Intimate Partner Violence and Uptake of Antenatal Care: A Scoping Review of Low- and Middle-Income Country Studies

CONTEXT: Intimate partner violence (IPV) is associated with negative physical and mental health outcomes. Antenatal care can act as a link to IPV services, but experiencing IPV may be associated with reduced uptake of antenatal care, an issue that has received little attention from researchers.

METHODS: A scoping review was conducted to synthesize quantitative research on IPV and uptake of antenatal care in low-resource settings. Keyword searches of PubMed and other databases and snowball searches of reference lists were conducted to identify articles published in 2005–2015 that measured one or more types of IPV (physical, sexual or emotional) or controlling behavior and assessed the relationship of such abuse with use of antenatal care. For each identified article, key characteristics and findings were abstracted, and study quality was assessed.

RESULTS: Sixteen articles, representing 10 low- and middle-income countries, met the inclusion criteria. Most studies were of medium-to-high quality but low rigor, reflecting the abundance of cross-sectional studies in the literature. In all 16 studies, IPV was negatively associated with initiation of antenatal care, number of visits or use of a skilled provider. Analyses revealed reduced odds of antenatal care use among women who had experienced IPV (odds ratios, 0.5–0.8) and elevated odds of antenatal care use among women who had not experienced IPV or of nonuse among women who had experienced IPV (1.2–4.1).

CONCLUSION: Women in low-resource settings who experience IPV have a reduced likelihood of obtaining optimal antenatal care and may benefit from interventions to mitigate barriers to care.
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Global estimates suggest that approximately 30% of ever-partnered women of reproductive age (15–49) report having experienced physical or sexual violence perpetrated by an intimate male partner.[1] The prevalence of self-reported intimate partner violence (IPV) is particularly high in low- and middle-income regions, ranging from 30% in Central and South America to nearly 38% in Southeast Asia.[1] Among women, reporting IPV is associated with a range of negative physical and mental outcomes,[2–7] including sexual and reproductive outcomes and behaviors. For example, women who have experienced IPV have an elevated likelihood of not using contraceptives,[8–11] not gaining sufficient weight during pregnancy[12] and having short birth intervals.[13–15]

The World Health Organization (WHO) has noted three pathways through which the experience of IPV may shape sexual and reproductive health outcomes.[1] First, the experience of physical or sexual trauma may lead directly to poor sexual and reproductive health outcomes via musculoskeletal or soft tissue damage. Second, coercion by the perpetrator of IPV may negatively affect a woman's reproductive health by reducing her autonomy. For example, the perpetrator may use controlling behaviors to limit his partner's ability to obtain health care services or to make reproductive decisions, such as whether to use condoms or other contraceptives. A third pathway posits that experiencing IPV can indirectly lead to negative reproductive health outcomes by reducing a woman's desire to obtain health care services; often, mental health problems related to the abuse, such as anxiety or depression, reduce such desire. These three pathways may lead to negative outcomes not only for the victim, but also for her children: Levels of perinatal and neonatal mortality are elevated among offspring of women who experience IPV.[16–18]

Given that these pathways suggest that reduced access to or use of services are mechanisms by which IPV may negatively affect sexual and reproductive health outcomes, it seems plausible that experiencing IPV may limit access to sexual and reproductive health services during pregnancy. However, the relationship between the experience of IPV and the receipt of antenatal care has received relatively little attention in the literature, despite evidence that pregnancy is a risk factor for IPV.[6,19–22] Antenatal care refers to health care delivered to pregnant women with the aim of identifying, preventing and treating health issues that may arise with the woman or the fetus during pregnancy. WHO recommends that pregnant women in resource-poor settings have a minimum of four antenatal care visits, and that the first visit occur during the first 20 weeks of pregnancy.[23]

Although the receipt of properly administered antenatal care is associated with better maternal and neonatal health outcomes in resource-poor settings,[24–26] the receipt of antenatal care is far from universal and the quality of care varies widely.[27–30] In large part because of such inconsistencies in quality and availability of services, several large-scale studies and systematic reviews have found no association between antenatal care and improved maternal or child health outcomes in low- and middle-income countries.[29,31,32] This has led to debate in the scientific literature about the effectiveness of antenatal care in these settings.[33]

