

The Impact of Social Support, Intimate Partner Violence, and Pregnancy Plans on Antenatal Depression: A Meta-Analysis

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ABSTRACT

Background: Antenatal depression is a type of depression that occurs during pregnancy and affects about 20% of pregnant women. This study aims to analyse the effects and estimate the magnitude of the effects of social support, intimate partner violence and pregnancy status on the incidence of antenatal depression with a meta-analysis.

Subjects and Method: The meta-analysis was performed using a PRISMA flowchart and a PICO model. Population: pregnant women. Intervention: strong social support, experiencing violence by intimate partners, and planned pregnancy status. Comparison: weak social support, no violence by intimate partners, and unplanned pregnancy status. Outcome: antenatal depression. The online databases used are Google Scholar, Hindawi, PubMed, Science Direct, Scopus, and ResearchGate. There were 17 cross-sectional studies published in 2018-2023 that met the inclusion criteria. Analysis was done with RevMan 5.3.

Results: Meta-analysis was conducted on 17 cross-sectional studies from Australia, Thailand, Nepal, Bangladesh, Nigeria, Ethiopia, Rwanda, Norway, and Jamaica. Sample size = 11,517 study subjects. The risk of antenatal depression increases with intimate partner violence (aOR= 2.13; CI 95%= 1.65 to 2.74; p<0.001). The risk of antenatal depression decreased with strong societal support (aOR= 0.47; CI 95%= 0.38 to 0.58; p<0.001) and planned pregnancy (aOR= 0.45; CI 95%= 0.24 to 0.84; p=0.010).

Conclusion: The risk of antenatal depression increases when there is intimate partner violence, decreases if social support is obtained and pregnancy is planned.

Keywords: antenatal depression, social support, intimate partner violence, pregnancy status.

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BACKGROUND

Efforts to improve maternal health are a manifestation of human rights that have

been agreed upon at the International Conference on Population and Development, the Millennium Development Goals,

and continue in the Sustainable Development Goals or SDGs (Central Statistics Agency, 2020). Maternal health plays an important role in improving children's welfare. Cases of infant mortality, especially neonatal, are closely related to pregnancy complications that occur at an early or too old age, unsafe birth, or antenatal depression (Wolde et al., 2020).

Social support is defined as the provision of emotional, information and psychological support for a person by a social network of family members, friends, and community members (Bedaso et al., 2021). The existence of strong social support is related to a decrease in mortality, and a decrease in depression in pregnancy (Aisyah, 2023).

Domestic violence committed by intimate partners is any form of violence committed by a husband against his wife that results in physical, psychological, sexual, and economic losses in the domestic family, including threats and deprivation of liberty (Ismiati, 2023). Based on the annual records of Komnas Perempuan in 2023, the type of violence against women that was recorded to occur the most in the personal realm, namely violence by intimate partners against wives as many as 3205 cases, occurred during 2022.

Data from the Good Mention Institute in the 2022 stability report, between 2015 and 2019 there were 40% of unwanted pregnancies in Indonesia (BKKBN, 2022). Unwanted or unplanned pregnancies can have a negative impact on the condition of mothers and children because there can be neglect of maternal and child health during pregnancy, childbirth and postpartum; the potential for unsafe abortions, giving birth to unhealthy children, and neglect of children's rights (Ministry of Health of the Republic of Indonesia, 2021).

Based on several previous studies on the factors that affect the occurrence of antenatal depression, it is known that not feeling social support, experiencing violence by intimate partners, and unplanned, unwanted and unintended pregnancy status are factors that cause the occurrence of antenatal depression, but nevertheless there is a difference in the adjusted Odds Ratio (aOR) value between one study and another.

Some of these studies were also conducted in different countries and in different years. Because of these differences, researchers are interested in conducting a study using systematic reviews and meta-analyses from various previous primary studies regarding the influence of social support, violence committed by intimate partners, and pregnancy planning on the incidence of antenatal depression.

SUBJECTS AND METHOD

1. Study Design

This study uses systematic review and meta-analysis methods using primary data, namely data from previous study results. Article search using 6 databases, namely: Google Scholar, Hindawi, PubMed, Science Direct, Scopus, and ResearchGate. The keywords used are as follows ("Antenatal" OR "Pregnant Woman" OR "During Pregnancy") AND "Depression" OR "Depressive" AND "aOR". There were 17 primary studies that met the inclusion criteria for this study.

2. Meta-Analysis Steps

1) Formulate study questions in PICO (Population, Intervention, Comparison, Outcome). The study population is pregnant women. Study interventions were strong social support, experiencing violence by intimate partners, planned pregnancy status. The comparison studies were weak social support, no violence by intimate partners, unplanned pregnancy

status. The outcome of the study was postpartum depression.

- 2) Search for primary study articles.
- 3) Conducting screening and assessing the quality of primary study articles.
- 4) Extracting and analyzing data into the RevMan 5.3 application.
- 5) Interpret the results and draw conclusions.

