Effects of Husband Support, Family Income, Employed Mothers, and Antenatal Care Visit on Exclusive Breastfeeding

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ABSTRACT

Background: Breastfeeding is advantageous to the infants health. Employed mothers experienced various challenges in providing exclusive breastfeeding. Studies suggest that husband support contribute to lactating mothers efficacy, improves breastfed duration, and reduces risk factors for bottle feeding. This study aimed to estimate the influence of husband's support, income, working mother, and ANC visits on exclusive breastfeeding.

Subjects and Method: A systematic review and meta-analysis was conducted using PRISMA and PICO model. Population= lactating mothers. Intervention= low husband's support, high income, employed mother, irregular ANC visit. Comparison= high husband's support, low income, unemployed mother, regular ANC visits. Outcome= exclusive breastfeeding. Articles published from 2013 to 2023 were collected from Google Scholar, PubMed, and Science Direct. Literature search using the keywords "family support or husband support" AND "Income" AND "Employment" AND "Antenatal Care Visit" or "ANC Visit" AND "Exclusive Breastfeeding" AND "Cross Sectional". Selected articles were assessed using RevMan 5.3.

Results: 18 cross sectional studies from Indonesia, Ethiopia, Somalia, Brazil, Thailand, Taiwan, Jordan, and India were selected for meta-analysis. Total sample was 7,234. High husband's support (aOR= 3.41; 95% CI= 2.36 to 4.91; p= 0.010), regular ANC visits (aOR=1.87; 95% CI= 1.11 to 3.17; p= 0.020) significantly increased exclusive breastfeeding. High income (aOR= 1.11; 95% CI= 0.51 to 2.44; p=0.790) and unemployment mothers (aOR= 1.11; 95% CI= 0.46 to 2.68; p=0.820) increased exclusive breastfeeding, but it was statistically non-significant.

Conclusion: High husband support, regular ANC visits, high income, and unemployed mothers increase exclusive breastfeeding.

Keywords: husband support, income, employment, antenatal care, exclusive breastfeeding.

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BACKGROUND

Breast milk is the first natural food for newborn babies which has important bene-fits for the baby's growth and health because

apart from containing high nutritional value, breast milk also contains substances that form the body's immunity against disease. Apart from that, exclusive breastfeeding also has benefits for mothers such as reducing the risk of breast and ovarian cancer, reducing postpartum weight, and can lower blood pressure in mothers (Gonz and Garc, 2009).

The World Health Organization (WHO) (2009) recommends exclusive breastfeeding for the first six months and continued for up to 2 years or more. Despite the benefits and recommendations of exclusive breastfeeding, the global prevalence of exclusive breastfeeding is still less than optimal where almost all mothers breastfeed, only a small percentage of mothers breastfeed exclusively during the first six months after giving birth.

Even though the advantages of breast milk are clear, the correct practice of breastfeeding is still an issue. Being aware of and having a better understanding of the benefits of breastfeeding does not mean breastfeeding is practiced as recommended. In fact, breastfeeding rates in the world are still very bad. Based on a UNICEF report on exclusive breastfeeding in 139 countries, it was found that only 20% of the countries studied practiced exclusive breastfeeding for more than 50% of their babies. The remainder, 80% of these countries provide much lower than 50% (Akar et al., 2014).

Based on the description of the problem above, it is necessary to conduct research on the factors that influence exclusive breastfeeding with the aim of knowing the factors so that it can increase the rate of exclusive breastfeeding.

SUBJECTS AND METHOD

1. Study Design
This was a systematic review and meta-analysis was carried out using PRISMA and the PICO model. Population= breastfeeding mothers. Intervention= Low husband's support, high income, working mother, low ANC visits. Comparison= High husband's support, low income, mother does not work, high ANC visits. Result= Exclusive breastfeeding. Articles are collected from databases such as Google Scholar, Pub-Med and Science Direct. Literature search using the keywords "family support or husband support" AND "Income" AND "Employment" AND "Antenatal Care Visit" or "ANC Visit" AND "Exclusive Breastfeeding" AND "Cross Sectional". A total of 18 articles met the inclusion criteria for meta-analysis, and were further assessed using RevMan 5.3.

2. Steps of Meta-Analysis
Meta-analysis was carried out through the following 5 steps:
1) Formulate research questions using the PICO model
2) Search for primary review articles from electronic databases such as Google Scholar, PubMed, and Science Direct.
3) Conduct screening and critical assessment of primary studies.
4) Extracted data and entered impact estimates from each primary study into RevMan 5.3. The results of the article analysis are presented in the form of aOR, with 95% confidence intervals (CI) using model effects and data heterogeneity (I^2).
5) Interpret the results and draw conclusions.

3. Inclusion Criteria
The research inclusion criteria were full text of primary research articles from 2013 to 2023 with a cross-sectional research design, the analysis was using multivariate Odds Ratio (OR), research subjects were breastfeeding mothers, and the outcome was exclusive breastfeeding.

4. Exclusion Criteria
Research articles published before 2013 and after 2023, research results that don't com-

ply with the PICO criteria or formula in research, and articles that don't include an OR.

5. Definition of Operational Variable

Husband Support is encouragement and motivation for the wife both morally and materially. It is hoped that the presence of a husband for a mother who is experiencing difficulties can provide moral or physical assistance thereby reducing the burden felt.

Employment is a type of action or activity to obtain rewards or wages. With this characteristic meaning, work can also be called a livelihood or the basis of living.

Income is the amount of input obtained for the services provided by the company.

Antenatal Care Visit (ANC) is contact between pregnant women and caregivers in terms of assessing the health and welfare of the baby as well as opportunities to obtain information and provide information to mothers and health workers.

6. Data Analysis

Data analysis using RevMan 5.3. forest plots and funnel plots are used to determine the size of the relationship and heterogeneity of the data. The fixed effects model is used for homogeneous data, while the random effects model is used for heterogeneous data between studies.