However, despite the lack of consensus on whether antenatal care directly affects maternal and child health outcomes in resource-poor settings, such care often serves as a woman's first point of entry into the health care system.[19,34] It provides exposure to health professionals who can encourage the woman to continue to engage with antenatal care throughout her pregnancy, educate her about warning signs of antenatal and intrapartum complications and develop plans to manage potential emergencies, should they arise in pregnancy or during delivery.[29] Perhaps most important, a growing body of literature demonstrates that the receipt of antenatal care is associated with a woman's decision to deliver with a skilled attendant,[35–41] which is associated with improved maternal and newborn health outcomes.[27,42,43] In addition, antenatal care has been successfully integrated with other health services during pregnancy, such as services to prevent mother-to-child HIV transmission[44–47] and those to provide nutritional counseling and supplementation.[48–50] In response to these successes, WHO cited integration of antenatal care with other health care interventions as a key strategy for improving maternal and child health in resource-poor settings.[51]

Many women in low- and middle-income countries likely experience both IPV and the underutilization of antenatal care. Although the receipt of antenatal care may provide an opportunity for women experiencing IPV to obtain help, in practice women who experience IPV may have limited access to antenatal care. In this scoping review, we examine recent evidence on the relationship between lifetime experience of IPV and receipt of antenatal care in resource-poor settings; our goals were to synthesize findings, highlight research gaps and make recommendations for future research and programmatic action.

METHODS

The first author conducted a scoping review of the literature using the electronic databases PubMed, Scopus, CINAHL and Global Health. In addition, snowball searches of the reference lists of relevant articles were conducted. Articles were eligible for inclusion in the review if they had been published in a peer-reviewed journal in 2005–2015; focused on a low- or middle-income country; measured experience of physical, sexual or emotional IPV (including controlling behaviors) and use of antenatal care; and included a quantitative analysis assessing the relationship

between IPV and antenatal care utilization. Searches of PubMed were conducted in September–October 2015 using the following MeSH (medical subject heading) terms: domestic violence, battered woman, spouse abuse, pregnant women, acceptance of health care, attitudes toward health, health knowledge, health attitudes, health practice, patient compliance, patient participation, treatment refusal and prenatal care. In addition, we used the following keywords: domestic violence, intimate partner violence, partner violence, IPV, interpersonal violence, battered woman, battered women, partner abuse, wife abuse, spousal abuse, violence against women, prenatal and antenatal. Boolean operators (i.e., AND, OR) were used to create search strings incorporating both terms related to IPV and terms related to the provision of health care; headings nested under each MeSH term were also searched to ensure that all relevant terms were used. This search produced 585 unique results. With the assistance of health science librarians, this search strategy was then adapted for use with the other three databases using the same keywords listed above; these searches yielded an additional 179 articles, for a total of 764. Article titles and abstracts were reviewed to determine whether the articles met the inclusion criteria; when necessary to determine eligibility, the full article was reviewed.

The first author also conducted a quality analysis using a validated instrument, the Johns Hopkins Nursing Evidence-Based Practice Rating Scale;[52] if the appropriate rating for a particular article's methodology was unclear, the second author was consulted and the two authors came to a consensus regarding the final rating. Articles were retained in the analysis only if the study's strength of evidence met the rating scale's criteria for levels I, II or III and the quality of evidence was rated "high" or "good."*

Key information about each study—including the year of publication, country in which the study took place, sample size, methodology, type of IPV studied, prevalence of IPV and main barriers to antenatal care access—were abstracted and compiled. Quantitative data collected included the odds ratios from analyses assessing the relationship between experience of IPV and use of antenatal care, the statistical significance of any associations and, when available, 95% confidence intervals.

RESULTS

The final sample consisted of 16 articles,[41,53–67] eight of which were published in 2014 or 2015 (Appendix Table 1). Eleven of the studies were secondary analyses, either of data from Demographic and Health Surveys (n=9) or of data collected as part of previous projects (n=2). Five of the six WHO regions were represented in the study samples,

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*On the Johns Hopkins Nursing Evidence-Based Practice Rating Scale, a Level I rating indicates an experimental, randomized controlled study; Level II refers to quasi-experimental studies (e.g., cohort studies); and Level III encompasses nonexperimental (e.g., cross-sectional) studies, qualitative work and metasyntheses.

as were 10 countries: Bangladesh,[57,64] Brazil,[61] Egypt,[55] Ghana,[65] India,[53,54,58] Kenya,[56] Malawi,[60] Nigeria[41,62,63] Pakistan[66] and Timor-Leste.[59,67] Sample sizes ranged from 294 to 17,476.