3. Inclusion Criteria

Full-text article using a cross-sectional study design, Mention of risk factors for antenatal depression: social support, intimate partner violence and planned pregnancy status 3). The results of the analysis used were multivariate analysis with adjusted Odds Ratio (aOR) to measure the estimated effect of the study.

4. Exclusion Criteria

Articles published in languages other than English, articles published before 2016, anonymous studies.

5. Variable Operational Definition

Antenatal depression, also known as prenatal or perinatal depression, is a form of clinical depression that can affect a woman during pregnancy.

Social support is a support system for pregnant women to help and motivate pregnant women to improve the quality of their health and psychological condition.

Intimate partner violence, is a serious problem that can have negative effects on the mother and fetus.

Pregnancy plan, pregnancy plan refers to the condition or situation of a woman planning her pregnancy.

6. Study Instruments

The quality assessment of cross-sectional studies, consisting of 17 articles, is guided by the Primary Study Quality Assessment for Cross-sectional Observational Study Design in Meta-analysis Studies (Murthi, 2023).

7. Data Analysis

The articles in this study were collected using PRISMA diagrams and analyzed using the Review Manager 5.3 application (RevMan 5.3) by calculating the effect size and heterogeneity (I^2) to determine the combined study model and form the final result of the meta-analysis. The results of data analysis are presented in the form of forest plots and funnel plots.

RESULTS

The search for articles was carried out by considering the eligibility criteria defined using the PICO (Population, Intervention, Comparison, Outcome) model. The article filtering process is carried out based on the PRISMA flow guide, which can be seen in Figure 1. The total number of articles in the initial search process was 1,514 articles from the database. After conducting several screening processes, a total of 17 articles that met the quantitative requirements for meta-analysis of the influence of social support, intimate partner violence, and pregnancy status on antenatal depression were obtained.

Figure 2 shows the distribution area of 17 primary articles from several countries used in this study, namely there are 1 study article from the Americas, 1 study article from the Australian continent, 1 study article from the European continent, 3 study articles from the Asian continent, and 11 study articles from the African continent.

Table 1 shows the Quality Assessment of cross-sectional studies consisting of 17 articles, guided by the Primary Study Quality Assessment for Cross-sectional Observational Study Design in Meta-analysis Studies (Murthi, 2023). Based on the assessment of the quality of the study, the total score of the answers was 14, which shows that each study has good quality so that it is worthy of inclusion in the meta-analysis

