

# Depression and Domestic Violence Experiences Among Asian Women: A Systematic Review

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Pallavi Koirala   
Montakarn Chuemchit 

College of Public Health Sciences,  
Chulalongkorn University, Patumwan,  
Bangkok 10330, Thailand

**Purpose:** To determine the association of postpartum depression with domestic violence experiences among women in Asia.

**Background:** Postpartum depression (PPD) is an important cause of maternal morbidity as well as mortality. There is increasing evidence that domestic violence (DV) increases the risk of PPD.

**Methods:** We performed literature searches using the databases PUBMED, SCOPUS, Web of Science and Google Scholar, for studies published between January 2010 and May 2019. The keywords “postpartum”, “postnatal”, “depression”, and “violence” were used. Observational studies conducted within Asia, and written in the English language, were included.

**Results:** In the 38 studies included in this review (with 37,087 participants), the prevalence of PPD ranged between 8.2% to 70% and that of DV between 6.1% to 67.4%. There were 1.6 to 7.1 higher odds of PPD among sufferers of DV. Intimate partner violence (IPV) was the most relevant factor that women experiencing psychological abuse (which was the most prevalent form of IPV) were more at risk for, and violence/intimidation by other family members was also associated with PPD. Domestic violence increased the risk of suicidal ideation in PPD.

**Discussion:** The findings of the review unequivocally shows the association between domestic violence and PPD. Maternal mental health is a neglected area of healthcare in many parts of Asia. Likewise, domestic violence is a readily recognized, but inadequately addressed social issue. We recommend that healthcare workers be trained to recognize and support the women who are vulnerable to violence and depression during pregnancy and postpartum. Policies need to be developed at national and global levels to tackle these issues with utmost urgency.

**Keywords:** postpartum depression, domestic violence, Asia

## Introduction

Postpartum depression (PPD) refers to depressive disorder occurring in the postpartum period. It is one of the most frequent complications during the postpartum period.<sup>1</sup> It has lasting effects on the mother, the child as well as the societal and marital relationship, which makes it a serious public health problem.<sup>2</sup> If left untreated, it may lead to dysfunctional mother-child interaction which contributes to problems like difficulty in breast feeding and failure to thrive.<sup>3</sup> It has also been shown to affect the cognitive development of the child, and leads to behavioral problems, disturbed sleep, and risk for anxiety and mental illness.<sup>4</sup> Postpartum depression can also have lasting effects on the mother's mental health. Significant number of women who have PPD go on to develop recurrent long-term major depressive episodes in the future. In severe cases, the mother

Correspondence: Montakarn Chuemchit  
Tel +66 2218-8198  
Email Montakarn.ch@chula.ac.th

may commit suicide or cause harm to the child. There are social implications of this illness as well, such as social isolation of the mother, discord between partners, disruption of the family structure and lack of care for the newborn.<sup>5-7</sup> Domestic violence (DV) refers to

Any act carried out with the intention of physically or emotionally harming another person who is related to you by blood; present or prior marriage or common law marriage. It includes hitting, shoving, kicking, biting, throwing body down, slapping, choking, using a weapon against; intimidation or threats; isolation, restricting or controlling activities; taking person's money, keeping them from getting or keeping a job, making them ask for money; forcing sexual activities without the will of the person.

The term “domestic violence” is used in many countries to refer to partner violence but the term can also encompass child or elder abuse, or abuse by any member of a household.<sup>8</sup>

Intimate partner violence is one of the most prevalent forms of violence against women and includes physical, sexual, and emotional abuse as well as controlling actions by an intimate partner. It has been acknowledged as a violation of the basic human rights.<sup>9</sup> Abuse and neglect occurring in children less than 18 years old is known as Childhood Maltreatment (CM). It includes sexual abuse (Childhood Sexual Abuse or CSA), neglect, physical and emotional ill-treatment and commercial and other forms of exploitation, leading to either actual or potential harm to the child's well-being.<sup>10</sup>

There is increasing evidence that one important predictor of postpartum depression is women's exposure to violence,<sup>11-17</sup> with many literatures focused on PPD and partner victimization.<sup>13,14</sup> Experiences of abuse and violence are particularly important during pregnancy and postpartum, a period when significant relations and personalities are being restructured.<sup>18</sup>

The results of a meta-analysis study showed that women who had history of experiencing any form of violence events were at a higher risk of developing PPD compared with the reference group. Moreover, diverse kinds of violence such as sexual, emotional, and physical violence, as well as other forms of domestic or childhood violence also increased the risk of developing PPD.<sup>19</sup> Less well understood, however, is the relationship between postpartum depression and earlier experiences such as childhood maltreatment or abuse.<sup>20,21</sup>

