

Research Article

Acceptability of Immediate Postnatal Intrauterine Contraceptive in Ethiopia: Systematic Review and Meta-analysis

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Abstract

Introduction: An intrauterine contraceptive family planning is appropriate for females of all reproductive age groups for avoiding unplanned pregnancies. Immediate postpartum intra-uterine contraceptive device placement within 10 min after the removal of the placenta following vaginal delivery is a safe and effective technique. Immediate postpartum family planning facilities requirement to be underlined after the lady leaves the hospital. In spite of the recognized demand for post-delivery family planning, several mothers do not access and accept the services. The aim of this systematic review and meta-analysis was to assess the pooled acceptability of immediate postpartum intrauterine contraceptive in Ethiopia. **Methods:** Studies were thoroughly searched by using international databases from PubMed, Google Scholar, Cochrane Library, and Embase. The systemic review was carried out using the random effect method, and statistical analysis was conducted using STATA version 14 software for the window. The Preferred Reporting Item for Systematic Review and Meta-Analyses (PRISMA) guideline was used to reporting results. **Results:** This review comprised five observational cross-sectional studies in total. The pooled prevalence of acceptability of immediate postnatal intrauterine contraceptive among mothers who delivered in Ethiopia was 20.12% (95% CI =18.49- 21.75). **Conclusion:** Evidence suggested that low the pooled prevalence of acceptability of immediate postnatal intrauterine contraceptive. This highlights the need for targeted interfering to reduce to advance acceptability of immediate postpartum intrauterine contraceptive in the Ethiopian.

Keywords

Acceptability, Immediate Postnatal, Intrauterine Contraceptive Device, Ethiopia

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1. Introduction

Family planning refers to the capability of individuals or couples to choose when to have children, determine their ideal of springs, and manage the timing and intervals between delivery. This is a vital intervention that can save the lives of moms and their babies [1]. Post-delivery family planning (PPFP) purposes to avert unintended gestations and gestations that occur besides soon after delivery during the first year following delivery [2, 3].

Postpartum family planning (PPFP) purposes to avert unintended gestations and gestations that occur also soon after delivery during the first year following delivery [4]. The immediate postpartum phase offers numerous advantages aimed at the insertion of intrauterine contraceptive devices (IUCDs), as a significant number of females are confirmed not to be pregnant, and several express a desire to prevent brief intervals between pregnancies [5]. The IUCD is a long-lasting revocable contraceptive that is a minor device implanted into the uterus to avoid pregnancy [2, 3].

The copper-bearing intra-uterine contraceptive device, commonly recognized as IUCD, it is a minor, elastic plastic frame comprising twisted copper impregnated with barium sulfate and implanted in the uterus by a skilled healthcare worker after suitable screening [4].

The immediate placement of an intrauterine contraceptive device after childbirth is a very real family planning option which is affordable, dependable, not hormonal, changeable, and long-lasting. It can be started during the postpartum phase and does not adversely affect breastfeeding [5]. IPPIUCD can encourage the health of moms and babies by avoiding economic, psychological, obstetric, and additional health-associated complications linked with carefully set apart pregnancies [5, 6]. According to the report of WHO (World Health Organization) in 2017 guesses, 214 million females of reproductive age in emerging countries who need to prevent pregnancy are not using a contemporary contraceptive. The use of modern contraceptives prevented an estimated 308 million unintended pregnancies [7]. IPPIUD use varies widely in lower-income countries (2%-46%) [8]. Ethiopian mini-demographic survey also reported that only 2% of IUCD was used [3].

Global population growth is accelerated by women who birth to children without spacing because the absence of family planning in the post-partum period decreases birth interval and increases the chance of having more children. Quick people progress is likely to decrease per capita income growth and happiness, which have a tendency to rise poverty. It traps individuals, communities, and even entire countries in poverty [9].

In Sub-Saharan African nations, there was a great unmet requirement for long-acting and permanent devices of family planning throughout the immediate post-delivery period. Furthermore, in growing countries, female who once return to home after child gave do not return for even a repetitive postnatal care, leaving sideways contraception [10].