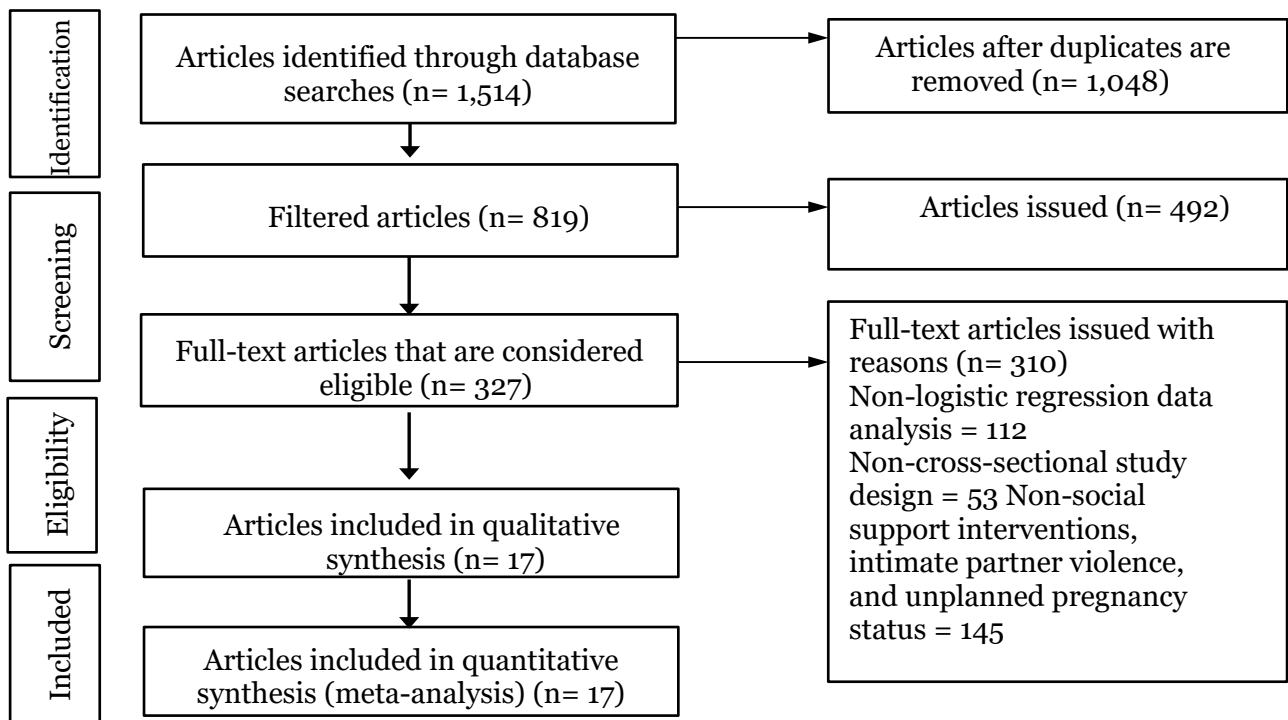


Figure 1. Results of PRISMA flow diagrams

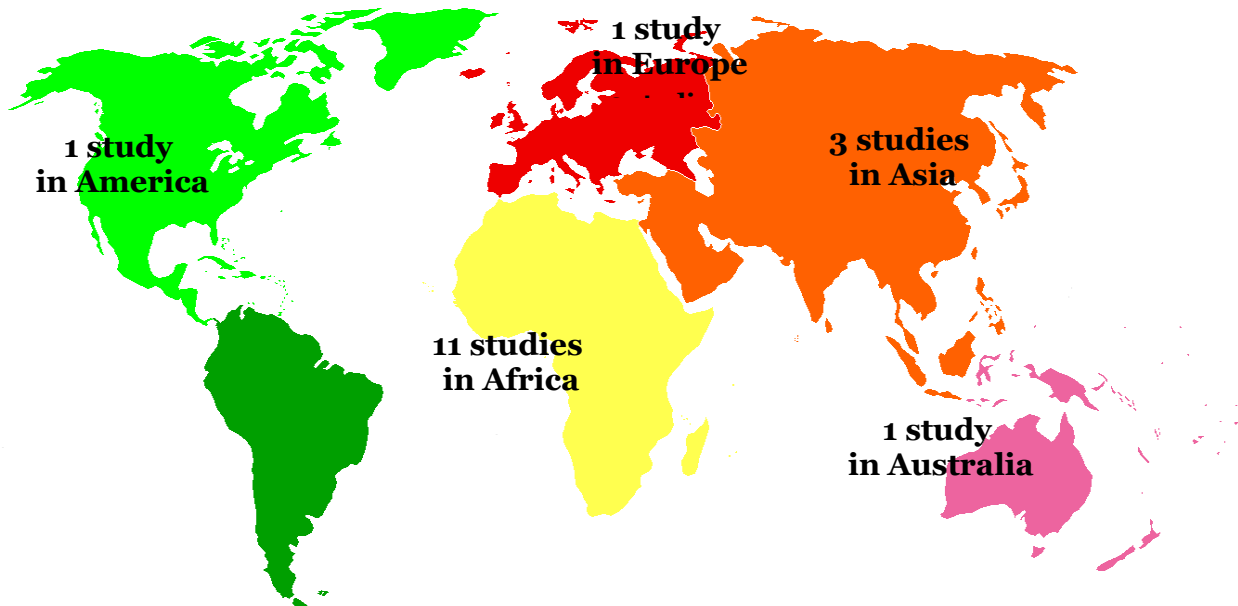


Figure 2. Map of the study area of the effects of social support, intimate partner violence and pregnancy status on antenatal depression

Table 1. Critical appraisal checklist for cross-sectional studies in meta-analysis

Author (Year)	Assessment Criteria														Total	
	1a	1b	1c	1d	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b		7
Phoosuwan et al. (2018)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Bernard et al. (2018)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Belay et al. (2018)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Duko et al. (2019)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Belete et al. (2019)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Tiki et al. (2020)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Lodebo et al. (2020)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Beketie et al. (2021)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Keliyo et al. (2021)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Bedaso et al. (2021)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Bantie et al. (2022)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Umuziga et al. (2022)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Melby et al. (2022)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Chalise et al. (2022)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Kukoyi et al. (2023)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Takelle et al. (2023)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30
Insan et al. (2023)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	30

Description of question criteria:

1. Formulation of study questions in the acronym PICO

a. Is the population in the primary study the same as the population in the PICO meta-analysis?

b. Is the operational definition of exposure / intervention in the primary study the same as the definition intended in the meta-analysis?

c. Is the comparison used in the primary study the same as planned in the meta-analysis?

d. Are the outcome variables studied in the primary study the same as those planned in the meta-analysis?

2. Methods for choosing a subject of study

a. Descriptive cross-sectional studies (prevalence): Are the samples randomly selected?

b. Cross-sectional analytical studies: Are the samples randomly selected or purposive?

3. Methods for measuring interventions and outcome variables

a. Are exposures/ interventions and outcome variables measured with the same instruments (measuring tools) in all primary studies?

b. If the variables are measured on a categorical scale, are the cut-offs or categories used the same between primary studies?

4. Design-related bias

a. What is the Response Rate?

b. Is non-response related to outcome?

5. Methods to control confounding

a. Is there any confusion in the results/ conclusions of the primary study?

b. Have primary study researchers used the right methods to control the influence of confusion?

