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Association between intimate partner violence and poor child growth: results from 42 demographic and health surveys

Jeanne Chai, Günther Fink, Sylvia Kaaya, Goodarz Danaei, Wafaie Fawzi, Majid Ezzati, Jeffrey Lienert & Mary C Smith Fawzi

Objective To determine the impact of intimate partner violence against women on children’s growth and nutritional status in low- and middle-income countries.

Methods We pooled records from 42 demographic and health surveys in 29 countries. Data on maternal lifetime exposure to physical or sexual violence by an intimate partner, socioeconomic and demographic characteristics were collected. We used logistic regression models to determine the association between intimate partner violence and child stunting and wasting.

Findings Prior exposure to intimate partner violence was reported by 69,652 (34.1%) of the 204,159 ever-married women included in our analysis. After adjusting for a range of characteristics, stunting in children was found to be positively associated with maternal lifetime exposure to only physical (adjusted odds ratio, aOR: 1.11; 95% confidence interval, CI: 1.09–1.14) or sexual intimate partner violence (aOR: 1.09; 95% CI: 1.05–1.13) and to both forms of such violence (aOR: 1.10; 95% CI: 1.05–1.14). The associations between stunting and intimate partner violence were stronger in urban areas than in rural ones, for mothers who had low levels of education than for women with higher levels of education, and in middle-income countries than in low-income countries. We also found a small negative association between wasting and intimate partner violence (aOR: 0.94; 95% CI: 0.90–0.98).

Conclusion Intimate partner violence against women remains common in low- and middle-income countries and is highly detrimental to women and to the growth of the affected women’s children. Policy and programme efforts are needed to reduce the prevalence and impact of such violence.

Abstract: in العربية, Français, Русский и Español at the end of each article.

Introduction

Intimate partner violence constitutes a major threat to the health and rights of women globally. According to a 2013 multi-country study by the World Health Organization (WHO), almost one third of all women have experienced physical and/or sexual violence by an intimate partner. A similar global estimate (30%) of the frequency of lifetime exposure to intimate partner violence among women was obtained in a meta-analysis based on 141 studies conducted in 81 countries. The study also showed that the frequency of such exposure was relatively high in central sub-Saharan Africa (65.6%), western sub-Saharan Africa (41.8%) and South Asia (41.7%).

It seems likely that intimate partner violence against women has an impact on the growth and nutritional status of the children of the affected women. Some of the estimated 170 million children in low- and middle-income countries who are stunted may be suffering from the indirect effects of such violence. There have been several attempts to investigate possible links between intimate partner violence and stunting and wasting. In Liberia, children whose mothers had been exposed to sexual intimate partner violence were found to have relatively low mean weight-for-height z-scores and to be 2.6-fold more likely to be stunted than the other children in the study. Similarly, in a community-based study in Nicaragua, children of mothers who reported suffering intimate partner violence during pregnancy had relatively low height-for-age z-scores. A study with a nationally representative sample of children in India showed that, compared with the other children they investigated, the children of women who had been exposed to intimate partner violence in the previous year were 25% more likely to be stunted.

There are several potential mechanisms through which intimate partner violence against women can have an effect on child growth and nutritional status. For example, such violence may increase the risk of – or, at least, share some contributing factors with – child abuse and neglect within the household. If observed by the children, such violence can cause childhood stress that, in turn, can decrease metabolic rates, physical growth and cognitive functioning. The partners of women in an abusive relationship may stop the women going to health clinics when their children are sick, stop the women paying for the health care of their children or severely limit the amount that the women can spend on food for their households. Intimate partner violence against a woman can have a negative impact on the woman’s physical and mental health, partly by limiting her access to health care for herself, including her access to antenatal care and skilled birth attendants. As it can cause maternal depression – which, in turn, can affect a woman’s ability to care for her child – such violence may contribute to childhood malnutrition even in households that have adequate food. Researchers have proposed conceptual frameworks that link direct and indirect pathways of intimate partner violence against women with child malnutrition through...
multidisciplinary literature review and data quantification.\textsuperscript{18,19}

Most of the relevant data on the association between intimate partner violence and child growth and nutritional status have come from single-country studies with small samples that have given disparate results.\textsuperscript{14,17,20–24} A study using data collected in demographic and health surveys (DHS) in five countries to assess the relationship between intimate partner violence and stunting found that the strength of the relationship varied with the country involved.\textsuperscript{18} We therefore decided to evaluate the overall relationship between intimate partner violence against women and child growth and nutritional status for 29 low- and middle-income countries for which DHS data are publicly available.