The types of IPV studied varied among the 16 articles. Data were collected on physical violence in 14 studies, sexual violence in nine studies, emotional abuse in eight studies and controlling behavior in three studies.† The scales used to measure IPV (and thus the definitions of IPV used) were also disparate; they included the Revised Conflict Tactics Scale,[61,66] the World Health Organization multi-country study instrument,[53] the Women's Reproductive Histories Survey,[54] the Indian National Family Health Survey,[58] Demographic and Health Survey questionnaires regarding violence[41,55–57,59,60,63,64,67] and pretested, researcher-developed surveys.[62,65] Ten of the studies measured more than one type of IPV; none of them quantified all four types (physical, sexual and emotional IPV, and controlling behavior), but eight measured three types (generally physical and sexual violence and emotional abuse). The remaining six studies focused on either physical violence (n=4) or controlling behaviors (n=2). All studies relied on participant recall of violent behavior; 13 measured lifetime prevalence of IPV, while three measured IPV during a discrete period of time (e.g., during pregnancy).

The prevalence of physical violence among women in the study samples ranged from 20%[60] to 82%.[61] The lifetime prevalence of sexual violence ranged from 4%[60] to 35%,[66] while that of emotional abuse and controlling behavior ranged from 5%[54] to 76%.[66]

Measurement of antenatal care utilization also varied. Five studies assessed initiation of care, defined as having had at least one antenatal care visit. Eleven studies measured quality of antenatal care; in particular, six examined the total number of visits women had had, three examined whether women had used skilled antenatal care attendants (as opposed to traditional or lay attendants) and two studies, both from Bangladesh, used both measures. Although the number of visits is not a direct indicator of the quality of care, studies used this measure on the grounds that at least four antenatal care visits are necessary for achievement of quality antenatal care, a view in accordance with the WHO guidelines on antenatal care provision.[23] Most articles cited important barriers to care for their study population; eight mentioned low levels of autonomy, while structural barriers and reduced help-seeking drive were each mentioned in four articles.

All 16 studies were cross-sectional, which bars inferences of causality and relegates the strength of evidence to a Level III rating on the quality scale.[52] Although the strength of evidence was lacking, the quality of evidence was generally strong: Thirteen of 16 studies received a "high" rating.

All 16 studies found a negative association between the experience of one or more types of IPV and utilization of antenatal care services. Studies quantified this association in several ways, because they differed in their choice of outcomes (either receipt of antenatal care or lack of such care) and reference group (either women who reported IPV or those who did not). For clarity, we present study findings according to the directionality of the statistical testing. First, we report the results of studies that found that women had reduced odds of receiving antenatal care if they had experienced IPV. Next, we report the results of studies that found that women had elevated odds of not receiving antenatal care if they had experienced IPV, or elevated odds of receiving antenatal care if they had not experienced IPV.

In analyses that used the first approach (Table 1), the odds that women who reported IPV had had antenatal care were reduced, and the resulting odds ratios ranged from 0.5 (for the likelihood that women who reported physical violence had initiated antenatal care)[55] to 0.8 (for the likelihood that women who reported physical violence had received antenatal care from a skilled attendant).[58] In analyses that used the second approach (Table 2), the odds that women who did not report IPV had had antenatal care (or that women who did report IPV had not had such care) were elevated, and the resulting odds ratios ranged from 1.2 (for the likelihood that women who did not report any type of IPV had had four antenatal care visits)[62] to 5.1 (for the likelihood that women who did not report physical violence or emotional abuse had had four antenatal care visits).[65]

In all the studies, the regression models adjusted for demographic characteristics, most commonly race and ethnicity, age, socioeconomic status and education level. Some studies also adjusted for HIV status, age at marriage, length of marriage, parity and age at first birth.