RESULTS

The process of searching for articles in this meta-analysis was carried out by searching through journal databases, namely PubMed, Science Direct, and Google Scholar with a time span between 2013-2023. Keywords "family support or husband support" AND "Income" AND "Employment" AND "Ante-natal Care Visit" or "ANC Visit" AND "Exclusive Breastfeeding" AND "Cross Sectional". Article searches are in accordance with the PRISMA flow diagram which can be seen as follows.
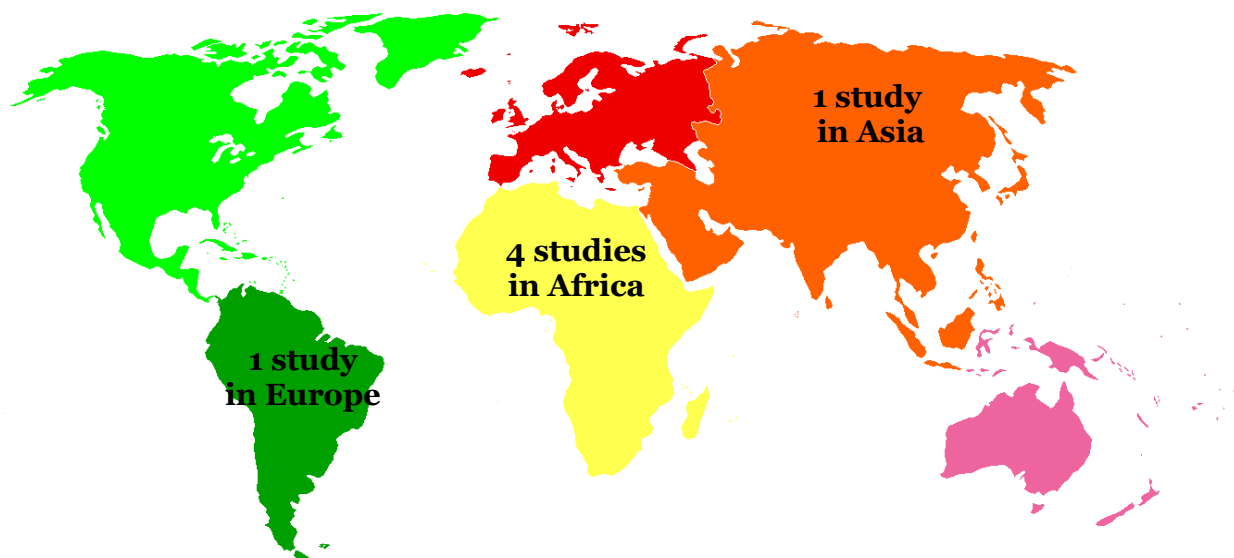

Figure 1. Research distribution map of effects of husband support, family income, working mothers, and antenatal care visit on exclusive breastfeeding

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┌─────────────────────────────────┐
│ Articles identified through     │
│ database search (n= 1,380)      │
└─────────────────────────────────┘
              │
              ▼
┌─────────────────────────────────┐
│ Duplicated articles removed     │
│ (n= 656)                        │
└─────────────────────────────────┘
              │
              ▼
┌─────────────────────────────────┐        ┌────────────────────────────────────┐
│ Filtered articles (n= 724)      │ ─────► │ Articles excluded (n= 626)           │
└─────────────────────────────────┘        │ Irrelevant title = 492               │
              │                             │ Non-full text articles = 31          │
              ▼                             │ Non-observational studies = 103      │
┌─────────────────────────────────┐        └────────────────────────────────────┘
│ Full-text decent article        │ ─────► ┌────────────────────────────────────┐
│ (n= 98)                         │        │ Full text articles not included      │
└─────────────────────────────────┘        │ (n= 74)                              │
              │                             │ Social support risk factors = 44     │
              ▼                             │ Non-aOR reports= 36                  │
┌─────────────────────────────────┐        └────────────────────────────────────┘
│ Articles included in the        │
│ qualitative synthesis (n= 18)   │
└─────────────────────────────────┘
              │
              ▼
┌─────────────────────────────────┐
│ Articles included in            │
│ meta-analysis (n= 18)           │
└─────────────────────────────────┘
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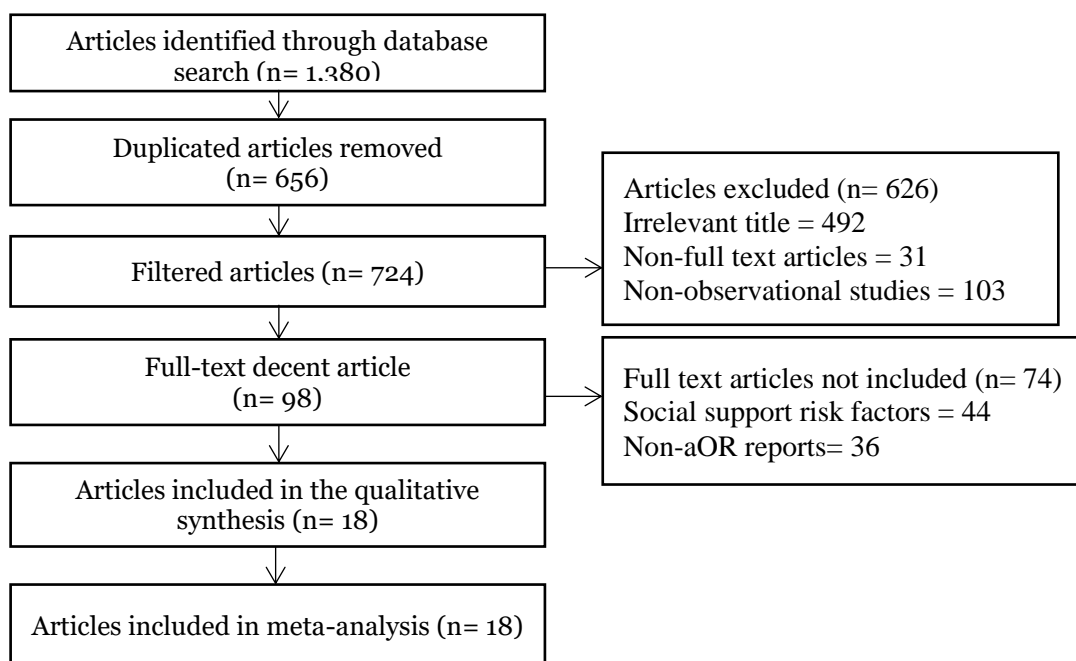
Figure 2. Results of PRISMA flow diagrams of effects of husband support, family income, working mothers, and antenatal care visit on exclusive breastfeeding

Figure 1 shows the results of the prism flow diagram, the main articles obtained were 1,380 articles, after deleting duplicate articles there were 724 articles, after that the articles were selected with the consideration of inclusion criteria, and 18 articles were included in the meta-analysis.