**Methods**

**Study population and design**

We based our analysis on data collected from the DHS programme – i.e. nationally representative household surveys used to collect information on population-based indicators of health and nutrition across resource-poor countries.\textsuperscript{25}

We combined data from the domestic violence module of the DHS with data collected in the women’s questionnaire. The 32-question domestic violence module, which was developed to measure the prevalence and consequences of physical and sexual violence, combines single threshold questions regarding prior experiences of intimate partner violence with a modified conflict tactics scale designed to measure spousal violence. Parts of the domestic violence module are designed to investigate non-spousal violence and intimate partner violence during pregnancy.\textsuperscript{26}

We used nationally representative data from 42 DHS conducted in a total of 29 countries (Table 1). We included all of the publicly available data from the standard DHS programme surveys and domestic violence modules completed between 1998 and 2012. In a typical DHS, all of the women aged 15–49 years living in a randomly selected set of households are interviewed. The domestic violence module is usually completed by just one –randomly selected – woman per surveyed household. Although 369 400 records were available from women who completed a demographic and health survey women’s questionnaire, 95 232 of the records did not meet eligibility criteria for the domestic violence module and 4283 had to be excluded because the selected interviewee refused to participate, the interview could not be conducted in private or the selected interviewee failed to be interviewed for another reason. Another 514 were not interviewed and were not included. We also excluded the 20682 records that related to never-married women and interviewees younger than 15 years because, in most of our focus countries, only ever-married women older than 15 years were considered to be eligible to be interviewed about domestic violence. A further 44 530 records

| Country                          | Survey year | No. of women with completed domestic violence module |
|----------------------------------|-------------|----------------------------------------------------|
| Azerbaijan                       | 2006        | 1 669                                              |
| Bangladesh                       | 2007        | 2 474                                              |
| Bolivia (Plurinational State of) | 2003        | 9 093                                              |
| Bolivia (Plurinational State of) | 2008        | 6 359                                              |
| Burkina Faso                     | 2010        | 4 986                                              |
| Cambodia                        | 2000        | 1 780                                              |
| Cameroon                         | 2004        | 3 644                                              |
| Colombia                         | 2000        | 4 074                                              |
| Colombia                         | 2005        | 12 015                                             |
| Colombia                         | 2010        | 15 035                                             |
| Dominican Republic               | 1999        | 4 346                                              |
| Dominican Republic               | 2007        | 4 153                                              |
| Gabon                            | 2012        | 2 209                                              |
| Ghana                            | 2008        | 1 416                                              |
| Haiti                            | 2000        | 2 213                                              |
| Haiti                            | 2005        | 2 045                                              |
| Haiti                            | 2012        | 3 072                                              |
| Honduras                         | 2005        | 9 757                                              |
| Honduras                         | 2011        | 7 923                                              |
| India                            | 2005        | 37 387                                             |
| Kenya                            | 2003        | 4 103                                              |
| Kenya                            | 2008        | 4 467                                              |
| Liberia                          | 2007        | 3 351                                              |
| Malawi                           | 2004        | 8 372                                              |
| Malawi                           | 2010        | 4 486                                              |
| Mali                             | 2006        | 8 894                                              |
| Mozambique                       | 2011        | 5 226                                              |
| Nepal                            | 2011        | 1 888                                              |
| Nigeria                          | 2008        | 18 372                                             |
| Peru                             | 2000        | 11 829                                             |
| Peru                             | 2007        | 9 123                                              |
| Republic of Moldova              | 2005        | 1 336                                              |
| Rwanda                           | 2005        | 3 178                                              |
| Rwanda                           | 2010        | 3 412                                              |
| Sao Tome and Principe            | 1998        | 1 477                                              |
| Timor-Leste                      | 2009        | 2 467                                              |
| Uganda                           | 2006        | 2                                                  |
| United Republic of Tanzania      | 2010        | 5 459                                              |
| Zambia                           | 2001        | 3 998                                              |
| Zambia                           | 2007        | 4 449                                              |
| Zimbabwe                         | 2005        | 3 481                                              |
| Zimbabwe                         | 2010        | 3 669                                              |
were incomplete and lacked data on at least one of our covariates of interest. We therefore confined our analysis to the records for 204 159 women and their children (Fig. 1).