TABLE 1. Odds ratios (and 95% confidence intervals) from studies assessing the likelihood that women who experienced IPV would obtain antenatal care relative to women who had not experienced IPV

Study	Type of IPV	Scale	Odds ratio
Ahmad et al.[53]	Aggregated emotional, physical and sexual	WHO multicountry study instrument	0.65 (0.56–0.76)**
Diop-Sidibe, Campbell and Becker[55]	Physical	DHS	0.54*†
Goo and Harlow[56]	Physical	DHS	0.71 (0.52–0.98)*
Goo and Harlow[56]	Emotional	DHS	0.60 (0.43–0.84)*
Koski, Stephenson and Koenig[58]	Physical‡	NFHS	0.81 (0.68–0.96)*
Koski, Stephenson and Koenig[58]	Physical‡	NFHS	0.69 (0.54–0.88)*
Ononokpono and Azfredrick[63]	Physical	DHS	0.72 (0.61–0.85)*
Rahman et al.[64]	Physical	DHS	0.69 (0.53–0.89)**
Rahman et al.[64]	Sexual	DHS	0.71 (0.50–0.99)*
Rahman et al.[64]	Physical and sexual	DHS	0.71 (0.51–0.99)*
Solanke[41]	Emotional	DHS	0.76 (0.66–0.88)***

*p<.05. **p<.01. ***p<.001. †Article did not report confidence interval. ‡Article reported odds ratios for two different antenatal care outcomes (initiation and use of a skilled attendant) associated with physical IPV. *Notes:* IPV=Intimate partner violence. WHO=World Health Organization. DHS=Demographic and Health Survey. NFHS=National Family Health Survey.

†Although controlling behavior is commonly included under the umbrella of IPV (as a type of emotional abuse), the three studies noted here either treated controlling behavior as a separate form of abuse or did not examine other types of violence or abuse.

TABLE 2. Odds ratios (and 95% confidence intervals) from studies assessing the likelihood that women who had experienced IPV would not obtain antenatal care relative to women who had not experienced IPV†

Study	Type(s) of IPV	IPV scale	Odds ratio
Allendorf[54]	Controlling behavior	WRHS	4.05**‡
Haque et al.[57]	Controlling behavior§	DHS	1.64 (1.17–2.23)*
Haque et al.[57]	Controlling behavior§	DHS	1.91 (1.42–2.45)*
Meiksin et al.[59]	Physical or sexual	DHS	2.30 (1.1–4.9)*
Mkandawire[60]	Aggregated physical, sexual and emotional	DHS	1.05 (1.02–1.07)††
Moraes, Arana and Reichenheim[61]	Physical	RCTS	2.20 (1.10–4.40)*
Omer et al.[62]	Aggregated physical, sexual and emotional	Researcher-developed	1.24 (1.11–1.38)*
Sipsma et al.[65]	Physical, emotional	Researcher-developed	5.12 (1.32–19.43)*
Taft, Powell and Watson[67]	Aggregated physical, sexual and emotional	DHS	1.76 (1.21–2.55)*
Zakar et al.[66]	Severe physical	RCTS	2.11 (1.23–3.69)***
Zakar et al.[66]	Sexual	RCTS	1.67 (1.06–2.62)*

*$p<.05$. **$p<.01$. ***$p<.001$. †Some studies presented the findings as the likelihood that women who had not experienced IPV would obtain antenatal care relative to women who had experienced IPV. ‡Article did not report confidence interval. §Article reported odds ratios for two different antenatal care outcomes (no. of visits and use of a skilled attendant) associated with controlling behavior. ††Findings are hazard ratios rather than odds ratios. *Notes:* IPV=Intimate partner violence. WRHS=Women's Reproductive Histories Survey. DHS=Demographic and Health Survey. RCTS=Revised Conflict Tactics Scale.

Studies that used data from Demographic and Health Surveys frequently included indices of decision-making autonomy and of justification of wife-beating. No discernable patterns were evident to suggest that the strength of associations differed by type of IPV.

DISCUSSION

Our review—which encompassed exhaustive literature searches, well-defined inclusion criteria and the assistance of health science librarians well versed in best practices of performing scoping reviews—identified 16 studies that examined the relationship between IPV and use of antenatal care. Half of these studies were published in 2014 or 2015, suggesting increased attention from researchers to this issue. In addition to agreeing on the directionality and significance of the association between IPV and utilization of antenatal care, these articles generally explored potential reasons for this association. Their explanations typically fell into one of three categories, two of which harken back to WHO's conceptual model.