Figure 2 shows an overview of the study areas used in this meta-analysis which are spread across 3 continents, i.e Asia, Africa, and America. There were 18 cross-sectional studies seelected for meta-analysis.

Table 1. The quality assessment result of articles with a cross-sectional study

Primary Study	Criteria													Total
	1a	1b	1c	1d	2a	2b	3a	3b	4	5	6a	6b	7	
Jama et al. (2020)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Pratiwi et al. (2019)	2	2	2	2	2	2	2	2	2	1	2	2	1	24
Febriyanti (2018)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Umniyati et al. (2020)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Werdani et al. (2021)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Novita et al. (2017)	2	2	2	2	2	2	2	2	2	1	2	2	1	24
Ayalew (2020)	2	2	2	2	2	2	2	2	2	1	2	2	2	25
Permatasari et al. (2020)	2	2	2	2	2	2	2	2	2	2	2	2	1	25
Souza-oliveira et al. (2021)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Nina et al. (2019)	2	2	2	2	2	2	2	2	2	2	2	2	1	25
Nuampa et al. (2022)	2	2	2	2	2	2	2	2	2	1	2	2	2	25
Shifraw et al. (2015)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Tewabe et al. (2017)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Chang et al. (2019)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Yimer et al. (2021)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Veeranki et al. (2017)	2	2	2	2	2	2	2	2	2	2	2	2	1	25
Ayele (2020)	2	2	2	2	2	2	2	2	2	2	2	2	2	26
Khasawneh et al. (2020)	2	2	2	2	2	2	2	2	2	2	2	2	2	26

Description of the question criteria:

1. Formulation of research questions in the 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 intervention, namely the exposed status in the primary study, the same as the definition intended in the meta-analysis?
c. Is the comparison, namely the unexposed status used by the primary study, the same as the definition intended in the meta-analysis?
d. Is the outcome variable examined in the primary study the same as the definition intended in the meta-analysis?
2. Methods for selecting research subjects:
a. In analytical cross-sectional studies, do researchers choose samples from the population randomly (random sampling)?
b. Do researchers choose samples based on outcome status or based on intervention status?
3. Methods for measuring exposure (intervention) and outcome variables:
a. Are the exposure and outcome variables measured with the same instruments (measuring tools) in all primary studies?
b. If the variable is measured on a categorical scale, are the cutoffs or categories used the same across primary studies?
4. Design-related bias:
If the sample was not selected randomly, has the researcher made efforts to prevent bias in selecting research subjects?
5. Methods to control confusion:
Have primary study investigators made efforts to control the influence of confounding (e.g., conducting a multivariate analysis to control for the influence of a number of confounding factors)?

6. Statistical analysis methods:
a. Did the researcher analyze the data in this primary study with a multivariate analysis model (e.g., multiple linear regression analysis, multiple logistic regression analysis)?
a. Does the primary study report effect sizes or relationships resulting from multivariate analysis (e.g., adjusted OR, adjusted regression coefficient).
7. Is there no possibility of a conflict of interest with the research sponsor, which could cause bias in concluding the research results?

Assessment Instruction:

1. Total number of questions= 13 questions. Answer "Yes" to each question gives a score of "2". The answer "Undecided" gives a score of "1". The answer "No" gives a score of "0".
2. Maximum total score= 13 questions x 2= 26.
3. Minimum total score = 13 questions x 0 =0. So the range of total scores for a primary study is between 0 and 26.
4. If the total score of a primary study is >= 22, then the study can be included in the meta-analysis. If the total score of a primary study was <22, then the study was excluded from the meta-analysis.

Table 2 explains that there are 7 articles with cross-sectional studies on the influence of husband's support on exclusive breastfeeding with a sample size of 1,256. The research was conducted in two countries, namely Indonesia and Ethiopia.

Table 3 explains that there are 7 articles with cross-sectional studies on the influence of husband's support on exclusive breastfeeding with the highest aOR in the study by Febriyanti et al. (2018) and the lowest aOR in the study of Novita et al. (2017).

Table 2. PICO cross-sectional article about the influence of husband's support on exclusive breastfeeding.

Author (years)	Country	Sample	P	I	C	O
Pratiwi et al. (2019)	Indonesia	62	Lactating mothers	High husband's support	Low husband's support	Exclusive Breastfeeding
Febriyanti (2018)	Indonesia	66	Lactating mothers	High husband's support	Low husband's support	Exclusive Breastfeeding
Umniyati et al. (2020)	Indonesia	76	Lactating mothers	High husband's support	Low husband's support	Exclusive Breastfeeding
Werdani et al. (2021)	Indonesia	223	Lactating mothers	High husband's support	Low husband's support	Exclusive Breastfeeding
Novita et al. (2017)	Indonesia	280	Lactating mothers	High husband's support	Low husband's support	Exclusive Breastfeeding
Ayalew (2020)	Ethiopia	423	Lactating mothers	High husband's support	Low husband's support	Exclusive Breastfeeding
Permatasari et al. (2020)	Indonesia	126	Lactating mothers	High husband's support	Low husband's support	Exclusive Breastfeeding

Table 3. aOR and 95% CI data on the effect of husband's support on exclusive breastfeeding

(Author, year)	aOR	95% CI	
		Lower Limit	Upper Limit
Ayalew (2020)	4.15	1.899	9.051
Febriyanti (2018)	7.22	1.509	35.239
Novita et al. (2017)	1.17	0.292	4.672
Permatasari et al. (2020)	5.23	1306	10.234
Pratiwi et al. (2019)	2.12	0.684	6.544
Umniyati et al. (2020)	6.60	1.983	21.966
Werdani et al. (2021)	2.99	1.669	5.383