6. Statistical analysis methods

a. In cross-sectional studies, is multivariate analysis performed? Multivariate analysis includes multiple linear regression analysis, multiple logistic regression analysis, Cox regression analysis.

b. Do primary studies report effect measures or relationships of multivariate analysis outcomes? (Example, adjusted

OR, adjusted regression coefficient).

7. Conflict of interest

Is there a conflict of interest with the study sponsor? If there is a conflict of interest, give it a value of "0".

If there is no conflict of interest, give it a grade of "2". When in doubt, give it a "1".

Assessment Instructions:

1. The total answer score for each question is "2".
2. If in one question all answer items are "Yes", then give a score of "2" to the question.
3. If there is one item in one question whose answer is "No", then give a score of "1" to the question.

4. If in one question all the answer items are "No", then give a score of "0" to the question.
5. If the total score = 14 then the primary study can be used in the meta-analysis.
6. If the total score is <14 then the primary study cannot be used in the meta-analysis.

Effect of social support support on antenatal depression

There were 13 cross-sectional articles used as a source of meta-analysis studies on the effect of social support support on antenatal depression. With a total sample of 8,254 samples

Table 2. Description of primary studies of social support included in meta-analyses with sample size (n=8,254)

Author (Year)	Country	Sample	Population	Intervention	Comparison	Outcome
Phosuwan et al. (2018)	Thailand	449	Pregnant women with gestational age 27-28 mg	Strong social support	Low social support	Antenatal Depression
Bernard et al. (2018)	Jamaica	3,517	Pregnant mother	Strong social support	Social support is absent	Antenatal Depression
Belay et al. (2018)	Ethiopia	357	Pregnant mother	Strong social support	Low social support	Antenatal Depression
Duko et al. (2019)	Ethiopia	317	Pregnant women aged 15 – 45 years	High social support	Lack of social support	Antenatal Depression
Lodebo et al. (2020)	Ethiopia	541	Pregnant women aged ≥ 15 years	Strong social support	Lack of social support	Antenatal Depression
Beketie et al. (2021)	Ethiopia	323	Pregnant women aged 15 – 40 years	Strong social support	Low social support	Antenatal Depression
Keliyo et al. (2021)	Ethiopia	403	Pregnant women aged 15 – 44 years	Strong social support	Low social support	Antenatal Depression
Bedaso et al. (2021)	Australia	493	Pregnant women aged 34 – 39 years	Strong social support	Low social support	Antenatal Depression
Bantie et al. (2022)	Ethiopia	393	Pregnant women aged 15 – 49 years	Strong social support	Low social support	Antenatal Depression
Umuziga et al. (2022)	Rwanda	396	Pregnant women aged 16 – 45 years	High social support	Social support is absent	Antenatal Depression
Chalise et al. (2022)	Nepal	250	Pregnant women aged 18 – 40 years	Strong social support	Low social support	Antenatal Depression

Author (Year)	Country	Sample	Population	Intervention	Comparison	Outcome
Kukoyi et al. (2023)	Nigeria	320	Pregnant women aged 19 – 49 years	Strong social support	Low social support	Antenatal Depression
Takelle et al. (2023)	Ethiopia	495	Pregnant women aged 18 – 41 years	Strong social support	Low social support	Antenatal Depression

Table 3. Data adjusted Odds Ratio (aOR) and Confidence Interval 95% (CI 95%) on the effect of social support on antenatal depression

Aauthor	Year	aOR	Lower Limit	Upper Limit
Phoosuwan	2018	0.92	0.21	4.16
Bernard	2018	0.54	0.33	0.89
Belay	2018	1.45	0.33	6.35
Duko	2019	0.46	0.32	0.67
Lodebo	2020	0.18	0.06	0.47
Beketie	2021	0.51	0.14	1.78
Keliyo	2021	0.29	0.13	0.66
Bedaso	2021	0.30	0.09	1.00
Bantie	2022	0.92	0.21	4.03
Umuziga	2022	0.22	0.14	0.62
Chalise	2022	0.52	0.16	1.64
Kukoyi	2023	1.09	0.47	2.52
Takelle	2023	0.41	0.19	0.90

The forest plot in figure 3 shows that social support is effective in reducing the incidence of antenatal depression. Pregnant women who felt social support experienced an incidence of antenatal depression 0.47 times compared to pregnant women who did not feel social support, and the result was statistically significant (aOR = 0.47; CI 95%= 0.38 to 0.58; p<0.001). Effect

estimates between studies showed low heterogeneity ($I^2 = 19\%$; $p = 0.26$), with the mean effect estimation calculated using the Fixed Effect Model (FEM) approach.

The funnel plot in figure 4 shows that the distribution of the estimated effect is balanced between the right and left of the vertical line, indicating that there is no publication bias.