The magnitude of acceptance of IPPIUCD was reported to

be 12.24% in Pakistan [11], 12.7% in India [12], and 9.6% in Uganda [13]. However, in Ethiopia, the magnitude of acceptance of IPPIUCD ranges from 12.4% to 35.6% [14, 15].

The findings of the previous study showed that planning pregnancy, educational status, having ANC (Antenatal care) follow-up, ever hearing about postpartum IUCD, planning to have another child by spacing, partner support for IPPIUCD insertion, having good knowledge about IPPIUCD and birth intervals, and counseling from a healthcare provider about a postnatal intrauterine contraceptive method were factors that related through acceptance and usage of immediate postnatal intrauterine contraceptive [16-19].

Female and couples who need safe and effective guard counter to pregnancy would advantage from access to extra contraceptive choosing, including long acting reversible contraceptive like IPPIUCD. IPPIUCD are suitable for users and effectively stop pregnancy. Despite these advantages, IPPIUCD remains a relatively minor, and occasionally lost [8, 20].

Seventy-eight percent of female who had tried to dismiss an unplanned pregnancy described that they had not been taking contraception when the pregnancy previous tried to terminate [21, 22]. Terminating pregnancy by itself has impacts on the future pregnancy [22]. Letdown to offer postnatal contraception can subsidize to the incidence of unplanned pregnancies since greatest of the females often do not reappearance for post-delivery care [23]. The commencement and facility of contraceptive approaches during the postnatal period precaution the women from unintentional pregnancy beforehand they recommence sexual activity or reappearance to productivity [24, 25].

Long-lasting rescindable contraceptive like IUCD is the most effective contraceptive; they offer a variety of possible assistances that involve a decrease in mother morbidity too mortality, reduced newborn and infant mortality, reducing unsafe abortion from unintended pregnancies, and empowering women and enhancing education [7].

Different Family planning guideline and training was developed and given to improve the acceptance and usage of long-lasting family planning including IPPIUCD. Despite implementation of different guidelines and improving services the receiving and usage of IPPIUCD was low in Ethiopia [3, 20].

A institutional based cross-sectional research conducted amongst 392 moms who delivered at community health services in Hawassa city; Ethiopia indicated that acceptance of immediate postnatal intrauterine contraceptive method was 16.3% [18]. As the results of the study done amongst mom who delivered at public hospitals of Gamo Zone, Southern Ethiopia displayed that the acceptance of immediate postnatal intrauterine contraceptive method was 35.6% [15].

A institutional based Cross-Sectional investigate amongst mothers delivered at government Health Facilities of Sidama Zone, South Ethiopia showed that acceptance of immediate postnatal intrauterine contraceptive method was 38% [26]. A

study conducted among 429 womenfolk who delivered at Bale Zone health facilities, in Southeast Ethiopia showed that acceptance of immediate post-delivery intrauterine contraceptive method in 12.4% [14]. According to the results study done amongst pregnant females appearing antenatal clinics in Ambo Town community health institutes, in Ethiopia showed that purpose to use immediate post-delivery intrauterine contraceptive method was 34.9% [27].

Even though inadequate primary studies were conducted to assess pooled prevalence acceptability of immediate postpartum intrauterine contraceptive in Ethiopia, findings revealed that there was a great inconsistency and variation. Therefore, this systematic review and meta-analysis intended to evaluate the pooled prevalence acceptability of immediate postpartum intrauterine contraceptive among mothers delivered in Ethiopia. In fact, evidence associated with acceptability of immediate postpartum intrauterine contraceptive is limited, it is important to shape various postpartum intrauterine contraceptive related programs and policy. Consequently, this study will offer relevant information for future researchers, policymakers, clinicians, and concerned stakeholders which are required for designing strategies in to improve immediate postpartum intrauterine contraceptive. Additionally, the findings of this study might help to achieve the sustainable development goal of reducing neonatal and maternal morbidity and mortality related to childbirth. Furthermore, the evidence generated from this review can also be used as an input for future researchers who intend to make further inquiry on the topic which is allied to immediate postpartum intrauterine contraceptive method.

2. Methods

2.1. Study Design and Setting

Among Ethiopian women who delivered birth, the pooled acceptability of immediate postnatal intrauterine contraceptive method and relevant influences were evaluated using this comprehensive review and meta-analysis. Ethiopia, a non-coastal nation in Horn of Africa, is home to guesess 121 million people. It boarded north by Eritrea to, by northeast by Djibouti, by Somalia to the east, by Kenya to the south, by South Sudan to the west, and by Sudan to the northwest [28].