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Fixed, 95% CI
Ayelew 2020	1.4221	0.3984	21.9%	4.15 [1.90, 9.05]
Febriyanti 2018	1.9767	0.7986	5.5%	7.22 [1.51, 34.53]
Novita et al 2017	0.1553	0.7056	7.0%	1.17 [0.29, 4.66]
Permatasari et al 2020	1.654	0.7077	6.9%	5.23 [1.31, 20.93]
Pratiwi et al 2019	0.7495	0.5762	10.5%	2.12 [0.68, 6.55]
Umniyati et al 2020	1.8871	0.6135	9.2%	6.60 [1.98, 21.97]
Werdani et al 2021	1.0976	0.2987	39.0%	3.00 [1.67, 5.38]
Total (95% CI)			100.0%	3.41 [2.36, 4.91]

Heterogeneity: Chi² = 5.82, df = 6 (P = 0.44); I² = 0%
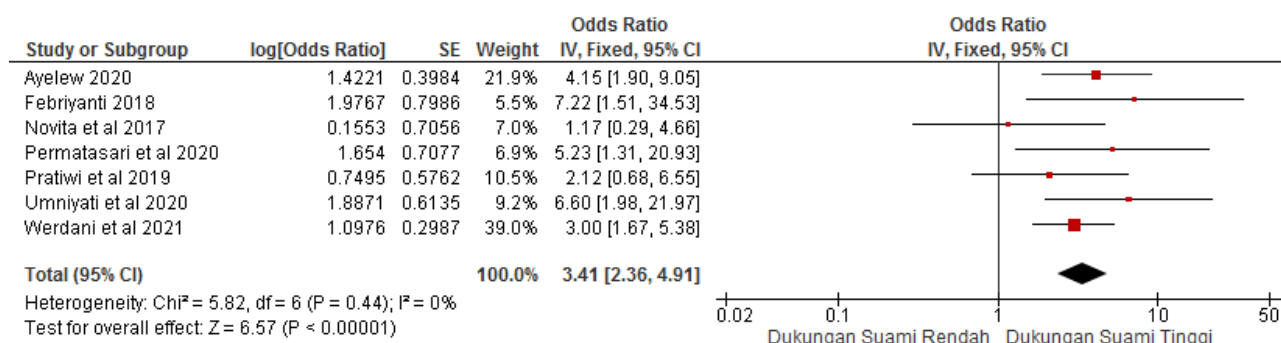Test for overall effect: Z = 6.57 (P < 0.00001)

Figure 3. Forest plot of the influence of husband's support on exclusive breastfeeding

The forest plot in Figure 3 shows that high husband support influenced exclusive breastfeeding. Breastfeeding mothers with high husband support increased exclusive breastfeeding by 3.41 times compared to breastfeeding mothers who receive low husband support, and this result was statistically significant (aOR= 3.41; 95% CI= 2.36 to 4.91; p< 0.001). The forest plot also shows low data heterogeneity in all primary studies (I^2= 0%; p= 0.440), therefore the calculation of the average effect estimate was carried out using a fixed effect model approach.
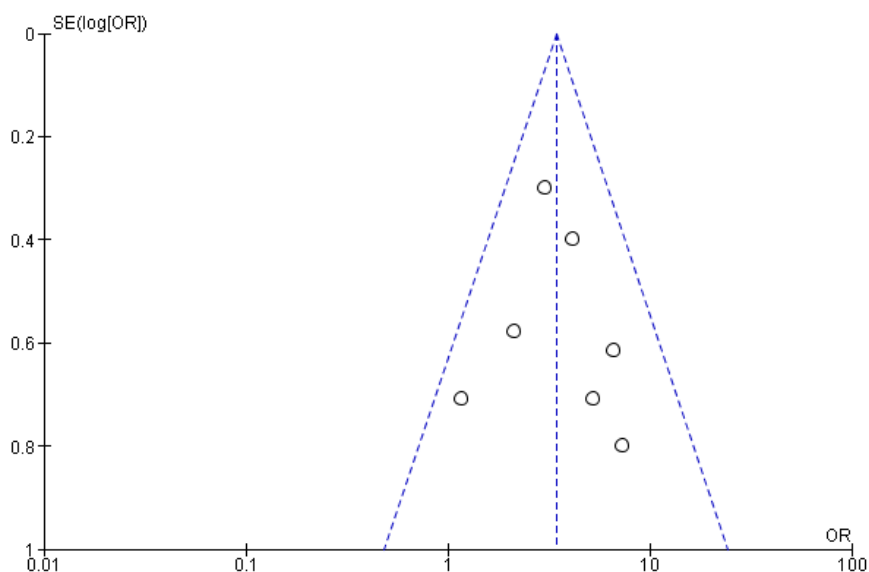
Figure 4. Funnel plot of the influence of husband's support on exclusive breastfeeding

The funnel plot in Figure 4 shows a fairly balanced distribution of estimated effects on the right and left of the vertical line of estimated average effects, where the distribution lies within the triangle. Thus, the funnel plot does not indicate any publication bias.

Table 4 explains that there are 7 articles with cross-sectional studies on the effect of income on exclusive breastfeeding with a sample size of 2,596. The research was conducted in four countries, namely Indonesia, Thailand, Ethiopia and Brazil.

Table 5 explains that there are 7 articles with cross-sectional studies on the effect of income on exclusive breastfeeding with the highest aOR in the study by Jama et al. (2020) and the lowest aOR in the study by Tewabe et al. (2017).

Table 4. PICO cross-sectional article on the effect of income on exclusive breastfeeding.

Author (years)	Country	Sample	P	I	C	O
Jama et al. (2020)	Brazil	404	Lactating mothers	High income	Low Income	Exclusive Breastfeeding
Souzaoliveira et al. (2021)	Indonesia	223	Lactating mothers	High income	Low Income	Exclusive Breastfeeding
Werdani et al. (2021)	Indonesia	110	Lactating mothers	High income	Low Income	Exclusive Breastfeeding
Nina et al. (2019)	Thailand	390	Lactating mothers	High income	Low Income	Exclusive Breastfeeding
Nuampa et al. (2022)	Ethiopia	660	Lactating mothers	High income	Low Income	Exclusive Breastfeeding
Shifraw et al. (2015)	Ethiopia	405	Lactating mothers	High income	Low Income	Exclusive Breastfeeding
Tewabe et al. (2017)	Brazil	404	Lactating mothers	High income	Low Income	Exclusive Breastfeeding

Table 5. Odds Ratio (OR) of the influence of income on exclusive breastfeeding.