Eight studies suggested that the low level of antenatal care among women who had experienced violence is likely due to low levels of autonomy.[54,55,57,58,60,64,66,67] These studies were carried out in five countries, suggesting that this issue exists across countries and cultures. In studies that analyzed Demographic and Health Survey data, autonomy was measured using indices of decision-making power over household income and freedom of movement,[57] and similar measures were used in studies using researcher-designed instruments. One study specifically measured women's financial dependency on their husband and

found it was a significant barrier to obtaining antenatal care.[66] Most of the eight studies linked women's lack of autonomy not only to reduced odds of using antenatal care, but also to reduced odds of obtaining quality antenatal care. Specifically, these studies found that women who had experienced IPV were more likely than other women to obtain care from traditional birth attendants, family members and unskilled antenatal providers. These findings support previous research suggesting that when women who experience IPV are unable to obtain appropriate care, they may turn to alternative sources of antenatal care rather than abandon care altogether.[58] This scenario is further supported by evidence that women who experience IPV and manage to obtain antenatal care are more likely than other women to obtain sufficient antenatal care.[41,55] For example, Solanke found that, compared with women who had not been abused, those who had experienced IPV and sought antenatal care had 59–74% higher odds of having had four or more antenatal care visits and of obtaining care from skilled providers.[41] Although these findings are not generalizable to all study populations, the resilience shown by these abused women is exceptional given the negative association between IPV and antenatal care uptake and shows that obtaining antenatal care remains a priority for many women who experience IPV.

Four studies cited reduced help-seeking drive as a potential barrier to antenatal care among women who experience IPV.[41,56,63,64] All four concluded that the stress and emotional toll associated with experiencing IPV may significantly reduce women's desire to seek antenatal care. The notion that IPV negatively affects psychosocial well-being is prevalent in the literature.[68–71] The abuse may result in depression, reduced self-esteem and feelings of hopelessness and futility;[72,73] for women who experience these outcomes, the effort, time and resources required to obtain antenatal care may seem like insurmountable barriers, especially in countries with poor health infrastructure. The challenge of obtaining care in the face of psychosocial difficulties may be particularly great for women whose access to care is hindered by long waits, lengthy travel times or the need to use multiple modes of transportation.[43] Furthermore, household responsibilities, including child care, may be especially large barriers for women who have a reduced help-seeking drive as a result of experiencing IPV.

The third construct that may help explain the negative association between IPV and reduced antenatal care utilization is structural barriers, which are not explicitly included in WHO's conceptual model but were specifically mentioned in four of the articles in our review.[53,60,62,66] The societal justification of abuse, the persistence of patriarchal norms, and the desire of families to maintain their social standing were cited in these articles as barriers to antenatal care among women who experience violence. Omer and colleagues noted that a subset of the focus group discussions that accompanied their quantitative survey centered on the notion that husbands did not allow their wives to attend antenatal appointments because the

men feared that the marks left by their physical abuse of their wives would reflect poorly on them.[62]

The four articles also noted that structural barriers are potent forces that are difficult to overcome. Mkandawire attributed the negative association between IPV and initiation of antenatal care in his study almost entirely to Malawi's entrenched patriarchal society and strict gender norms.[60] Zakar and colleagues pointed out that antenatal care itself is developed and provided within a male-dominated society that limits women's access to reproductive health care from the outset.[66] Although only four articles mentioned structural barriers specifically, structural forces that serve to reduce the social power and position of women are firmly embedded in nearly every society and may have been barriers in the other studies.[74–76]

The results of this scoping review highlight multiple potential points of intervention. In areas of pervasive IPV, training traditional birth attendants and lay women to provide culturally appropriate antenatal care that is sensitive to the needs of women who have experienced IPV or other trauma may help increase uptake of skilled antenatal care among women who are unable to seek care or are uncomfortable seeking it elsewhere. In addition, home-based antenatal care visits by clinicians may help reach women who, because they fear or are controlled by their partners, do not have the freedom of movement necessary to obtain antenatal care. Training clinic-based providers to screen for IPV and to refer women who are experiencing IPV to sources of antenatal care that are easily accessible to women with reduced autonomy may also prove helpful.

This study has several limitations. We may not have identified all studies that met our inclusion criteria. To obtain the most up-to-date information, we limited our search to studies published from 2005 to 2015; therefore, we did not review studies published prior to that interval. In addition, although we included in the review only studies that were of sufficient quality, the limitations of those studies apply to the conclusions of this review as well. This includes the use of cross-sectional data in all studies, which precluded an assessment of a causal relationship between reporting IPV and receiving antenatal care. The recall periods and definitions of IPV differed across studies, which prevented us from making comparisons of IPV prevalence, and study data may have been subject to recall bias. Finally, because of differences in the definition and measurement of antenatal care and IPV, we were not able to conduct a meta-analysis; such an analysis would have further grounded the conclusions of this study.

