR Panama OR Paraguay OR Peru OR “Saint Lucia” OR “St. Kitts and Nevis” OR “St. Vincent and the Grenadines” OR Suriname OR Surinam OR “Trinidad and Tobago” OR “Trinidad y Tobago” OR Uruguay OR Venezuela OR Anguilla OR Aruba OR “British Virgin Islands” OR “Cayman Islands” OR Curaçao OR Montserrat OR “Sint Maarten” OR “Saint Martin” OR “Latin America” OR “América Latina” OR Latinoamérica OR Caribbean OR Caribe

Supplemental Table B.*Study sample denominator calculations*

	Bolivia 2008 DHS	Colombia 2015 DHS	Guatemala 2008/9 RHS	Haiti 2016/17 DHS	Jamaica 2008/9 RHS	Mexico 2016 ENDIREH	Nicaragua 2011/12 DHS	Paraguay 2008 RHS	Peru 2018 DHS
Full survey sample	16,939	38,087	16,819	14,371	8,259	111,256	15,266	6,540	38,777
Child discipline sample	11,622	21,537	12,660	7,839	6,435	90,068	10,631	4,017	22,412
<i>Original eligibility criteria for child discipline questions</i>	1+ living daughter or son	Ever partnered; 1+ live birth ^a	1+ live birth	Living with child aged 1-14 selected for child discipline module	Did not select response option 'no children'	Did not select response option 'no children'	1+ living daughter or son aged 0-17	1+ living daughter or son aged 0-15	Selected for violence module; Living with 1+ daughter or son
Reason excluded:									
No child discipline data ^b	(5,317)	(16,550)	(4,159)	(6,532)	(1,824)	(21,188)	(4,635)	(2,523)	(16,365)
Never partnered ^c	(754)	0	(401)	(2,818)	(751)	(3,986)	(348)	(241)	(957)
No IPV data, other reason ^d	(871)	0	(214)	(1,304)	0	0	(54)	0	0
Not age 15-49	0	(4)	0	0	0	(31,061)	0	0	0
Not living with any daughter or son aged 1-14 ^e	(1,262)	(4,436)	(1,381)	(426)	(1,099)	(11,926)	(1,184)	(317)	(1,775)
Final study sample	8,735	17,097	10,664	3,291	4,585	43,095	9,045	3,459	19,680

Notes: All numbers are unweighted.

a. In Colombia, this matched the dataset, but was different than the filter written on the questionnaire (living with 1+ biological or stepchild).

b. Women who did not have child discipline data included women who were not eligible, not selected, refused participation in the module or reported "no children".

c. Defined as never married or cohabited, except in Jamaica where 'ever partnered' included women who ever had a 'visiting partners'.

d. Other reasons included: woman was not selected, refused, lacked privacy, or in Bolivia, did not have a partner in the past year.

e. Paraguay asked whether any daughter or son was in residence, but not whether each age eligible child was living in the household. Jamaica did not ask women whether they were living with a daughter or son but did include a response option for "no children".

Supplemental Table C.

Number of women in study samples who were missing a response to at least one items included in each violence variable (and who did not answer yes to any other item included in that composite variable)

	Bolivia 2008 DHS	Colombia 2015 DHS	Guatemala 2008/9 RHS	Haiti 2016/17 DHS	Jamaica 2008/9 RHS	Mexico 2016 ENDIREH	Nicaragua 2011/12 DHS	Paraguay 2008 RHS	Peru 2018 DHS
Physical punishment	102[b]	0	0	0	0	0	0	0	[a]
Verbal aggression	161[b]	--	--	--	0	--	--	--	--
IPV past year	2	0	11	0[c]	0	1	2	3	0
IPV ever	--	0	11	0[c]	0	0	1	1	0

Notes: -- = not measured.

a. The Peru dataset did not distinguish between women who reported that 'no one punishes the children' versus women missing responses to the filter question 'who punishes the children'. Together, these women made up 6% of the study sample, which was the same or lower than percentage who reported that children were 'not punished' in Bolivia (14%), Colombia (6%) and Guatemala (10%). the three other studies with that filter question.

b. In Bolivia, all but 11 of these women did answer questions about daughters but declined questions about sons OR vice versa because they did not have a child of that sex living in the household or because the only child of that sex was an infant. Ten women declined a question about a caregiver whom they had previously told interviewers did not discipline the children. In other words, these missings appeared to reflect a lack of refinement in filter questions rather than refusals to disclose violent discipline. One woman declined the filter question about who punishes the children.

c. No women in Jamaica were missing responses, but one woman said 'doesn't remember' for a question about IPV ever as did 18 women for a question about IPV in the past year.