(Author, year)	aOR	95% CI	
		Lower Limit	Upper Limit
Jama et al. (2020)	2.85	1.493	5.556
Nina et al. (2019)	2.30	0.417	12.776
Nuampa et al. (2022)	0.39	0.2177	0.734
Shifraw et al. (2015)	0.50	0.2320	1.0989
Souzaoliveira et al. (2021)	2.00	1.25	3.333
Tewabe et al. (2017)	0.27	0.1342	0.5714
Werdani et al. (2021)	3.26	1.819	5.851
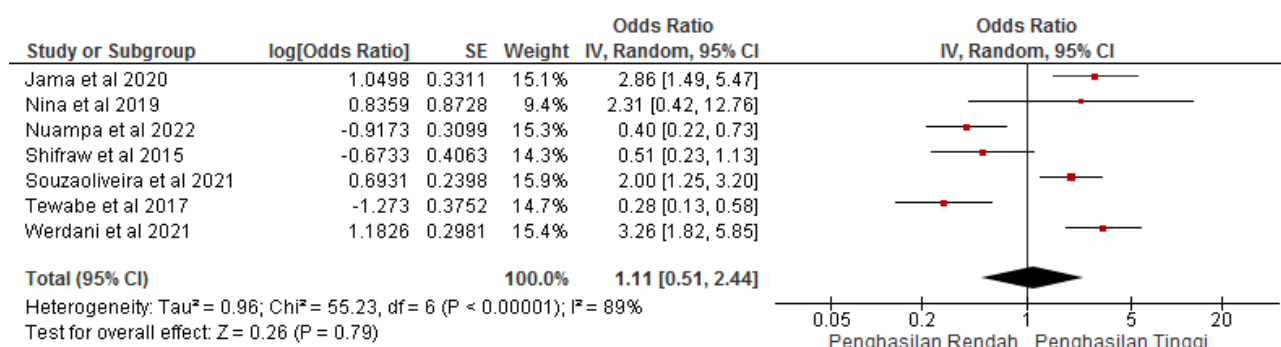
Figure 5. Forest plot of the effect of income on exclusive breastfeeding.

The forest plot in Figure 5 shows that high income influenced exclusive breastfeeding. Breastfeeding mothers with high incomes were 1.11 times more likely to not provide exclusive breastfeeding compared to breastfeeding mothers with low incomes, but this increase was not statistically significant (aOR= 1.11; 95% CI= 0.51 to 2.44; p= 0.790). The forest plot also shows high heterogeneity of impact estimates across primary studies (I^2= 89%; p< 0.001). Thus, the calculation of the estimated average effect was carried out using a random effect model approach.
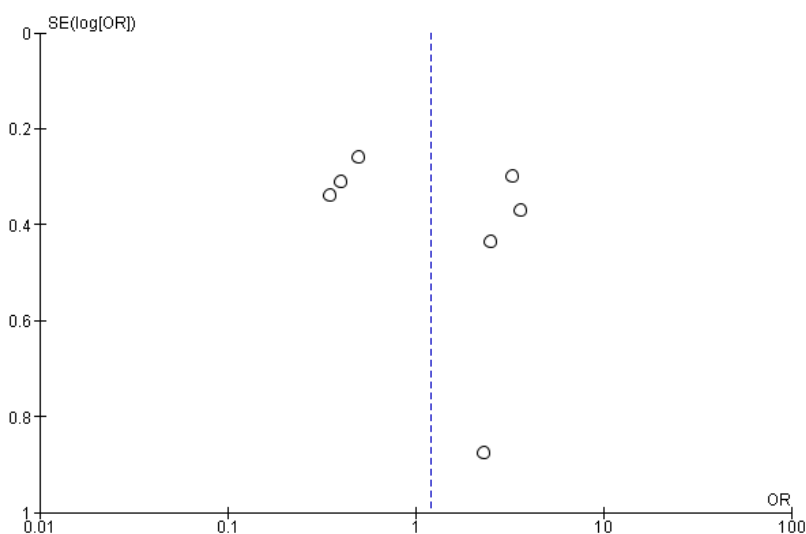
Figure 6. Funnel plot of the effect of income on exclusive breastfeeding

The funnel plot in Figure 6 shows a larger distribution of influence estimates to the right than to the left of the mean vertical line. Thus, the funnel plot identifies publication bias that tends to overestimate the true effect.

Table 6 explains that there are 5 articles with cross-sectional studies on the influence of working mothers on exclusive breastfeeding with a sample size of 3,232.

The research was conducted in 4 countries, namely Taiwan, Ethiopia, Jordan and Thailand.

Table 7 explains that there are 7 articles with cross-sectional studies on the influence of working mothers on exclusive breastfeeding with the highest aOR in Chang et al.'s research. (2019) and the lowest aOR in the study by Nuampa et al. (2022).

Table 6. PICO cross-sectional article about the influence of working mothers on exclusive breastfeeding.

Author (years)	Country	Sample	P	I	C	O
Chang et al. (2019)	Taiwan	1077	Breastfeeding Mothers	Return to work	Unemployment mother	Exclusive Breastfeeding
Yimmer et al. (2021)	Ethiopia	700	Breastfeeding Mothers	employed mothers	Unemployment mother	Exclusive Breastfeeding
Khasawneh et al. (2020)	Jordan	660	Breastfeeding Mothers	Women's employment	Unemployment mother	Exclusive Breastfeeding
Tewabe et al. (2017)	Ethiopia	405	Breastfeeding Mothers	Employed mothers	Unemployment mother	Exclusive Breastfeeding
Nuampa et al. (2022)	Thailand	390	Breastfeeding Mothers	Employment	Unemployment mother	Exclusive Breastfeeding

Table 7. aOR and 95% CI data on the influence of working mothers on exclusive breastfeeding.