**Intimate partner violence**

For the DHS we investigated, physical violence was defined as the intentional use of physical force with the potential to cause injury or harm. Sexual violence was classified as any experience of unwanted or forced sexual activity. Self-reported maternal lifetime exposure to intimate partner violence was separated into four categories: (i) any; (ii) physical only; (iii) sexual only; and (iv) both physical and sexual.

**Child nutritional outcomes**

As full maternal and child-level variables were only available for each interviewee’s last birth, we only investigated stunting as an indicator of linear growth and wasting as a measure of acute malnutrition in the youngest child of each interviewee. We calculated height-for-age and weight-for-height z-scores using the height and weight data from the DHS questionnaires and Anthro version 3.2.2 (WHO, Geneva, Switzerland). Stunting was defined as a height-for-age z-score that was less than minus two standard deviations from the median height-for-age given in WHO’s global database on child growth and malnutrition and wasting was defined as a weight-for-height z-score that was less than minus two standard deviations from the median weight-for-height given in the same database. Records giving z-scores that were lower than minus six or higher than six were assumed to be inaccurate and excluded from the analysis.

**Covariates**

Based on previous studies, we included the following socioeconomic and demographic characteristics as covariates in the primary model: maternal age, employment status, level of education, marital status, partner’s level of education, rural/urban residence, use of contraception and wealth quintile. The prevalence of reported intimate partner violence decreased with increasing partner and 8% (16 298) said they had been physically forced into unwelcome sex – including 2.5% (5513) who had been forced into first intercourse. While nearly 9% (18 075) of the women said they had been punched by an intimate partner and 16% (33 424) said that their intimate partners had pushed them, shaken them and/or thrown something at them. Nearly 9% (18 075) of the women said they had been punched by an intimate partner and 16% (33 424) said that their intimate partners had pushed them, shaken them and/or thrown something at them.

**Statistical analysis**

We pooled all available observations for our analysis. Descriptive statistics were calculated for maternal- and child-level socioeconomic and demographic characteristics, both for the overall study sample and for each category of exposure to intimate partner violence. Unadjusted and adjusted logistic regressions were performed separately for each category of exposure to intimate partner violence. In the logistic regression models, each observation corresponded to a child, the main independent variable of interest being the child’s mother’s status of exposure to intimate partner violence. To adjust for the complex survey design used in the DHS, all standard errors were clustered at the level of the primary sampling unit. To control for unobservable differences in country-specific factors as well as differences in measurement, we included survey fixed effects in all of the regression models. To evaluate the significance of stratified associations, we used a pooled ordinary least squares model with intimate partner violence covariate interaction terms. All of the statistical analyses were conducted using Stata version 13 (StataCorp LP, College Station, United States of America).

**Results**

Table 2 shows descriptive statistics for the pooled, unweighted sample – i.e. respondents who completed the domestic violence module – and also for the full information sample used in our analysis. The mean age of the ever-married mothers was 28.4 years at the time of interview. In the final sample, about two thirds (130 031/204 159) of the households were in rural areas and 25% (32 440/204 159) of the interviewed mothers had never attended school. All of the children we investigated were aged 0–59 months.