The WHO multi-country study found prevalence of physical partner violence in pregnancy ranging from 1% in urban Japan to 28% in provincial Peru, with prevalence in most sites of 4–12%.<sup>22</sup> Similarly, a review which included research from 19 countries found prevalence ranging from 2% in settings such as Australia, Denmark and Cambodia, to 13.5% in Uganda, with the majority ranging between 4% and 9%.<sup>23</sup> A few facility-based studies in some settings have found even higher prevalence, including one from Egypt with an estimated prevalence of 32% and a review of studies from Africa that found a prevalence as high as 40% in some settings.<sup>24,25</sup> Violence during pregnancy has been associated with miscarriage; late entry into prenatal care; stillbirth; premature labor and birth; fetal injury; and low-birth-weight or small-for-gestational-age infants. IPV may also account for a proportion of maternal mortality, although this association is often unrecognized by policymakers.<sup>12,26</sup>

Traumatic stress is thought to be the main mechanism that explains why partner violence may cause subsequent depression and suicide attempts. Exposure to traumatic events can lead to stress, fear and isolation, which, in turn, may lead to depression and suicidal behavior.<sup>27</sup> The findings of a study revealed that significant depressive symptomatology at 8 weeks postpartum is associated with childhood physical and sexual abuse.<sup>28</sup> Additionally, several studies have reported significant positive associations between childhood maltreatment and depression at some point in the postpartum period.<sup>21,29-31</sup> However, there is mixed reports as to the timing of PPD onset, depending on a history of childhood abuse. Lesser and Koniak in 2000, found childhood maltreatment to be predictive of early (4–6 weeks) but not later (6 or 12 months) depression,<sup>32</sup> while Minnes et. al in 2008, found that childhood maltreatment predicted later depression (6 or 12 months postpartum) but not in the immediate postpartum period. On the contrary, some studies have found no associations at all.<sup>33</sup>

Postpartum depression as well as domestic violence both are issues extensively prevalent in Asia. While there have been several studies within Asia regarding the association of postpartum depression and domestic violence, there is a lack of a review that consolidates the findings of different countries and regions. This review aimed to study the prevalence of domestic violence and depression in various countries within Asia, to explore association

between the two variables and to develop a complete picture of the issues in the context of Asia.

## Methodology/Materials and Methods

### Search Strategy and Search Terms

The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for systematic review. PRISMA is the preferred minimum set of items to be reported in a systematic review, mostly applied for review of clinical trials but currently also used as a basis for review of other types of studies. Articles included in this review were identified through the following databases: PUBMED, SCOPUS, WEB OF SCIENCE and GOOGLE SCHOLAR. Original research articles published (or completed) between January 2010 to May 2019 were considered. The search terms used for the study have been listed in Table 1. The search terms were used in multiple combinations to identify the keywords as well as Mesh (Medical Subject Heading) specific for each database. The search was expanded and focused through Boolean Operators “OR” and “AND” respectively. Grey literature was searched in the databases Google Scholar, Scopus and Web of Science, as well as in the websites of key agencies (including WHO- SEARO, WHO- GMI and WHO- IRIS) and hand searching of references. The search terms are shown in Table 1.

### Selection Criteria

This review is a mixed-method review in which quantitative as well as qualitative articles were included. This was done in an effort to maximize the findings in the topic and make the results more relevant.<sup>34</sup> Articles were considered for inclusion in the review if they fulfilled the following criteria:

- studies that included experience of lifetime domestic violence (Intimate Partner violence or childhood violence) as a predictor variable.

- Studies that included postpartum depression as the outcome variable.
- Studies conducted within Asia.
- Studies written in the English language.
- Observational study design.
- Published/completed between January 2010 to May 2019.
- Original research articles.

Exclusion Criteria: duplicates and unrelated studies were excluded.

### Quality Assessment of Papers

Since the review included both qualitative and quantitative studies, predetermined criteria for quality assessment were developed based on existing tools and through consultation with experts. The quality of the paper was assessed based on the following characteristics: study setting, sample size, sampling technique, statistical methods and measurement tools of variables. An article was considered to have adequate quality if it fulfilled the following criteria:

- conducted in community setting or hospital setting.
- Fulfilled the minimum required sample size calculated for the study.
- Probability sampling method used (in case of non-probability sampling, enough evidence provided to support the rationale behind it).
- Measurement tools used for the variables were either:
  - a. standardized questionnaire that has been validated.
  - b. Self-developed questionnaire whose validity and reliability have been clearly mentioned and are adequate.