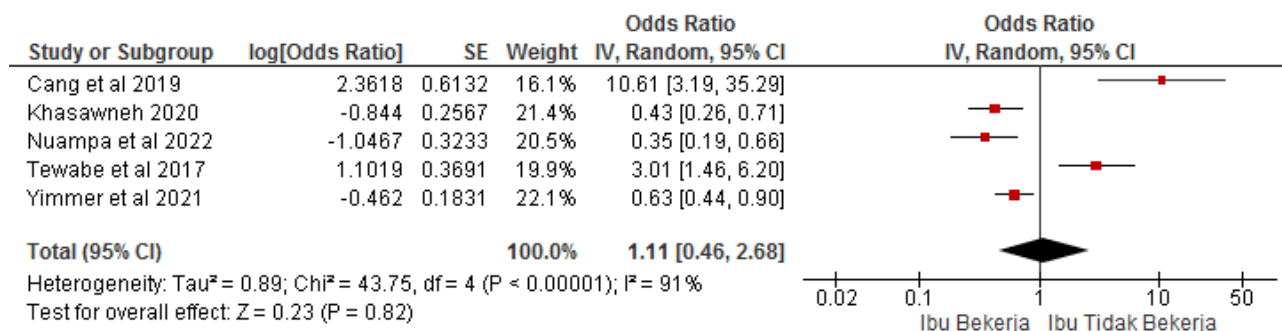| (Author, year)	aOR	95% CI	
		Lower Limit	Upper Limit
Chang et al. (2019)	10.61	3.19	35.33
Khasawneh et al. (2020)	0.43	0.26	0.70
Nuampa et al. (2022)	0.35	0.1863	0.66
Tewabe et al. (2017)	3.01	1.46	6.20
Yimmer et al. (2021)	0.63	0.44	0.87

Figure 7. Forest plots of the influence of working mothers on exclusive breastfeeding

The forest plot in Figure 7 shows that working mothers influenced exclusive breastfeeding. Breastfeeding mothers who do not work were 1.11 times more likely to provide exclusive breastfeeding compared to breastfeeding mothers who work, but this was not statistically significant (aOR= 1.11; 95% CI= 0.46 to 2.68; p= 0.820). The Forest plot also shows high heterogeneity of impact estimates across primary studies (I²= 91%;

p<0.001). Thus, the calculation of the estimated average effect is carried out using a random effect model approach.

The funnel plot in Figure 8 shows a larger distribution of effect estimates to the right than to the left of the mean vertical line. Thus, the funnel plot identifies publication bias in meta-analysis, so publication bias tends to overestimate the effect of working mothers on exclusive breastfeeding.
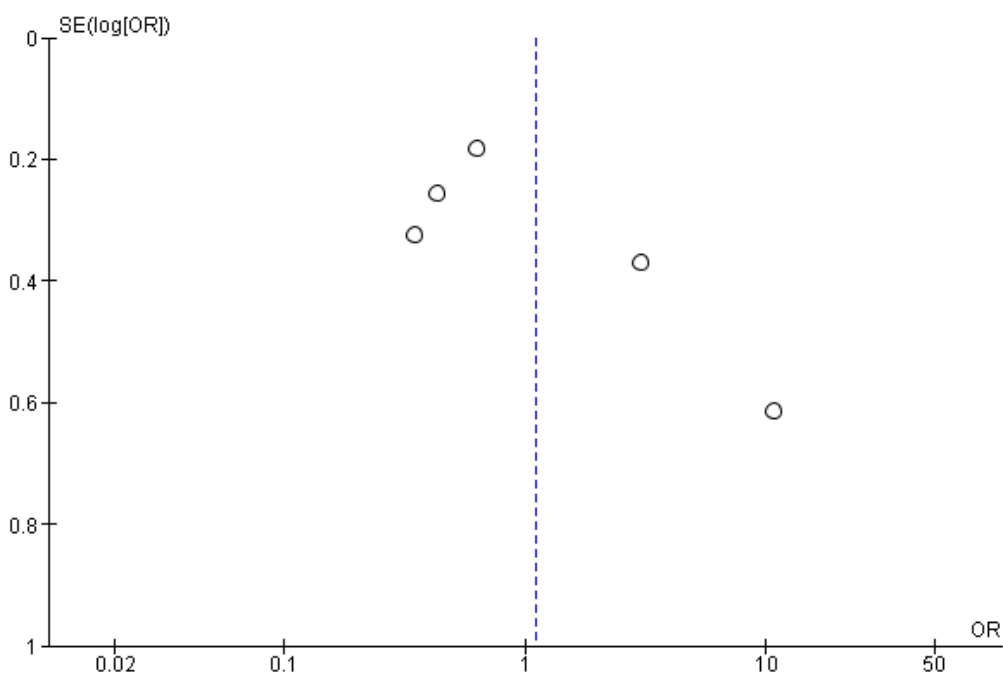
Figure 8. Funnel plots of the influence of working mothers on exclusive breastfeeding

Table 8 shows a description of each primary study included in the meta-analysis regarding the influence of working mothers on exclusive breastfeeding with a sample size of

1,787, there are 5 articles with cross-sectional studies. The research was conducted in 4 countries, namely Brazil, Indonesia, Thailand and Ethiopia.

Table 8. PICO cross-sectional article on the effect of ANC visits on exclusive breastfeeding.

Author (years)	Country	Sample	P	I	C	O
Jama et al. (2020)	Brazil	404	Lactating mothers	High monthly household income	Low Income	Exclusive Breastfeeding
Shifraw et al. (2015)	Indonesia	223	Lactating mothers	Mothers with a high income	Low Income	Exclusive Breastfeeding
Ayalew et al. (2020)	Indonesia	110	Lactating mothers	High husband's income	Low Income	Exclusive Breastfeeding
Veeranki et al. (2017)	Thailand	390	Lactating mothers	High income	Low Income	Exclusive Breastfeeding

Author (years)	Country	Sample	P	I	C	O
Ayale (2020)	Ethiopia	660	Lactating mothers	Perceived suiciency of family income	Low Income	Exclusive Breastfeeding

Table 9 explains that there are 5 articles with cross-sectional studies on the effect of ANC visits on exclusive breastfeeding with the highest aOR in the study by Jama et al. (2020) and the lowest aOR in the study by Ayele et al. (2020).