The overall prevalence of any lifetime exposure to intimate partner violence among the interviewed women was 34.1% (69 652). About one fifth (45 254) of the women claimed to have been slapped by their intimate partners and 16% (33 424) said that their intimate partners had pushed them, shaken them and/or thrown something at them. Nearly 9% (18 075) of the women said they had been punched by an intimate partner and 8% (16 298) said they had been physically forced into unwanted sex – including 2.5% (5513) who had been forced into first intercourse. While the prevalence of reported intimate partner violence decreased with increasing asset quintile as well as with increasing maternal and paternal education, such violence appeared common across all socioeconomic groups. Exposure to such violence was reported by more than 23% (2982) of the 12 749 interviewed...
Table 2. Descriptive characteristics of interviewees included in the study on the association between intimate partner violence and child growth, 1998–2012

| Characteristic                                      | No. of interviewees who completed domestic violence module (% of total) | No. of interviewees included in final analysis (% of those with characteristic) | P*          |
|-----------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------|-------------|
|                                                     | Subgroup total                                              | Reporting exposure to IPV                                                                 | Reporting no exposure to IPV                                                                 |
| Maternal                                            |                                                               |                                                                                      |             |
| Age in years (n = 248 689)                          |                                                               |                                                                                      |             |
| 15–24                                               | 77 503 (31.2)                                                | 63 206                                                                                | 21 809 (34.5) | 41 397 (65.5) | < 0.001 |
| 25–36                                               | 138 817 (55.8)                                               | 114 949                                                                                | 39 185 (34.1) | 75 764 (65.9) |
| 37–49                                               | 32 369 (13.0)                                                | 26 004                                                                                 | 8 658 (33.3)  | 17 346 (66.7) |
| Residence (n = 248 689)                             |                                                               |                                                                                      |             |
| Urban                                               | 93 341 (37.5)                                                | 74 128                                                                                | 25 994 (35.1) | 48 134 (64.9) | < 0.001 |
| Rural                                               | 155 348 (62.5)                                               | 130 031                                                                                | 43 658 (33.6) | 86 373 (66.4) |
| Wealth quintile (n = 248 689)                       |                                                               |                                                                                      |             |
| Poorest                                             | 64 966 (26.1)                                                | 53 419                                                                                | 19 285 (36.1) | 34 134 (63.9) | < 0.001 |
| Poor                                                | 57 278 (23.0)                                                | 47 201                                                                                | 17 116 (36.3) | 30 085 (63.7) |
| Middle                                              | 50 667 (20.4)                                                | 41 674                                                                                | 14 906 (35.8) | 26 768 (64.2) |
| Richer                                              | 42 967 (17.3)                                                | 35 298                                                                                | 11 517 (32.6) | 23 781 (67.4) |
| Richest                                             | 32 811 (13.2)                                                | 26 567                                                                                | 6 828 (25.7)  | 19 739 (74.3) |
| Education level (n = 248 684)                       |                                                               |                                                                                      |             |
| None                                                | 62 079 (25.0)                                                | 52 440                                                                                | 16 850 (32.1) | 35 590 (67.9) | < 0.001 |
| Primary                                             | 100 024 (40.2)                                               | 79 937                                                                                | 29 556 (37.0) | 50 381 (63.0) |
| Secondary                                           | 70 422 (28.3)                                                | 59 033                                                                                | 20 264 (34.3) | 38 769 (65.7) |
| Higher                                              | 16 159 (6.5)                                                 | 12 749                                                                                | 2 982 (23.4)  | 9 767 (76.6)  |
| Partner’s education level (n = 244 820)             |                                                               |                                                                                      |             |