### Data Extraction

Following the search of the databases, all the selected articles were downloaded into the reference manager software, EndNote v9. The downloaded titles and abstracts were initially checked for duplicates through the software and all recognized duplicate articles were removed. The studies that were obtained were initially screened through their titles. The study titles that explicitly included the study area as a region, country or city within Asia; as well as studies that did not mention the study area in the title were taken over to the next step of evaluation (abstract or full text). Studies that explicitly mentioned study area outside Asia, were excluded in the same

**Table 1** Search Terms

Topic	Search Terms
Domestic violence	“Domestic violence” OR “domestic abuse” or “Intimate partner violence” OR “family abuse” OR “child abuse” OR “child maltreatment”
Postpartum period	“Postpartum” or “postnatal” or “maternal”
Depression	“Depression”

round. The abstracts were then screened to exclude any studies not fulfilling the inclusion criteria (for example, study area, reference population, variables et cetera). In case of doubt about the inclusiveness, the paper was carried on to the next stage of screening. Full text of the remaining articles was obtained via Open Access journal or by borrowing from the University library. The full texts were extensively reviewed to ensure inclusion criteria and to exclude any more duplicates missed by the software. In the final stage, the quality of the included studies was assessed and the full text of the articles was analyzed to extract the following data: study design, number of participants included, country of study, prevalence of postpartum depression and domestic violence, type of violence, and the odds of domestic violence experience among sufferers of postpartum depression. Other studies have been reviewed and cited in the introduction as well as discussion, to have a better understanding of the subject as well as to interpret the results better. However, they have not been included in the systematic review. The selection flowchart has been illustrated in [Figure 1](#).

## Results

The search strategy yielded 554 citations, of which 163 were assessed in the full-text form. Out of these, 38 studies were included in the review. There were 2 qualitative studies, 8 longitudinal and 28 cross-sectional studies. One study out of these was a thesis dissertation paper (which fulfilled the inclusion criteria and underwent the quality assessment). The included studies were from the following countries: Iran, Malaysia, Pakistan, Japan, Bangladesh, Nepal, Turkey, India, Vietnam, Israel, China, Thailand, Timor-Leste. Articles retrieved from each of the databases are shown in [Table 2](#).

The data extraction table ([Table 3](#)) shows characteristics of studies included in the review and findings from all included studies.

## Results from Qualitative Studies

One study subcategorized “Domestic Violence” among postpartum women, using thematic analysis of in-depth interview. The study consisted of 21 women, all of whom screened positive for Postpartum Depression (EPDS score between 10–14). Most of these women admitted to having experienced domestic violence, either in the form of IPV or in the form of violence perpetrated by other family members. The violence occurred before, during pregnancy or after the birth of the child. They also expressed how the violence had

led to constant fear during the period of postpartum. Another study consisting of 137 women found the prevalence of PPD to be 26.3%. The women who had experienced domestic violence during pregnancy or childbirth were found to have particularly higher risk for developing PPD.

## Results from Cross-Sectional and Longitudinal Studies

The prevalence of PPD in the studies range between 8.2% (Japan) to 70% (Pakistan). Most of the studies ( $n=31$ ) have used the Edinburgh Postnatal Depression Scale (EPDS), which has been translated and validated in the respective languages. Two studies used Hospital Anxiety and Depression Scale (HADS) while 2 used Structured Clinical Interview for DSM-5 (SCID). One study each used the Beck’s Depression Inventory (BDI), Center for Epidemiological Studies–Depression scale and the 12 item Short Form Survey (SF-12). The prevalence of domestic violence ranged between 6.1 to 77.2% and was measured by Abuse Assessment Scale (AAS), Conflict Tactics Scale (CTS), WHO standard questionnaire, Index of Spousal Abuse (ISA), respective MoH violence questionnaire or proforma questionnaire (which were developed based on one or more of the standard questionnaires).

Out of the 38 studies, only 1 study found no association between DV and PPD while all the others found a significant association. For studies that expressed the association in Odds Ratio, it ranged between 1.6 to 7.1, while for the Relative Risk the range was between 1.6 and 3.3. The measures of association lied within the confidence interval for each of the studies.