Table 9. OR and 95% CI data on the effect of ANC visits on exclusive breastfeeding.

(Author, year)	aOR	95% CI	
		Lower Limit	Upper Limit
Ayale (2020)	0.51	0.211	0.889
Ayalew et al. (2020)	2.51	1.494	4.233
Jama et al. (2020)	3.03	1.5152	6.25
Shifraw et al. (2015)	1.99	1.16	3.43
Veeranki et al. (2017)	2.38	0.855	6.667
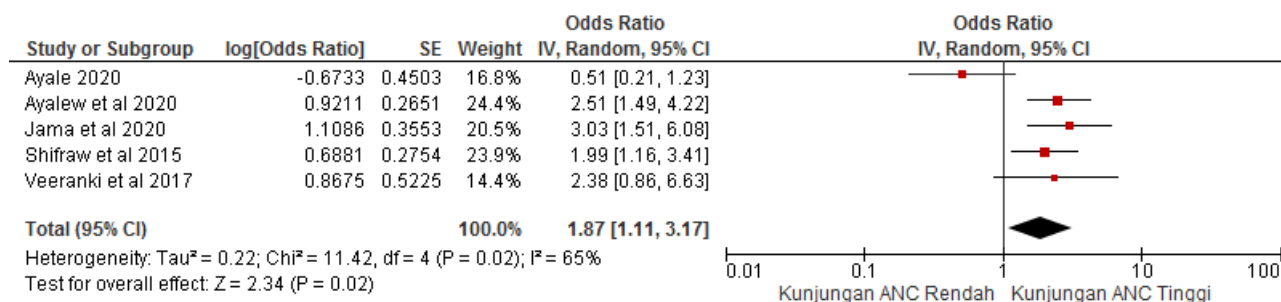
Figure 9. Forest plots the effect of ANC visits on exclusive breastfeeding
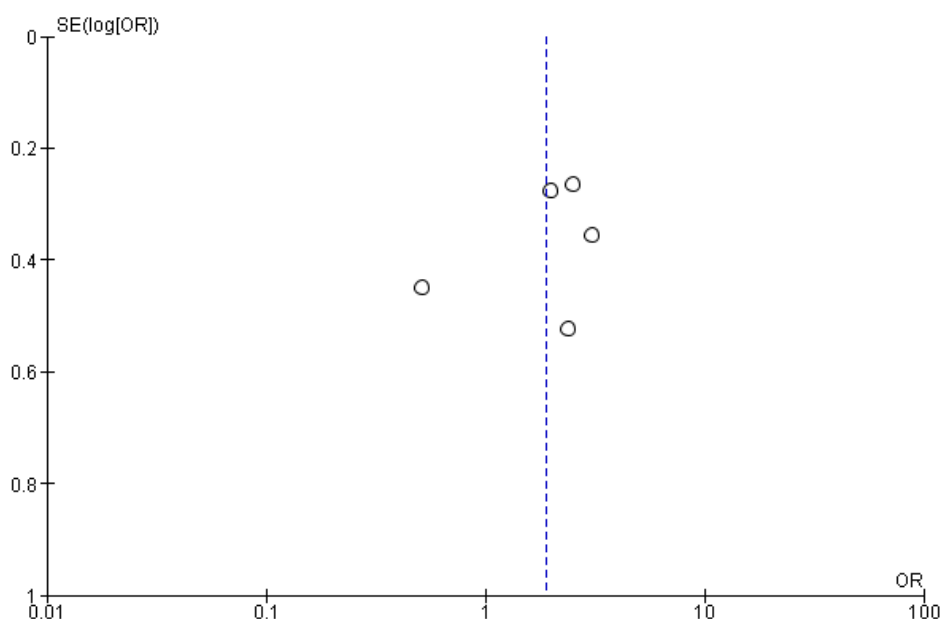
Figure 10. Funnel plots the effect of ANC visits on exclusive breastfeeding.

The forest plot in Figure 9 shows that ANC visits influenced exclusive breastfeeding. Breastfeeding mothers who have high ANC visits were 1.87 times more likely to provide exclusive breastfeeding compared to breastfeeding mothers who have low ANC visits, and this was statistically significant (aOR=1.87; 95% CI= 1.11 to 3.17; p= 0.020).

The forest plot also shows high heterogeneity of impact estimates across primary studies I^2 = 90%; p= 0.020. Thus, the calculation of the estimated average effect is carried out using a random effect model approach.

The Funnel Plot in Figure 10 shows an unequal distribution of effect estimates between the right and left vertical lines of average effect estimates. Thus, the funnel plot does not indicate any publication bias.

DISCUSSION

1. The effect of husband's support on exclusive breastfeeding

Breastfeeding is one of the challenges faced by teenage mothers because it is their first experience. Social support from husbands is needed to increase breastfeeding success because they are vulnerable to physical and mental health risks after giving birth. However, many husbands think that breastfeeding is only the wife's responsibility. In fact, husband's involvement is important when breastfeeding and visiting health services (Werdani et al., 2020).

Meta-analysis of 18 cross-sectional articles with a population of breastfeeding mothers shows that low husband support will influence exclusive breastfeeding. Breastfeeding mothers whose husbands have low support are 3.41 times more likely to not provide exclusive breastfeeding compared to breastfeeding mothers who receive high husband support. And these results are statistically significant (aOR=3.41;95% CI= 2.36 to 4.91; p< 0.010).

In this study, women with high husbands support are 2.997 times more likely to practice exclusive breastfeeding compared to those with low support (Werdani et al., 2020). This support allows for longer breastfeeding duration. Husband's support was also found to be significantly related to EBF practices. Participants who received support from them were four times more likely to practice exclusive breastfeeding (aOR= 4.15; 95% CI= 2.13 to 6.28) compared to participants who were not supported by their husbands (Ayalew, 2020).

This shows that husbands play an important role in decision making regarding family and household affairs and influence many aspects of family life including baby feeding practices. Previous research revealed that husband's support can increase the success of exclusive breastfeeding. On the other hand, a study in Nepal showed that mothers who received support from their husbands were ten times more likely to report feeling confident in breastfeeding than mothers who did not receive support. A study from Kenya has also proven that family support is a key factor in the success of exclusive breastfeeding with a special focus on husband involvement (Ayalew, 2020).