| None                                                | 45 989 (18.8)                                                | 40 115                                                                                | 12 237 (30.5) | 27 878 (69.5) | < 0.001 |
| Primary                                             | 92 622 (37.8)                                                | 76 177                                                                                | 27 471 (36.1) | 48 706 (63.9) |
| Secondary                                           | 84 655 (34.6)                                                | 70 853                                                                                | 25 647 (36.2) | 45 206 (63.8) |
| Higher                                              | 21 554 (8.8)                                                 | 17 014                                                                                | 4 297 (25.3)  | 12 717 (74.7) |
| Employment status (n = 248 240)                      |                                                               |                                                                                      |             |
| Employed                                            | 121 065 (48.8)                                               | 98 935                                                                                | 36 638 (37.0) | 62 297 (63.0) | < 0.001 |
| Unemployed                                          | 127 175 (51.2)                                               | 105 224                                                                               | 33 014 (31.4) | 72 210 (68.6) |
| Current marital status (n = 248 689)                 |                                                               |                                                                                      |             |
| Married                                             | 166 546 (67.0)                                               | 136 984                                                                               | 43 740 (31.9) | 93 244 (68.1) | < 0.001 |
| Living with partner                                  | 64 323 (25.9)                                                | 52 857                                                                                | 18 808 (35.6) | 34 049 (64.4) |
| Widowed, divorced or separated                       | 17 820 (7.2)                                                 | 14 318                                                                                | 7 104 (49.6)  | 7 214 (50.4)  |
| Maternal height in cm (n = 234 936)                  |                                                               |                                                                                      |             |
| < 150.0                                             | 55 404 (23.6)                                                | 44 171                                                                                | 17 570 (35.7) | 28 401 (64.3) | < 0.001 |
| 150.0–190.0                                         | 179 476 (76.4)                                               | 151 160                                                                               | 51 763 (34.2) | 99 397 (65.8) |
| > 190.0                                             | 56 (0.0)                                                     | 45                                                                                    | 17 (37.8)     | 28 (62.2)     |
| Maternal body mass index (n = 234 695)                |                                                               |                                                                                      |             |
| < 18                                                | 18 217 (7.8)                                                 | 16 029                                                                                | 6 164 (38.5)  | 9 865 (61.5)  | < 0.001 |
| 18–30                                               | 199 426 (85.0)                                               | 165 751                                                                               | 56 987 (34.4) | 108 764 (65.6) |
| > 30                                                | 17 052 (7.3)                                                 | 13 051                                                                                | 4 362 (32.3)  | 9 139 (67.7)  |
| Child                                               |                                                               |                                                                                      |             |
| Age in months (n = 248 689)                          |                                                               |                                                                                      |             |
| 0–23                                                | 101 418 (40.8)                                               | 81 237                                                                                | 26 440 (32.6) | 54 797 (67.5) | < 0.001 |
| 24–59                                               | 147 271 (59.2)                                               | 122 922                                                                               | 43 212 (35.2) | 79 710 (64.9) |
| Sex (n = 248 689)                                    |                                                               |                                                                                      |             |
| Female                                              | 122 087 (49.1)                                               | 100 281                                                                               | 34 129 (34.0) | 66 152 (66.0) | 0.44  |
| Male                                                | 126 602 (50.9)                                               | 103 878                                                                               | 35 232 (34.2) | 68 355 (65.8) |