Domestic Violence was found to have a clear association with Postpartum Depression and the most commonly studied DV in the studies was Intimate Partner Violence. Three studies measured Domestic Violence in general while two studies measured experiences of childhood violence (one in the form of Childhood maltreatment and the other in the form of Childhood Sexual Abuse). The remaining studies measured one or all forms of IPV. Among physical, emotional and sexual violence; emotional (psychological/verbal) form of abuse was found to be most prevalent. The prevalence ranged between 2.6% to 72.8%. Prevalence of psychological violence ranged between 3.7% to 82% and that of sexual violence ranged between 1.2% to 65%. Violence occurring during pregnancy was found by most studies to pose a higher risk for PPD. Likewise, psychological violence was the most prevalent as well as the highest risk-posing form of violence

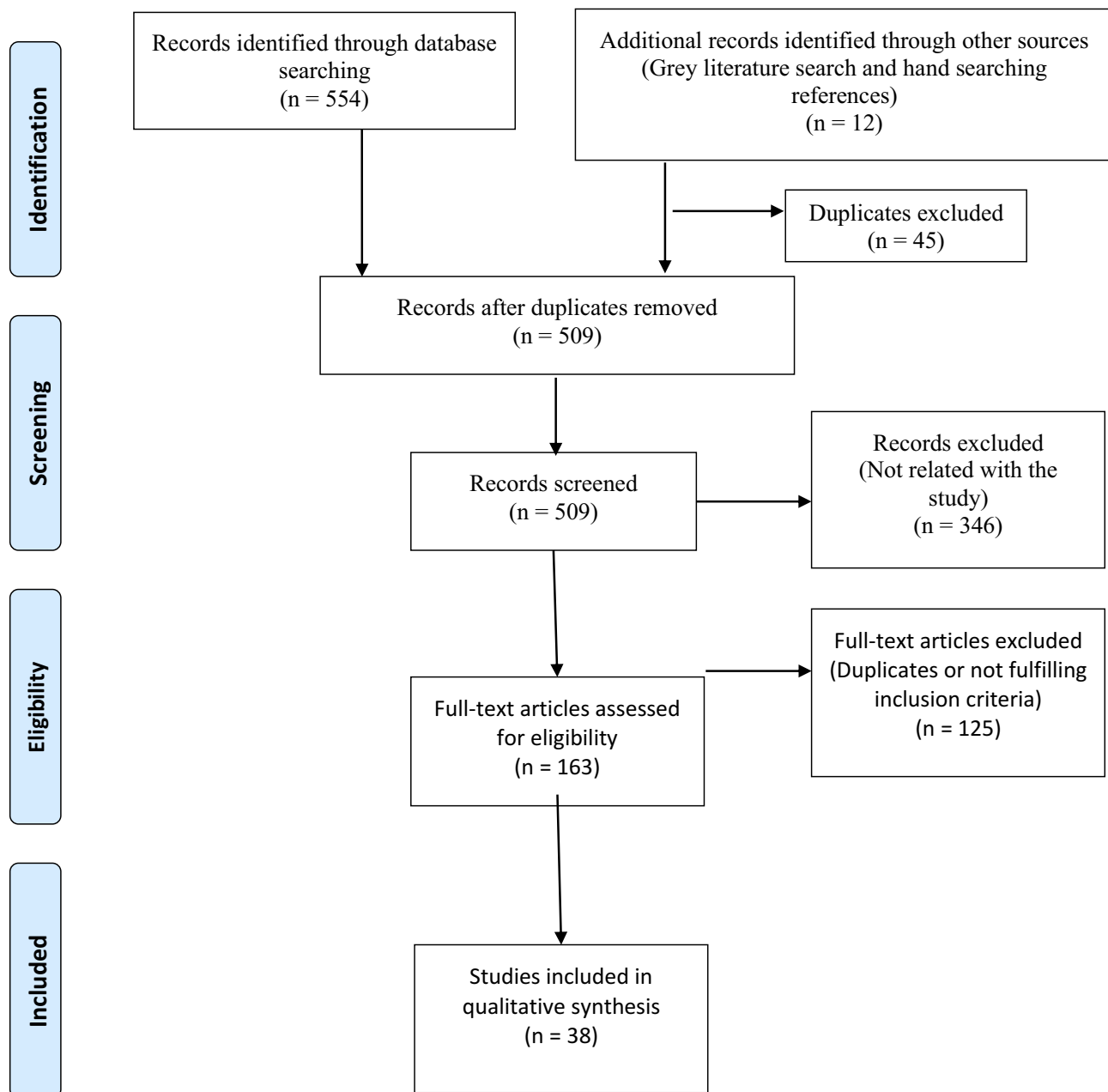


Figure 1 Selection flowchart.

for PPD. Regarding Childhood Violence, both Childhood maltreatment and Childhood Sexual Abuse were found to be significantly associated with PPD.