Conclusion

The evidence collected through this review synthesizes the statistical association of IPV with antenatal care utilization and supports two of the three pathways outlined in the WHO conceptual model. Despite their methodologic differences, these studies all came to the same conclusion: The experience of IPV is associated with reduced utilization of antenatal care, and therefore disrupts a crucial link between childbearing women and their access to health care. Because antenatal care is often integrated with other health services, this disruption may affect women's access to IPV screening and services and to safe delivery care. This fraying of the continuum of care for women who are already at risk for negative health outcomes because of the violence they experience is a major public health concern. If the negative association between IPV and use of antenatal care reflects a causal relationship, both behavioral and structural barriers may need to be comprehensively addressed. For example, multilevel interventions that address the interpersonal and household-level correlates of IPV, as well as the community norms that shape antenatal care utilization in low-resource settings, may reduce the incidence of IPV and improve uptake of antenatal care.

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RESUMEN

Contexto: *La violencia de pareja íntima (VPI) se asocia con resultados negativos en la salud física y mental. La atención prenatal puede actuar como un enlace con los servicios de VPI, pero la experiencia de VPI puede estar asociada con un menor uso de la atención prenatal, tema que ha recibido poca atención por parte de los investigadores.*

Métodos: *Se realizó una revisión de alcance para sintetizar la investigación cuantitativa sobre VPI y el uso de la atención prenatal en entornos de bajos recursos. Se realizaron búsquedas de palabras clave en PubMed y otras bases de datos, así como búsquedas en bola de nieve de listas de referencias para identificar artículos publicados en el período 2005-2015 que medían uno o más tipos de VPI (física, sexual o emocional) o comportamiento de control, y evaluaban la relación de dicho abuso con el uso de la atención prenatal. Para cada artículo identificado se resumieron tanto las características clave como los hallazgos y se evaluó la calidad del estudio.*

Resultados: *Dieciséis artículos representativos de 10 países de ingresos bajos y medios cumplieron con los criterios de inclusión. La mayoría de los estudios fueron de calidad media a alta pero de bajo rigor, lo cual es reflejo de la abundancia de estudios transversales en la literatura. En los 16 estudios, la VPI se asoció negativamente con el inicio de la atención prenatal, el número de visitas o el hecho de recurrir a un proveedor capacitado. Los análisis revelaron probabilidades de uso de la atención prenatal reducidas entre las mujeres que habían experimentado VPI (razón de probabilidades, 0.5-0.8) y elevadas probabilidades de uso de la atención prenatal entre las mujeres que no habían experimentado VPI o ningún uso entre las mujeres que habían experimentado VPI (1.2–4.1).*

Conclusión: *Las mujeres en entornos de bajos recursos que experimentan VPI tienen menores probabilidades de obtener atención prenatal óptima y pueden beneficiarse de las intervenciones para mitigar los obstáculos a la atención.*

RÉSUMÉ

Contexte: *La violence aux mains d'un partenaire intime (VPI) est associée à des résultats de santé physique et mentale négatifs. Si les soins prénatals peuvent servir à la mise en lien avec les services contre la VPI, l'expérience de la VPI peut néanmoins être associée à une réduction du recours à ces mêmes soins; une question sur laquelle la recherche ne s'est guère penchée.*

Méthodes: *Une étude exploratoire a été menée pour synthétiser la recherche quantitative sur la VPI et le recours aux soins prénatals dans les contextes à faibles ressources. Des recherches par mots-clés ont été effectuées dans PubMed et autres bases de données, de même que des recherches en boule de neige dans les listes de référence afin d'identifier les articles publiés au cours de la période 2005–2015 qui mesuraient un ou plusieurs types de VPI (physique, sexuelle ou psychologique) ou comportement*

dominateur et évaluaient le rapport entre cette maltraitance et le recours aux soins prénatals. Pour chaque article identifié, les caractéristiques et conclusions principales ont été extraites et la qualité de l'étude a été évaluée.