IPV: intimate partner violence.

* Probability of observing statistically significant relationships between variables (Pearson’s χ²-square).

b The reported exposure to violence is that of the children’s mothers.
mothers who were educated above secondary level and almost 26% (6828) of the 26567 who belonged in the highest asset quintile. Of the 204159 children in the sample, 29.6% (60362) were stunted and 6.9% (14184) were wasted.

Table 3 shows the unadjusted and adjusted associations between intimate partner violence, stunting and wasting. Overall, maternal exposure to any intimate partner violence increased the odds of stunting by 11% (adjusted odds ratio, aOR: 1.11; 95% CI: 1.09–1.14). Similar associations were found between stunting and maternal exposure to only the physical (aOR: 1.11; 95% CI: 1.09–1.14), only the sexual (aOR: 1.09; 95% CI: 1.05–1.13) or both forms of intimate partner violence (aOR: 1.10; 95% CI: 1.05–1.14). We also found small negative associations between wasting and both exposure to any intimate partner violence (aOR: 0.94; 95% CI: 0.90–0.98) and exposure only to the physical forms of such violence (aOR: 0.95; 95% CI: 0.91–0.99).

Table 4 shows the stratified results for stunting and wasting when using exposure to any intimate partner violence as the main independent variable of interest. For stunting, compared with the values for the other children in the sample, stronger positive associations with intimate partner violence were found among the children of women who had not been educated beyond primary level (aOR: 1.09; 95% CI: 1.07–1.12), who lived in urban areas (aOR: 1.22; 95% CI: 1.17–1.28), who lived in households in the two highest asset quintiles (aOR: 1.18; 95% CI: 1.14–1.22) and who lived in a middle-income country (aOR: 1.13; 95% CI: 1.10–1.17). The odds of child wasting were lower for the sampled children who were aged at least 24 months

Table 3. Association between a woman's exposure to intimate partner violence and stunting and wasting in her child, 29 countries, 1998–2012

| Reported exposure          | Stunting in child | Wasting in child |
|----------------------------|-------------------|------------------|
|                            | No. | aOR (95% CI) | No. | aOR (95% CI) | No. | aOR (95% CI) |
| Any IPV                    | 207682 | 1.15 (1.12–1.17) | 204159 | 1.11 (1.09–1.14) | 207807 | 0.96 (0.92–1.00) | 204159 | 0.94 (0.90–0.98) |
| Physical IPV only          | 207682 | 1.15 (1.12–1.18) | 204159 | 1.11 (1.09–1.14) | 207807 | 0.97 (0.93–1.01) | 204159 | 0.95 (0.91–0.99) |
| Sexual IPV only            | 187758 | 1.11 (1.08–1.15) | 184350 | 1.09 (1.05–1.13) | 187882 | 1.03 (0.96–1.09) | 184350 | 1.00 (0.94–1.07) |
| Both physical and sexual IPV | 202613 | 1.14 (1.10–1.19) | 199128 | 1.10 (1.05–1.14) | 202738 | 1.07 (0.99–1.15) | 199128 | 1.04 (0.96–1.11) |

aOR: adjusted odds ratio; CI: confidence interval; cOR: crude odds ratio; IPV: intimate partner violence.

Table 4. Stratified associations between a woman's exposure to any intimate partner violence and stunting and wasting in her child, 29 countries, 1998–2012

| Indicator                  | Stunting                  | Wasting                  |
|----------------------------|---------------------------|--------------------------|
|                            | No. | aOR (95% CI) | P< | No. | aOR (95% CI) | P< |
| Child age in months         |     |             |    |     |             |    |
| < 24                       | 81237 | 1.11 (1.07–1.16) | 0.35 | 81237 | 1.01 (0.95–1.07) | <0.05 |
| ≥ 24                       | 122922 | 1.11 (1.08–1.15) | 122922 | 0.88 (0.83–0.93) |     |
| Child sex                  |     |             |    |     |             |    |
| Female                     | 100281 | 1.10 (1.07–1.14) | 0.28 | 100281 | 0.92 (0.87–0.98) | 0.38 |
| Male                       | 103878 | 1.12 (1.09–1.16) | 103878 | 0.96 (0.91–1.02) |     |
| Residence                  |     |             |    |     |             |    |
| Rural                      | 130031 | 1.08 (1.05–1.11) | <0.01 | 130031 | 0.93 (0.88–0.98) | 0.07 |
| Urban                      | 74128 | 1.22 (1.17–1.28) | 74128 | 0.97 (0.90–1.06) |     |
| Household wealth quintile  |     |             |    |     |             |    |
| Poorest, poor or middle    | 100620 | 1.07 (1.03–1.10) | <0.001 | 100620 | 0.93 (0.87–0.98) | 0.36 |
| Richer or richest          | 103539 | 1.18 (1.14–1.22) | 103539 | 0.96 (0.90–1.02) |     |
| Country                    |     |             |    |     |             |    |
| Low income                 | 59490 | 1.06 (1.02–1.10) | <0.05 | 59490 | 0.96 (0.89–1.03) | 0.92 |
| Middle income               | 144669 | 1.13 (1.10–1.17) | 144669 | 0.92 (0.88–0.97) |     |
| Maternal education         |     |             |    |     |             |    |
| None or primary            | 191410 | 1.09 (1.07–1.12) | <0.001 | 191410 | 0.94 (0.90–0.98) | 0.25 |
| Secondary or higher        | 12527 | 1.00 (0.86–1.17) | 12527 | 1.09 (0.84–1.43) |     |

aOR: adjusted odds ratio; CI: confidence interval.

Adjusted for maternal age, employment status, level of education, marital status, partner’s level of education, rural/urban residence, use of contraception and wealth quintile, the number of children aged less than five years in the household and the child’s age.