The prevalence of various types of Domestic Violence; and the association with Postpartum Depression (expressed as the measure of association in separate articles) have been demonstrated in Table 4.

## Discussion

Postpartum period is a time of rapid changes in the psychology as well as physiology of a mother. While on one

hand she has to deal with added responsibility of the baby, on the other hand she has much to deal with regarding her own physical and emotional situation. Mothers are vulnerable to developing psychological disorders like Postpartum Blues and Postpartum Depression.

In the western part of the world, the prevalence of PPD in most studies has been shown to be between 10-20%.<sup>71</sup> However, various studies have noted that the prevalence of PPD is higher in the Lower- and Middle-Income Countries than in High or Higher Middle Income Countries.<sup>72,73</sup> A review article regarding the prevalence of PPD in Asian

**Table 2** Articles Retrieved from Each Database

Database	Number of Articles Retrieved
PUBMED	144
SCOPUS	153
WEB OF SCIENCE	61
GOOGLE SCHOLAR	196
Total	554

women found the overall weighted prevalence to be about 28%.<sup>74</sup> In the context of South-Asia, studies from countries like India, Nepal and Pakistan have shown the prevalence to be between 19–36% in various studies.<sup>70,75–78</sup> Our current review found a similar prevalence of PPD, although the prevalence was found to be lower in studies conducted in Japan.

Postpartum depression is a complex issue in Asia because while in the Western culture women overtly express their changes in mood and depressive symptoms, in Asian cultures new mothers tend to manifest their emotional problems through somatic complaints.<sup>79,80</sup> Studies have shown that many Asian cultures have an avoidance tendency toward accepting postpartum mental illness with an absence of reference to the disease entirely. For example, in countries like India, Philippines and Jordan, PPD is something people do not know and/or talk about.<sup>81,82</sup> Cultural postpartum practices differ in Asia and other parts of the world. Many countries in Asia still follow the traditional practice of separating the mother from the rest of the family for a specified period of time considering her to be “dirty” or as a means to restore the yin and yang in her body. While on the one hand it provides physical rest to the mother, on the other it seriously hampers her psychological well-being. Likewise, Asian cultures still emphasize the gender of the newborn (most preferring boys over girls), which has been shown to be a risk factor for PPD among Asian women.<sup>83–85</sup> Further, one review article showed that one of the factors contributing to PPD in Asian societies was that women cannot reject traditional rituals that are imposed on them by their caregivers during postpartum period.<sup>86</sup>

The psychological burden of childbirth and child-rearing gets compounded in mothers who lack enough support from their partners. They become more prone to the postnatal psychological illnesses. In fact, if the mother has experienced Domestic Violence (particularly IPV), her risk of PPD gets multiplied several folds.<sup>87</sup> Our review

showed that DV is significantly associated with PPD in almost all the studies included.

WHO found that globally 1 in 3 or 35%, of women have experienced some form of violence (ie physical and/or sexual violence) by an intimate partner.<sup>27</sup> Intimate partner violence (IPV) happens in any situation and among all socioeconomic, religious and cultural clusters of women. According to WHO, the prevalence estimates of intimate partner violence range from 23.2% in high-income countries and 24.6% in the WHO Western Pacific region to 37% in the WHO Eastern Mediterranean region, and 37.7% in the WHO South-East Asia region.<sup>88</sup> The highest prevalence of IPV has been found in Africa and South-East Asia. Along with high prevalence, there is also higher social acceptability toward violence inflicted by a partner in these regions.<sup>26</sup> Furthermore, studies in Asia have shown that men considered beating of wife by a husband to be a normal and accepted thing.<sup>89</sup> Similarly, experience of childhood maltreatment and abuse have been found to increase the risk of depression among postpartum women. Studies included in our review, which studied the association of CM/CSA and PPD, found significant association between the two. Traumatic stress experienced during domestic violence leads to fear and isolation, which, in turn, leads to depression.<sup>27</sup>