2.2. Reporting

The protocol was designed based on Standard Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) guidelines [29]. But it was excluded from the prospective registration of systematic reviews and meta-analyses (PROSPERO), due to the study's limitations.

2.3. Search Strategies

Several databases, with PubMed, Embassy, Science Direct, Cochrane Library, African Journals Online, Google Scholar, and Web of Science, were used to carry out a thorough find of research. Studies were initially extensively searched using the complete title.

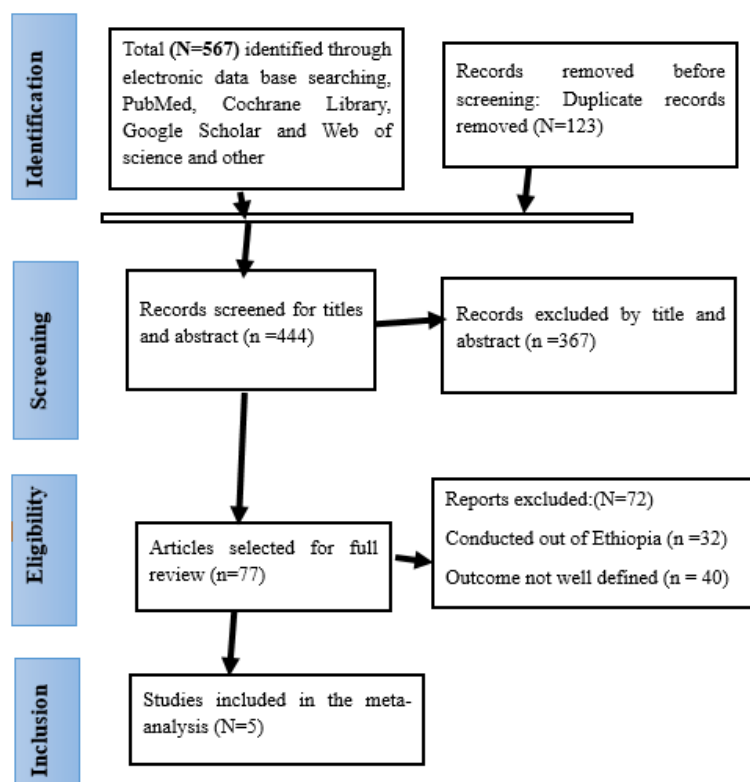


Figure 1. Flow chart figure showing assortment of researches involved in the systematic review and meta-analysis via PRISMA checklist, 2025.

(“acceptability of immediate postpartum intrauterine contraceptive among mothers who gave birth in Ethiopia.”) and keywords (“Acceptability of immediate postpartum intrauterine contraceptive,” “moms who delivered “in Ethiopia”). After linking these keywords, the find terms were made up using the Boolean Operators "OR" and "AND," either individually or in combination. Additionally, reference lists of all the studies that were included were taken into consideration in order to find more missing studies. The period of the literature search was May 21-June 10, 2025 (Figure 1).

2.4. Population

The population of the study, exposure, and result of state- ment were similarly used in this review; population: (mothers who delivered) in Ethiopia; exposure: and outcome: accepta- bility of immediate postnatal intrauterine contraceptive among mothers delivered.

2.5. Eligibility Criteria

Inclusion Criteria: -The PICO approach, which mainly comprises condition, context, and population (CoCoPop) questions for prevalence studies, was employed by the authors to determine the inclusion and exclusion criteria for this sys- tematic review and meta-analysis.

2.7. Data Quality Assessment

Study area: Research done in Ethiopia.
Study design: Every observational research that report ei- ther the percentage or prevalence or acceptability of immedi- ate postnatal intrauterine contraceptive. For the sake of clarity and ease of understanding, studies on the acceptability of immediate postpartum intrauterine contraceptives that were published in English were included.
Publication condition: published researches.
Time: There was no time restriction on the publication date, and all Ethiopian research was covered.
Exclusion Criteria: -Researches with a diverse outcome of interest that couldn’t support for the pooled guesstimate were removed.