Based on a pooled ordinary least squares model with violence-category–covariate interaction terms.
Discussion
As shown in previous studies, the results of our analysis highlight the high prevalence of intimate partner violence against women in low- and middle-income countries. They also indicate that maternal exposure to intimate partner violence substantially increases a child's risk of stunting. A similar association has been observed before, in single-country studies in Bangladesh, Brazil, Haiti, India and Kenya.

We were surprised to see that such exposure seemed to slightly reduce the risk of a child's wasting but this result may be related to survivor bias in the context of a cross-sectional analysis.

We found the association between intimate partner violence and child stunting to be relatively strong both for relatively rich women and for poorly educated women. In poorer households, the effects of maternal exposure to violence on child growth may be masked by the larger impacts of food insecurity, micronutrient deficiency and limited access to sanitation. The more educated women may carry more autonomy or relative agency within a relationship than their poorly educated counterparts – and thus be less vulnerable to the effects of intimate partner violence on their ability to care for their children.

In some cases, maternal depression, which has been found to be associated with low birth weight, higher risk of prematurity and increased risk of obstetric complications, may be the link between violence experienced by a woman and her child's poor growth. A meta-analysis showed that children whose mothers had depression were 1.4 times more likely to be stunted than the children of non-depressed mothers.

Treatment of maternal depression may benefit the woman's children in both the short-term — e.g. it may quickly give the woman sufficient energy to take her children to a clinic — and the long-term e.g. it may increase the woman's self-efficacy and strengthen her autonomy in caring for her children.

Our study has several limitations. First, the data set we used is cross-sectional. While it is possible that intimate partner violence was the result of child growth or malnutrition, such reverse causality seems relatively unlikely. Another disadvantage with the cross-sectional design is the potential for survivor bias, which may have resulted in the apparent increase in risk of wasting among children whose mothers had experienced intimate partner violence.

The DHS were not designed to examine the associations in which we were interested. Although we controlled for several potentially confounding variables, there may have been confounding by other unknown factors. There may also have been residual confounding from the variables that were included in our multivariate analysis. For example, residual confounding may have occurred because of the challenges of measuring socioeconomic status in many different settings.

A further limitation of our study is our reliance on self-reported maternal exposure to intimate partner violence. Because of failures in recall and the effects of stigmatization, this approach is unlikely to capture overall exposure to such violence fully. Cultural attitudes towards, and the implications of, intimate partner violence in different countries may have contributed to underreporting. Further analysis, with longitudinal data, may provide insights on the temporal effects of exposure to such violence on our outcomes of interest. The study population we used, which was restricted to married women and did not include children who were living with relatives other than their mothers or in orphanages, may also have weakened the odds ratios that we calculated. Finally, the data we used did not allow us to control directly for child comorbidities — e.g. chronic diarrhoea and malaria — that might have been most common in areas with high levels of exposure to intimate partner violence prevalence and might have resulted in confounding bias.

Reductions in the burden of intimate partner violence against women are not only likely to improve the health and well-being of women but are also likely to improve the growth of many children. Although the programmatic reduction of intimate partner violence remains a challenge, there is emerging evidence, from randomized controlled trials, of several measures that can reduce such violence. For example, intimate partner violence appeared to be reduced by a programme of home visits in early childhood and by engaging women in microfinance and interventions against human immunodeficiency virus.

The implications of the current study’s findings for policy are clear: given the high prevalence and detrimental impact of intimate partner violence against women, against both the women involved and their children, programmes to reduce such violence and attenuate its impact on maternal and child health are urgently needed. Initiatives to advance women’s autonomy, through access to education and economic opportunities, may offset the risk of intimate partner violence, potentially resulting in improvement in the growth and long-term development of many children.

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Research
Intimate partner violence and poor child growth
Jeanne Chai et al.
Intimate partner violence and poor child growth: results of 42 surveys of demographic and health conditions

Jeanne Chai et al.

Summary

Objectif Déterminer l’impact de la violence conjugale envers les femmes sur la croissance et l’état nutritionnel des enfants dans les pays à revenu faible et intermédiaire.