The findings of this review unequivocally show an association between domestic violence and PPD. Maternal mental health is a neglected area of healthcare in many parts of Asia. Likewise, domestic violence is a readily recognized, but inadequately addressed social issue. Addressing the issue of Domestic Violence is especially challenging in the context of several countries in Asia because of the gender norms that influence marital violence, based on which violence inflicted by a husband is perceived as a normal and acceptable phenomenon.<sup>90</sup> A study conducted in Tibet showed that women justified being beaten by husband for making mistakes, and that violence was only considered unjustified if the husband inflicted it on the wife while she is working for the family. Violence in itself was considered a relatively acceptable matter.<sup>91</sup> Furthermore, it has been shown that women who have experienced violence in the household usually choose not to disclose it to or seek help from others. The National Family Health Survey in India (2014/2015) showed that only 14% of women who had ever experienced violence had sought help; among whom only 1% sought help from doctor or medical personnel.<sup>9</sup> This culture of keeping domestic violence behind hidden doors can contribute significantly to a rise in postpartum

**Table 3** Data Extraction Table Showing the Characteristics and Findings of Studies Included

S.No	ID Study	Country	Type of Study	Sample Size	Type of Violence	Measurement		Results		
						Depression (PPD)	Violence (IPV/CM)	Prevalence (%) PPD Violence	Association DV and PPD	
<b>Cross-Sectional Studies</b>										
1.	Afshari et al, <sup>35</sup> (2019)	Iran	Cross-Sectional	505	IPV (During preg)	EPDS	Proforma Questionnaire	38.8	N/A	Yes
2.	Ahmad et al, <sup>36</sup> (2018)	Malaysia	Cross-Sectional	5727	IPV (Emo, Phy, Sex)	EPDS	WHO multi-country questionnaire	13	4.9 (overall) 3.7 (Emo) 2.6 (Phy) 1.2 (Sex)	Yes
3.	Ahmadzad et al, <sup>37</sup> (2016)	Iran	Cross-Sectional	615	IPV (Phy; Non-Phy)	BDI	Proforma Questionnaire	15.3	35.1 (Phy) 77.2 (Non-Phy)	Yes
4.	Ali et al, <sup>38</sup> (2012)	Pakistan	Cross-Sectional	165	IPV (Phy, Sex)	HADS	Proforma Questionnaire	70		Yes
5.	Amemiya et al, <sup>39</sup> (2016)	Japan	Cross-Sectional	6590	IPV (Verbal, Phy)	EPDS	Proforma Questionnaire	N/A	10.9 (Verbal) 1.2 (Phy)	Yes
6.	Azad et al, <sup>40</sup> (2019)	Bangladesh	Cross-Sectional	376	IPV (Before and during preg)	EPDS	N/A	39.4	IPV 69.1% (Before and during preg.)	Yes PR=3 (before preg) PR= 2.3 (During preg)
7.	Bhusal et al, <sup>41</sup> (2018)	Nepal	Cross-Sectional	346	IPV (Phy, Psy, Sex)	EPDS	Conflict Tactics Scale	17.1	11.8 (Phy) 6.1 (Psy) 2.3 (Sex)	Yes OR = 3.6 (Phy) OR= 1.8 (Sex) OR= 2.8 (Psyc)
8.	Bulut et al, <sup>42</sup> (2017)	Turkey	Cross-Sectional	128	IPV (Economic, Phy, Sex)	EPDS	Proforma Questionnaire	56.3	26.5 (Phy) 4 (Sex) 4 (Econom)	Yes (Phy abuse only)
9.	Dubey et al, <sup>43</sup> (2012)	India	Cross-Sectional	293	DV	EPDS	Proforma Questionnaire	6	2 (IPV)	Yes
10.	Esie et al, <sup>44</sup> (2019)	Bangladesh	Cross-Sectional	3290	IPV (Psy, sex, phy)	EPDS	Revised Conflict Tactics Scale WHO standard Questionnaire	16.8	77.2 (Psy) 58.8 (Sex) 44.4 (Phy) 33.3% (Injuries due to IPV)	Yes RR=2.4 (Phy) RR=2.2 (Psy) RR=1.65 (Sex)
11.	Fisher et al, <sup>45</sup> (2010)	Vietnam	Cross-Sectional	364	IPV	SCID	Proforma Questionnaire	29.9	N/A	Yes OR= 2.1 (IPV)

(Continued)

Table 3 (Continued).