Résultats: *Seize articles, représentant 10 pays à revenu faible et intermédiaire, ont répondu aux critères d'inclusion. La plupart des études étaient de qualité moyenne à haute mais de faible rigueur, reflétant l'abondance d'études transversales dans la littérature. Dans chacune de ces 16 études, la VPI paraît négativement associée à au suivi des soins prénatals, au nombre de consultations ou au recours à un prestataire qualifié. Les* analyses révèlent une probabilité de recours aux soins prénatals réduite parmi les femmes sujettes à la VPI (RC, 0,5–0,8). Cette même probabilité est élevée parmi les femmes non sujettes à cette violence, comme l'est aussi la probabilité de non recours parmi les femmes sujettes à la VPI (1,2–4,1).

Conclusion: *Dans les contextes à faibles ressources, les femmes sujettes à la VPI sont moins susceptibles d'obtenir des soins prénatals optimaux et peuvent bénéficier d'interventions d'atténuation des obstacles aux soins.*

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Appendix Table 1. Summary of included studies

Article	Country	Sample size	IPV types and prevalence	IPV scale used	Antenatal care measure	Major barriers to antenatal care	Level of quality†
Ahmad et al., 2015[53]	India	4,223	Physical: 28% Sexual: 6% Emotional: 31% Any: 37 % During last pregnancy: 47%	WHO multicountry study instrument	Initiation	Structural	IIIA
Allendorf, 2010[54]	India	2,444	Controlling behavior: 5% of women reported "many difficulties" with husband	WRHS	Initiation	Autonomy	IIIB
Diop-Sidibe, Campbell and Becker, 2006[55]	Egypt	6,556	Physical (lifetime): 34% Physical (past year): 16% Controlling behavior: prevalence measured, but not reported	DHS	Initiation	Autonomy	IIIA
Goo and Harlow, 2012[56]	Kenya	975	Physical: 39% Sexual: 13% Emotional: 21% Any: 46%	DHS	Use of skilled provider	Reduced help-seeking drive	IIIA
Haque et al., 2012[57]	Bangladesh	1,778	Controlling behavior: 33%	DHS	No. of visits; use of skilled provider	Autonomy	IIIA
Koski, Stephenson and Koenig, 2011[58]	India	2,877	Physical (during pregnancy): 77%	NFHS	Initiation, use of skilled provider	Autonomy	IIIA
Meiksin et al., 2015[59]	Timor-Leste	294	Physical or sexual: 41% ≥3 controlling behaviors: 13%	DHS	No. of visits	Autonomy	IIIA
Mkandawire, 2015[60]	Malawi	13,588	Physical: 20% Sexual: 19% Emotional: 25%	DHS	Initiation	Autonomy, structural	IIIA
Moraes, Arana and Reichenheim, 2010[61]	Brazil	528	Physical (during pregnancy): 82%	RCTS	No. of visits	None noted	IIIA
Omer et al, 2014[62]	Nigeria	15,429	Physical (past year): 51% Physical (last pregnancy): 52%	Researcher-developed	No. of visits	Structural	IIIB
Ononokpono and Azfredrick, 2014[63]	Nigeria	17,476	Physical: 14% Sexual: 4% Emotional: 16% Any: 33%	DHS	No. of visits	Reduced help-seeking drive	IIIA
Rahman et al., 2012[64]	Bangladesh	2001	Physical: 48% Sexual: 19% Both: 14%	DHS	No. of visits, use of skilled provider	Autonomy	IIIA
Sipsma et al., 2014[65]	Ghana	418	Physical: 4% Emotional: 29%	Researcher-developed	No. of visits	None noted	IIIB
Solanke, 2014[41]	Nigeria	16,763	Physical: 16% Sexual: 4% Emotional: 22%	DHS	Use of skilled provider	Reduced help-seeking drive	IIIA
Taft, Powell and Watson, 2015[67]	Timor-Leste	1,959	Physical: 34% Sexual or emotional: 11% Any: 45%	DHS	No. of visits	Reduced help-seeking drive	IIIA
Zakar et al., 2012[66]	Pakistan	73	Physical: 32% Sexual: 35% Emotional: 76%	RCTS	Initiation	Autonomy, structural	IIIA

†Level indicates strength of evidence (III=nonexperimental study) and quality of evidence (A=high, B=good). *Notes:* IPV=Intimate partner violence. WHO=World Health Organization. WRHS=Women's Reproductive Histories Survey. DHS=Demographic and Health Survey. NFHS=National Family Health Survey. RCTS=Revised Conflict Tactics Scale.