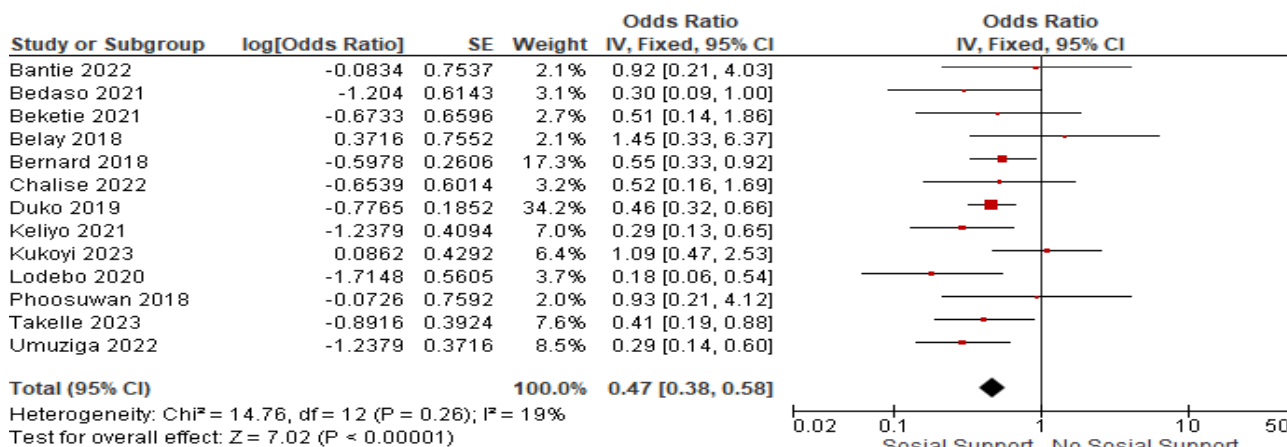


Figure 3. Forest plot effect of social support on antenatal depression

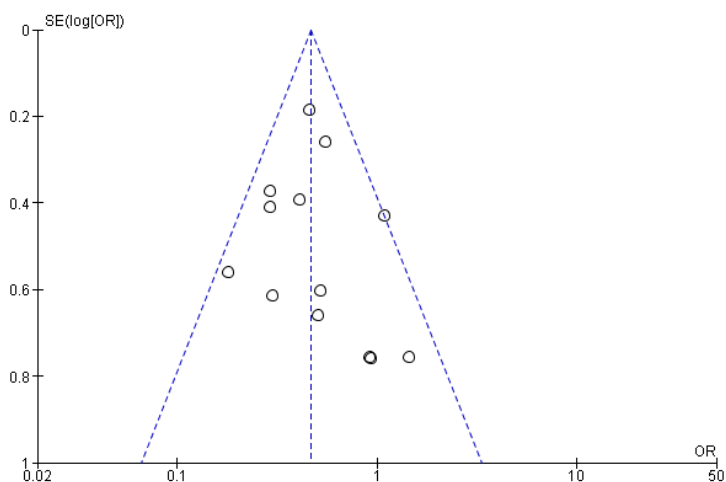


Figure 4. Funnel plot on the effect of social support on antenatal depression

Effect of intimate partner violence on antenatal depression

Table 4 shows 7 observational articles of cross-sectional studies as a source of meta-

analysis of the effect of intimate partner violence on antenatal depression with a total sample of 3,998 study subjects.

Table 4. Description of primary studies of intimate partner violence included in a meta-analysis with sample size (n= 3,998)

Author (Year)	Country	Sample	Population	Intervention	Comparison	Outcome
Belete et al. (2019)	Ethiopia	342	Pregnant women aged ≥ 15 years	There is intimate partner violence	No intimate partner violence	Antsenatal Depression
Lodebo et al. (2020)	Ethiopia	541	Pregnant women aged ≥ 15 years	There is current violence from an intimate partner	No current violence from an intimate partner	Antenatal Depression
Beketie et al. (2021)	Ethiopia	323	Pregnant women aged 15 – 40 years	Intimate partner violence occurs	No intimate partner violence occurred	Antenatal Depression
Melby et al. (2022)	Norway	1812	Pregnant women aged ≥ 18 years	There is intimate partner violence	No intimate partner violence	Antenatal Depression
Chalise et al. (2022)	Nepal	250	Pregnant women aged 18 – 40 years	Intimate partner violence occurs	No intimate partner violence occurred	Antenatal Depression
Takelle et al. (2023)	Ethiopia	495	Pregnant women aged 18 – 41 years	Intimate partner violence occurs	No intimate partner violence occurred	Antenatal Depression
Insan et al. (2023)	Bangladesh	235	Pregnant women aged 18 – 38 years	There is intimate partner violence during pregnancy	No intimate partner violence during pregnancy	Antenatal Depression

Table 5 presents the data of adjusted Odd Ratio (aOR) and 95% Confidence Interval (95%CI) on the effect of intimate partner violence on antenatal depression

Author	Year	aOR	Lower Limit	Upper limit
Belete	2019	4.5	1.28	15.52
Lodebo	2020	3.223	1.359	7.643
Beketie	2021	1.11	0.49	2.51
Melby	2022	1.96	1.35	2.83
Chalise	2022	2.276	1.116	4.640
Takele	2023	2.67	1.416	5.016
Insan	2023	1.4	0.3	7.1

The forest plot in figure 5 shows that pregnant women who experience intimate partner violence during pregnancy increase the incidence of antenatal depression. Pregnant women who experienced intimate partner violence experienced an incidence of antenatal depression 2.13 times compared to pregnant women who did not experience

intimate partner violence, and the results were statistically significant (aOR= 2.13; CI 95%= 1.65 to 2.74; p<0.001). Effect estimates between studies showed low heterogeneity ($I^2 = 0\%$; $p = 0.46$), with mean effect estimates calculated using the Fixed Effect Model (FEM) approach.