S.No	ID Study	Country	Type of Study	Sample Size	Type of Violence	Measurement		Results		
						Depression (PPD)	Violence (IPV/CM)	Prevalence (%) PPD Violence		Association DV and PPD
12.	Fisher et al, <sup>46</sup> (2013)	Vietnam	Cross-Sectional	497	IPV (Phy, Emo, Sex)	EPDS	WHO multi-country questionnaire	N/A	N/A	Yes
13.	Islam et al, <sup>47</sup> (2017)	Bangladesh	Cross-Sectional	426	IPV (Psy, Sex, Phy)	EPDS	WHO-DHS questionnaire	35.2	52.8 (Phy) 67.4 (Psy) 21.1 (Sex)	Yes AOR= 1.8(Phy) AOR= 6.92 (Psy) AOR= 2.25 (Sex)
14.	John et al, <sup>48</sup> (2017)	Pakistan	Cross-Sectional	234	IPV	EPDS	AAS	69.6	7.7	Yes
15.	Kabir et al, <sup>49</sup> (2014)	Bangladesh	Cross-Sectional	660	IPV (Phy)	EPDS	WHO multi-country questionnaire		52 (Phy) 65 (Sex) 82 (Emo)	Yes
16.	Khooharo et al, <sup>50</sup> (2010)	Pakistan	Cross-Sectional	100	IPV	EPDS	Proforma questionnaire	41	22	Yes
17.	Miura et al, <sup>51</sup> (2017)	Japan	Cross-Sectional	6590	IPV (Phy, Verbal)	EPDS	Conflict Tactic Scale	9.5	N/A	Yes OR= 4.85 (Verbal) OR=7.05 (Phy)
18.	Murray et al, <sup>52</sup> (2015)	Vietnam	Cross-Sectional	431	IPV	EPDS	Proforma questionnaire	18.1	N/A	Yes
19.	Patel et al, <sup>53</sup> (2015)	India	Cross-Sectional	134	IPV	EPDS	Proforma questionnaire	48.5	46	Yes
20.	Shwartz et al, <sup>54</sup> (2019)	Israel	Cross-Sectional	1128	IPV	EPDS	MoH questionnaire	10.3	N/A	Yes OR= 1.6 (IPV)
21.	Tho Tran et al, <sup>55</sup> (2018)	Vietnam	Cross-Sectional	1274	IPV (Emo)	EPDS	Proforma questionnaire	8.2	50.4	Yes OR= 3.6 (Emo)
22.	Zhang et al, <sup>56</sup> (2012)	China	Cross-Sectional	846	IPV (Psy, Phy)	EPDS	Abuse Assessment Scale (AAS)	25.1	11.3 (DV during preg)	Yes
23.	Abbaszadeh et al, <sup>12</sup> (2011)	Iran	Cross-Sectional	400	IPV	EPDS	AAS	45.8	65.5 (DV during preg) 59.7 (Emo) 37 (Phy)	Yes OR= 4.8 (DV)
24.	Anjum et al, <sup>57</sup> (2019)	Pakistan	Cross-Sectional	400	Verbal, Physical Violence	EPDS	Proforma questionnaire	41	45.5	Yes

(Continued)



Table 3 (Continued).

S.No	ID Study	Country	Type of Study	Sample Size	Type of Violence	Measurement		Results		
						Depression (PPD)	Violence (IPV/CM)	Prevalence (%) PPD Violence		Association DV and PPD
25.	Kirkan et al, <sup>58</sup> (2015)	Turkey	Cross-Sectional	360	DV during preg	EPDS SCID	Proforma questionnaire	35	N/A	Yes
26.	Pocan et al, <sup>59</sup> (2013)	Turkey	Cross-Sectional	187	IPV	EPDS	Proforma questionnaire	28.9	N/A	Yes
27.	Saito et al, <sup>60</sup> (2012)	Thailand	Cross-Sectional	274	IPV (Psy, Phy, Sex)	SF- 12	PMWI-SF SVAW		35.4 (Phy) 11.3 (Sex)	Yes
28.	Silove et al, <sup>61</sup> (2015)	Timor-Leste	Cross-Sectional	427	IPV	EPDS	WHO multi-country questionnaire	22	N/A	Yes
<b>Longitudinal Studies</b>										
29.	Kita et al, <sup>62</sup> (2016)	Japan	Longitudinal	562	IPV (Phy, Sex, Emo)	HADS	Index of Spousal Abuse (ISA)	N/A	6 (IPV) 1.4 (Phy) 4.6 (Phy or Non-phy)	Yes
30.	Lev – Wiesel et al, <sup>63</sup> (2010)	Israel	Longitudinal	1003	Childhood Sex. Abuse	Center for Epidemiological Studies– Depression scale	Childhood Sexual Assault Scale (CSAS)	N/A	N/A	Yes
31.	Li et al, <sup>21</sup> (2017)	China	Longitudinal	276	CM (Emo, Sex, Phy)	EPDS	Childhood Trauma Questionnaire	N/A	N/A	Yes
32.	Nhi et al, <sup>64</sup> (2019)	Vietnam	Longitudinal	1337	IPV (Emo, Phy, Sex)	EPDS	WHO multi-country questionnaire	8.2	35.3	Yes
33.	Turk Capar et al, <sup>65</sup> (2015)	Turkey	Longitudinal	540	IPV (during preg, during postpartum)	EPDS	Proforma questionnaire	15.4	N/A	Yes OR= 6.2 (Phy-during preg) OR= 5.9 (Phy-during postpartum)
34.	Nongrum et al, <sup>66</sup> (2014)	India	Longitudinal	132	IPV	EPDS	AAS	N/A	7.3	Yes
35.	Budhathoki et al, <sup>67</sup> (2012)	Nepal	Longitudinal	72	IPV (Phy, Sex, Psy)	EPDS	WHO multi-country questionnaire	19.4	20.8 (Phy) 19.4 (Psy) 13.9 (Sex)	No
36.	Dolatian et al, <sup>68</sup> (2010)	Iran	Longitudinal	240	DV	EPDS	Violence Questionnaire	34.2	N/A	Yes RR= 3.3 (DV)