2. The effect of income on exclusive breastfeeding

Family income is one of the factors related to financial conditions which causes purchasing power for additional food to be greater. Family income refers to the amount of income received, which, when compared with expenses, still allows the mother to provide 23 additional foods for babies aged less than six months (Illahi et al., 2020).

Average monthly family income is another factor that has been statistically found to be associated with exclusive breastfeeding. A study conducted in Kenya also stated that income had a positive relationship with

exclusive breastfeeding. The observed association may be due to the role of income in increasing exposure to various media that may increase their knowledge of EBF practices (Jama et al., 2020).

Meta-analysis of 18 cross-sectional articles with a population of breastfeeding mothers shows that high income influenced exclusive breastfeeding. Breastfeeding mothers with high incomes are 1.11 times more likely to not provide exclusive breastfeeding compared to breastfeeding mothers with low incomes, but this increase is not statistically significant (aOR= 1.11; 95% CI= 0.51 to 2.44; p=0.790).

This is similar to research conducted by Werdani et al, (2021), where the research shows that husband's income is the dominant factor related to exclusive breastfeeding for teenage mothers in Boyolali Regency. However, the results obtained show that husbands with high incomes are 3.263 times more likely to practice exclusive breastfeeding for their babies compared to husbands with low incomes. As a teenage couple, their limitations in meeting household needs force them to live together under the same roof as their parents. In this study, most of them lived with more than four family members (83.8%) which would have an impact on their economic conditions. This will be a challenge with the high risks of exclusive breastfeeding practices.

Maternal income was significantly associated with EBF practices in this study. This research shows that when mothers have a high income, the level of exclusive breastfeeding will decrease. A possible explanation for this finding is that women with higher incomes are less likely to stay at home during the day and this may interfere with exclusive breastfeeding practices. Another factor may be that the price of baby formula and cow's milk is unaffordable unless the family has a higher income (Shifraw et al., 2015).

Breastfeeding difficulties may be related to socioeconomic indicators, such as income, education level, and ethnicity. Individuals with lower socioeconomic status, lower education levels, and minority groups are less likely to breastfeed. In contrast, mothers with low incomes are more likely to breastfeed. Mothers with lower incomes may have less access to formula milk, thereby encouraging breastfeeding as a cheaper source of nutrition for their children compared to formula milk (Souzaoliveira et al., 2021).

3. The effect of employment on exclusive breastfeeding

The mother's employment situation is one of the factors causing the failure of exclusive breastfeeding. For mothers who work outside the home, efforts to provide exclusive breastfeeding often encounter obstacles because the short maternity and maternity leave period means they have to return to work before the exclusive breastfeeding period ends. Many working mothers believe that breast milk is not sufficient for the baby's needs when the mother is working, so they provide additional breast milk in the form of formula milk (Fahrudin et al., 2020).

Factors associated with cessation of milk use were lack of higher education, primipara, perception of low milk quantity, and return to work. Discomfort/ fatigue due to breastfeeding is related to breastfeeding being tiring or demanding for the mother and lack of time to breastfeed while caring for another child. Mothers with higher socioeconomic status and who are unemployed or work from home are more likely to breastfeed exclusively, while mothers who work outside the home have difficulty maintaining lactation due to the challenges and stress of combining breastfeeding with work demands (Chang et al., 2019).

Meta-analysis of 18 cross-sectional articles with a population of mothers with

babies 0-6 months old shows that working mothers influenced exclusive breastfeeding. Nursing mothers who work are 1.11 times more likely to not provide exclusive breast-feeding compared to breastfeeding mothers who do not work, and this is not statistically significant (aOR= 1.11; 95% CI= 0.46 to 2.68; p=0.820).

Coefficients and adjusted odds ratios (aOR) from multivariable binary logistic regression models showed that personal factors were significantly associated with EBF over six months during the COVID-19 pandemic. Mothers who were unemployed (aOR = 2.84; 95% CI= 1.51 to 5.37) and worked from home or a private business (aOR = 2.07; 95% CI= 1.07 to 3.99) were more likely to breastfeed exclusively for six months (Nuampa et al., 2022).

Based on the results of research conducted by Bai et al, (2015), it shows that only one-third of women who continue to breastfeed after returning to work two weeks. Evidence also shows that the sooner a mother returns to work, the shorter the duration of breastfeeding. For mothers returning to work, lactation programs that include flexible work schedules and easier access to private lactation rooms have a significant effect on breastfeeding duration.

Working mothers are less likely to practice EBF than non-working mothers. These findings are in line with research conducted in Injibara, Ethiopia and Malaysia. This may be an indication of the absence of childcare facilities, lack of flexibility in working hours, non-initiation of mother-friendly policies in the workplace that support breastfeeding. In addition, working mothers may have enough income to afford formula milk (Yimer et al., 2021).

4. The effect of ANC visit on exclusive breastfeeding

Many factors influence the success of exclusive breastfeeding. These factors can include maternal, baby, environmental and health service factors. One of the factors is health service factors such as frequency of ANC, quality of ANC, place of delivery, IMD, and others (Cox et al., 2015). Of these various factors, the factor that plays the most role in the success of exclusive breastfeeding is the health service factor. Thus, it is important to improve health services. One effort to im-prove health services can be done through improving the quality of ANC (Okafor et al., 2013).

This meta-analysis showed that ANC visits influenced exclusive breastfeeding. Jama et al., (2020) explained that ANC visits was significantly associated with exclusive breastfeeding practices. Likewise, partici-pants who had had four or more ANC visits were almost 2.5 times more likely to practice exclusive breastfeeding compared with participants who had ANC visits less than three times (Ayalew, 2020).

This is supported by research on 334 breastfeeding mothers in Banjul Africa which found that lactation counseling during ANC was significantly related to the practice of exclusive breastfeeding. Information regarding exclusive breastfeeding needs to be provided from ANC, if information is obtained after the baby is born it will be too late because preparation for breastfeeding cannot be done suddenly (Novianita, 2022).

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