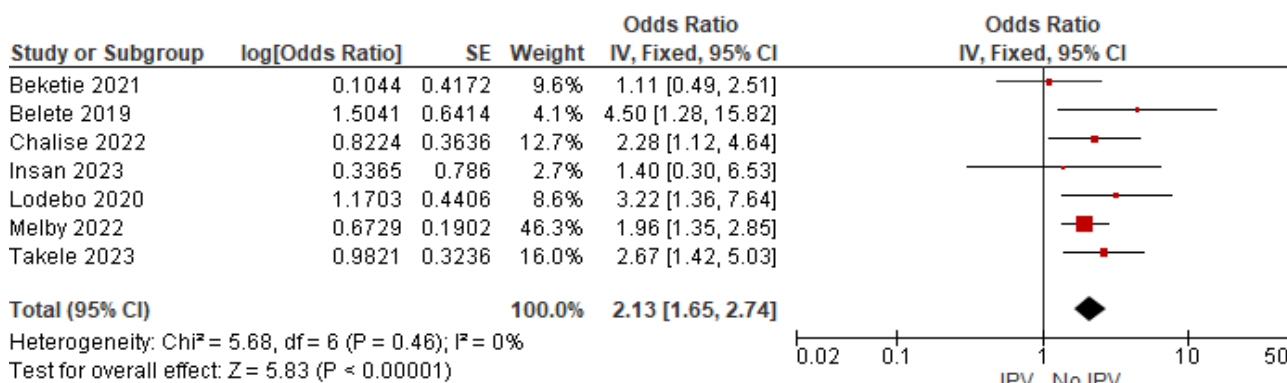


Figure 5. Forest plot of the influence of husband violence to antenatal depression

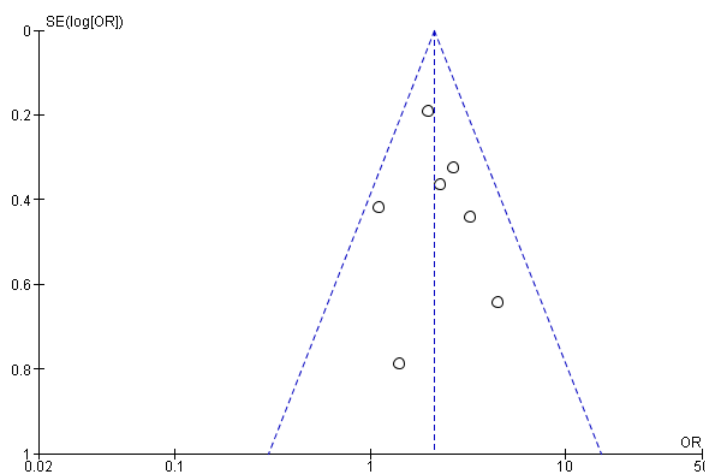


Figure 6. Funnel plot of the effect of husband violence to antenatal depression

The funnel plot in Figure 6 shows that the distribution of the estimated effect is balanced between the right and left of the vertical line, indicating that there is no publication bias

The effect of domestic violence on the risk of postpartum depression

Table 6 presents 10 cross-sectional articles used as study sources. Meta-analysis of the effect of pregnancy status on antenatal depression with a total sample of 4,288 study subjects.

Table 6. Description of primary studies of pregnancy status included in meta-analyses with sample size (n=4,288)

Author (Year)	Country	Sample	Population	Intervention	Comparison	Outcome
Belay et al. (2018)	Ethiopia	357	Pregnant mother	Pregnancy is planned	Unplanned pregnancy	Antenatal Depression
Duko et al. (2019)	Ethiopia	317	Pregnant women aged 15 – 45 years	Pregnancy is planned	Unplanned pregnancy	Antenatal Depression
Belete et al. (2019)	Ethiopia	342	Pregnant women aged ≥ 15 years	Pregnancy is planned	Unplanned pregnancy	Antenatal Depression
Tiki et al. (2020)	Ethiopia	874	Pregnant women TM 2 & 3	Pregnancy is planned	Unplanned pregnancy	Antenatal Depression
Lodebo et al. (2020)	Ethiopia	541	Pregnant women aged ≥ 15 years	This pregnancy was planned	This pregnancy was not planned	Antenatal Depression
Beketie et al. (2021)	Ethiopia	323	Pregnant women aged 15–40 years	Pregnancy is planned	Unplanned pregnancy	Antenatal Depression
Bantie et al. (2022)	Ethiopia	393	Pregnant women aged 15–49 years	Pregnancy is planned	Unplanned pregnancy	Antenatal Depression
Umuziga et al. (2022)	Rwanda	396	Pregnant women aged 16–45 years	Pregnancy desired	Unwanted pregnancy	Antenatal Depression
Chalise et al. (2022)	Nepal	250	Pregnant women aged 18–40 years	Intentional pregnancy	Pregnancy was not intended	Antenatal Depression
Takelle et al. (2023)	Ethiopia	495	Pregnant women aged 18–41 years	Pregnancy is desired	Unwanted pregnancy	Antenatal Depression