(Continued)

**Table 3** (Continued).

S.No	ID Study	Country	Type of Study	Sample Size	Type of Violence	Measurement		Results		
						Depression (PPD)	Violence (IPV/CM)	Prevalence (%) PPD Violence	Association DV and PPD	
<b>Qualitative Studies</b>										
37.	Savarimuthu et al, <sup>69</sup> (2010)	India	Qualitative	137	Phy abuse during preg	EPDS	Proforma questionnaire	26.3	N/A	Yes
38.	Edhborg et al, <sup>70</sup> (2015)	Bangladesh	Qualitative	21	IPV; Violence by family member	EPDS	Semi-Structured Questionnaire	100	N/A	Yes

**Abbreviations:** PPD, postpartum depression; IPV, intimate partner violence; DV, domestic violence; CM, childhood maltreatment; Emo, emotional; Phy, physical; Sex, sexual; Psy, psychological; Preg, pregnancy; EPDS, Edinburgh Postnatal Depression Scale; BDI, Beck's Depression Inventory; WHO, World Health Organisation; HADS, hospital anxiety and depression scale; SCID, structured clinical interview for DSM-IV; SF-12, short-form 12 health survey; PMWI- SF, psychological maltreatment of women inventory-short form; AAS, abuse assessment scale; Mo H, ministry of health; DHS, demographic and health survey; CSAS, childhood sexual assault scale; PR, prevalence ratio; OR, odds ratio; AOR, adjusted odds ratio; RR, relative risk.

**Table 4** Prevalence of Different Types of Domestic Violence and Association with Postpartum Depression

S.No.	Prevalence of Violence	Measure of Association Employed	Association with PPD
Physical Violence			
1.	11.8	Odds Ratio	3.6
2.	44.4	Relative Risk	2.4
3.	52.8	Adjusted Odds Ratio	1.8
4.	65.5	Odds Ratio	4.8
Psychological Violence/Emotional Violence			
5.	6.1	Odds Ratio	2.8
6.	77.2	Relative Risk	2.2
7.	67.4	Adjusted Odds Ratio	6.92
8.	50.4	Odds Ratio	3.6
Sexual Violence			
9.	2.3	Odds Ratio	1.8
10.	58.8	Relative Risk	1.65
11.	21.1	Adjusted Odds Ratio	2.25

depression. Hence, it is important to understand the sensitivity of the issues of domestic violence and postpartum depression in the cultural context of Asian countries, and the vulnerabilities of women in this area.

## Recommendations

- We recommend that healthcare workers be trained to recognize and support the women who are vulnerable

to violence and depression during pregnancy and postpartum.

- Policies need to be developed at national and global levels to tackle these issues with utmost urgency. While developing policies, local cultural variations should be kept in mind and the option which addresses the issues in the most culturally acceptable way should be chosen.
- Studies need to be conducted regarding the screening, diagnostic and intervention strategies most suited for vulnerable women.

## Limitations

Our review does not include a meta-analysis, which would have provided additional strength to the findings of the review. The review includes studies from a limited number of countries; as a result of which the trend of domestic violence and postpartum depression as well as the challenges in these countries are not represented (further reviews with altered inclusion criteria, eg, wider time-frame, need to be conducted). Furthermore, the review is inherently prone to the bias present in the designs of studies included in the review.

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