Méthodes Nous avons regroupé les notes de 42 enquêtes démographiques et sanitaires menées dans 29 pays. Nous avons recueilli des données sur l’exposition des mères à des violences physiques ou sexuelles de la part du conjoint ainsi que sur les caractéristiques socioéconomiques et démographiques. Nous avons utilisé des modèles de régression logistique pour déterminer l’association entre violence conjugale et retard de croissance ou émaciation des enfants.

Résultats Une exposition à des violences conjugales a été signalée par 69 652 (34,1%) des 204 159 femmes ayant déjà été mariées qui avaient participé à l’une de nos enquêtes. Nous avons observé une association positive entre le retard de croissance chez l’enfant et l’exposition des mères à des violences conjugales de nature physique (rapport des cotes ajusté (RCa): 1,11; intervalle de confiance (IC) de 95%: 1,09–1,14), sexuelle (RCa: 1,09; IC 95%: 1,05–1,13) ou à ces deux formes de violence (RCa: 1,10; IC 95%: 1,05–1,14). L’association entre retard de croissance et violence conjugale était plus marquée en zone urbaine qu’en zone rurale; elle l’était également davantage pour les mères ayant un faible niveau d’éducation que pour celles ayant un niveau éducatif plus élevé et apparaisait aussi plus importante dans les pays à revenu intermédiaire que dans ceux à revenu faible. Nous avons également observé une légère association négative entre l’élimination et la violence conjugale (RCa: 0,94; IC 95%: 0,90–0,98).

Conclusion La violence conjugale exercée contre les femmes reste courante dans les pays à revenu faible et intermédiaire, au grand détriment des femmes et de la croissance de leurs enfants. Des efforts sont nécessaires en matière de politiques et de programmes afin de réduire la prévalence et l’impact de cette forme de violence.
Отношение между насилием со стороны партнера, состоящего в интимной связи с родителем, и задержкой в росте ребенка: результаты 42 демографических опросов и обследований состояния здоровья населения

Цель
Определить влияние насилия со стороны интимного партнера в отношении женщин на рост и качество питания детей в странах с низким и средним уровнем доходов.

Методы
Были объединены документы 42 демографических опросов и обследований состояния здоровья населения, проведенных в 29 странах. Были собраны данные по подверженности матери физическому и сексуальному насилию со стороны интимного партнера на протяжении жизни, а также социально-экономическим и демографическим характеристикам. С помощью моделей логистической регрессии была определена связь между насилием со стороны интимного партнера родителя и задержкой в росте и истощением детей.

Результаты
О предыдущих случаях насилия на основании интимного партнера сообщили 69 652 (34,1%) из 204 159 женщин, когда-либо состоявших в браке и включенных в анализ. После внесения поправки на ряд характеристик была обнаружена положительная связь между насилием со стороны интимного партнера и задержкой в росте детей и подверженностью младенцев на протяжении своей жизни только физическому (корректированное отношение шансов, СОШ: 1,11; 95%-й доверительный интервал, ДИ: 1,09–1,14) или сексуальному насилию со стороны интимного партнера (СОШ: 1,09; 95%-й ДИ: 1,05–1,13) и обеим формам такого насилия (СОШ: 1,10; 95%-й ДИ: 1,05–1,14). Связь между отставанием в росте и насилием со стороны интимного партнера была сильнее выражена в городской местности, чем в сельской, среди матерей с низким уровнем образования, чем среди женщин с высоким уровнем образования, и в странах со средним уровнем доходов, чем в странах с низким уровнем доходов. Также была выявлена незначительная отрицательная связь между насилием и насилием со стороны интимного партнера родителя (СОШ: 0,94; 95%-й ДИ: 0,90–0,98).

Вывод
Насилие со стороны интимных партнеров в отношении женщин по-прежнему распространено в странах с низким и средним уровнем доходов и оказывает значительное негативное влияние на женщин и на рост детей, подвергшихся насилию женщин. Необходимо разработать комплекс мер и составить программы действий, нацеленных на уменьшение распространенности и влияния такого насилия.

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