Table 7 Data on adjusted Odd Ratio (aOR) and 95% Confidence Interval (95%CI) on the effect of pregnancy status on antenatal depression.

Author	Year	aOR	Lower Limit	Upper Limit
Belay	2018	0.04	0.01	0.11
Duko	2019	7.12	3.12	9.63
Belete	2019	0.16	0.06	0.42
Tiki	2020	0.65	0.45	0.96
Lodebo	2020	0.49	0.25	0.97
Beketie	2021	0.36	0.16	0.82
Bantie	2022	0.32	0.07	1.36
Umuziga	2022	0.415	0.221	0.778
Chalise	2022	0.39	0.18	0.83
Takelle	2023	0.57	0.28	1.16

Table 7 presents data on the Adjusted Odds Ratio (aOR) and Confidence Interval 95% (CI 95%) on the effect of pregnancy status on antenatal depression. The forest plot in figure 7 shows that pregnant women who plan their pregnancies have a lower incidence of antenatal depression. Pregnant women who planned their pregnancies experienced an incidence of antenatal

depression 0.45 times compared to pregnant women who did not plan their pregnancies, and the results were statistically significant (aOR = 0.45; CI 95%= 0.24 to 0.84; p=0.01). The effect estimates between studies showed high heterogeneity ($I^2=85\%$; $p<0.001$), with the average effect estimation calculated using the Random Effect Model (REM) approach.

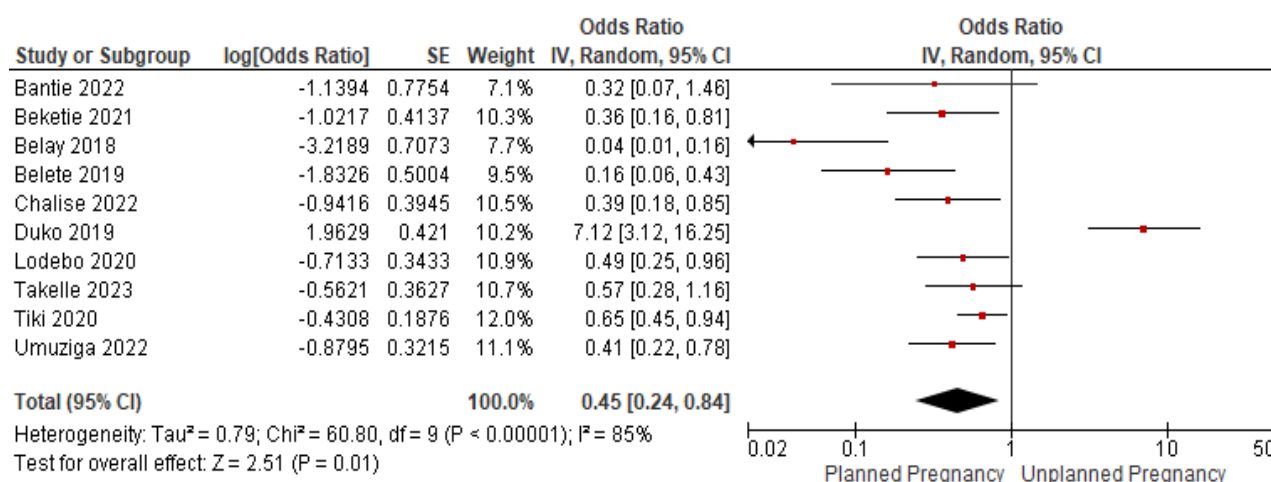


Figure 7. Forest plot effect of pregnancy status on anadaptive depression

The funnel plot in Figure 8 shows that the estimated distribution of effects is more located to the left than to the right of the mean vertical line for a small-sampled primary study, indicating publication bias. Because the distribution is more to the left of the average

vertical line of the estimated effect which is also the same as the location of the diamond shape in the forest plot which is also located on the left, the publication bias tends to overestimate the actual effect (overestimate).

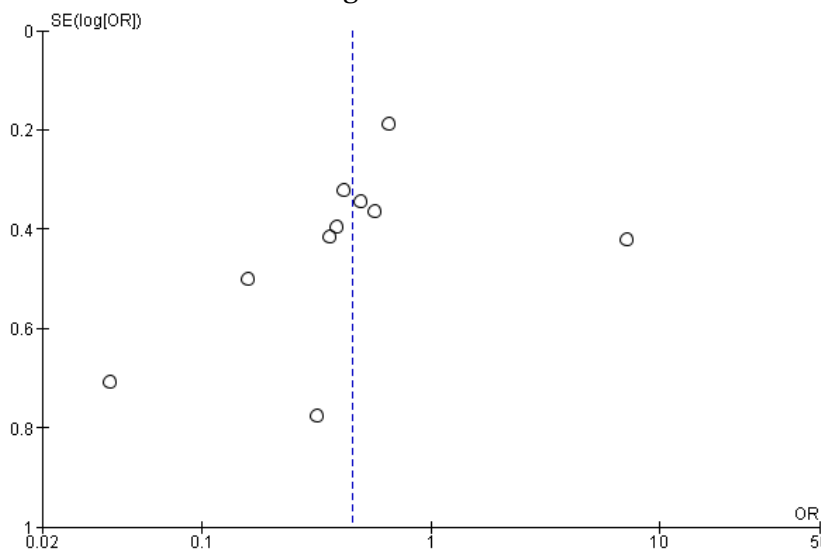


Figure 8. Funnel plot of the effect of pregnancy status on antenatal depression

DISCUSSION

Effect of social support on antenatal depression

Pregnant women who do not feel social support are at greater risk of developing antenatal depression. The results of this study are in accordance with a study conducted by Chalise et al. (2022) pregnant women who do not feel social support, have a higher risk of developing antenatal depression compared to pregnant women who feel social support (aOR= 1.90; CI 95%= 0.60 to 5.96).

Based on the results of the study by Beketie et al. (2021) conducted in the Ethiopian city of Arba showed that pregnant women who did not feel social support were at higher risk of antenatal depression compared to pregnant women who felt social support (aOR= 1.95; CI 95%= 0.56 to 6.80). Based on the results seen in the study conducted by Takelle et al. (2021) conducted in northwestern Ethiopia showed that pregnant women who did not feel social support were 2.41 times more likely to develop antenatal depression compared to pregnant women who felt social support (aOR= 2.41; CI 95%= 1.10 to 5.27).

Social support for pregnant women can provide benefits for pregnant women in the form of physical and psychological comfort. Family social support is a support system for pregnant women to help and motivate pregnant women to improve the quality of their health and psychological condition, so that pregnant women feel loved and cared for during their pregnancy. (Suraily et al., 2022).

Effect of intimate partner violence on antenatal depression

The results of this study were that pregnant women who experienced intimate partner violence during pregnancy increased the incidence of antenatal depression. The

prevalence of intimate partner violence during pregnancy varies across studies, but it is estimated that about 2.1% of pregnant women experience intimate partner violence during pregnancy. Forms of violence that can occur during pregnancy include physical aggression, sexual aggression, and psychological abuse, as well as economic coercion (Kylie, et al., 2023).

The results of this study are also supported by the results of the Melby et al study (2022). Pregnant women who experienced violence by an intimate partner had a 1.96 times higher risk of antenatal depression compared to pregnant women who did not experience violence by an intimate partner (aOR = 1.96; CI 95%= 1.35 to 2.83). Beketie et al. (2021) in his study conducted in the Ethiopian city of Arba showed that pregnant women who experienced violence by intimate partners were at higher risk of antenatal depression compared to pregnant women who did not experience violence by intimate partners (aOR= 1.11; CI 95%= 0.49 to 2.51).

It is important to recognize the signs of violence during pregnancy and seek help from a healthcare provider or community resource. Emotional and material support can also be provided to pregnant women who experience violence (Eikimo et al., 2023).

Effect of pregnancy status on antenatal depression

The results of this study are in accordance with the study conducted by Chalise et al. (2022), pregnant women who planned their pregnancy had a lower risk of antenatal depression compared to pregnant women who did not plan their pregnancy (aOR= 0.39; CI 95%= 0.18 to 0.83). The study conducted by Lodebo et al. (2020), showed that pregnant women who planned their pregnancies had a lower risk of antenatal

depression compared to pregnant women who did not plan their pregnancies (aOR= 2,013; CI 95%= 1.02 to 3.95).

Results seen in the study conducted by Takelle et al. (2021), conducted in north-western Ethiopia, showed that pregnant women who planned their pregnancies had a lower risk of antenatal depression compared to pregnant women who did not plan their pregnancies (aOR= 0.57; CI 95%= 0.28 to 1.16).

The status of an unplanned pregnancy can be related to the level of anxiety and depression experienced by the mother, especially in the case of first-time pregnant women (primigravida) (Sari et al., 2023).

AUTHOR CONTRIBUTIONS

Dominika Risnanda Alfinsia Putri is the main researcher who selects topics, searches and collects study data. Eti Poncorini Pamungkasari and Rita Benya Adriani analyzed the data and reviewed the study documents.

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CONFLICTS OF INTEREST

There is no conflict of interest in this study.

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