2.6. Data Extraction

Four authors (BM, GT, NT, FA, and ZS) were disjointedly extracted the data from the included researches by means of a piloted data extraction Microsoft Excel spreadsheet. The spreadsheet comprises the first author’s name, publication year, study year, study design, study setting, study setup, sample size and the proportion of acceptability of immediate postnatal intrauterine contraceptive among mothers who de- livered. When there was any difference between the reviewers observed the differences were resolved through discussion and reassessment of each researches.

Table 1. General characteristics of the included cross-sectional studies for the systematic review and meta-analysis of acceptability of imme- diate postnatal intrauterine contraceptive among women who gave birth in Ethiopia.

Authors	Year of pub- lication	BI’s critical appraisal questions									Overall quality score (100%)	Include ed
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9		
Mesfin Gebremedhin. et al	2022	Y	Y	Y	Y	Y	N	Y	Y	Y	88.89%	√
Yemisrach Shiferaw et al	2024	Y	Y	Y	Y	Y	Y	Y	Y	Y	100%	√
Gurmessa Daba et al	2020	Y	Y	Y	N	Y	N	Y	Y	Y	77.78%	√
Siham Abdullah et al	2024	Y	Y	Y	Y	Y	Y	Y	Y	Y	100%	√
Husen Zakir Abasime et al	2024	Y	Y	Y	Y	Y	Y	Y	Y	Y	100%	√

Using a uniform data appraisal set-up adapted from the Newcastle-Ottawa Scale (NOS), we had done a critical ap- praisal of the investigation evidence to assess the methodo- logical quality of a study and determine the degree to which a study has addressed the likelihood of bias in its design, and analysis. evaluated the worthiness of all salvaged studies by means of the Joanna Briggs Institute (JBI) quality appraisal

checklist [30]. In conclusion, studies that score 50% and be- yond, quality calculation checklist criteria were measured as high quality. Consequently, involved studies were incorpo- rated based on the quality valuation criteria with the conse- quences ranging from 77.8 to 100% (Table 1). Y: Yes, N: No, U: Unclear, Q: Question. The total score is calculated by counting the number of Y’s in each row evaluated by using Q1:

Was the sample frame suitable to address the goal population? Q2: Were study participants sampled properly? /Are the patients at a like point in the progression of their condition/illness? Q3: Was the sample size satisfactory? Q4: Were the study subjects and the setting defined in detail? /Are confounding factors identified and strategies to deal with them definite? Q5: Was the data analysis conducted with enough coverage of the identified sample? /Are outcomes evaluated using objective criteria? Q6: Were valid methods used for the identification of the condition? Q7: Was the condition assessed in a standard, reliable way for all participants? Q8: Was there suitable statistical analysis? /Were outcomes measured constantly? Q9: Was the response rate satisfactory, and if not, was the low response rate managed appropriately? Then quality appraisal of encompassed studies assessed by three authors (BM, FA and NT) individually and slightly inconsistency was set by other authors (ZS).

2.8. Measurement of the Outcome of Interest

The main outcome of this systematic review and meta-analysis the acceptability of immediate postnatal intrauterine contraceptive among mothers who delivered in Ethiopia and estimated pooled prevalence with 95% confidence intervals (CIs).

2.9. Statistical Methods and Analysis

The take out data from Microsoft Excel spreadsheet were imported to STATA™ 14 statistical software for analysis. To calculate pooled estimation of overall acceptability of immediate postpartum intrauterine contraceptive Meta Analyst software was used. The percentage of whole difference among studies that is attributable to heterogeneity rather than chance is described by the I² statistic, which we calculated to evaluate the degree of study heterogeneity. A score of 30% to 60% on the I² statistic may showed moderate heterogeneity, a price of 50% to 90% may indicated substantial heterogeneity, and a worth of 75% to 100% may indicated significant heterogeneity [31]. Therefore, a random effects model was used to guess the pooled acceptability of immediate postnatal intrauterine contraceptive and 95% CIs were constructed from the included studies.

2.10. Subgroup Analyses and Heterogeneity

To identify possible causes of heterogeneity among in-

cluded studies, subgroup examines based on geographic regions.

Publication bias and heterogeneity: The asymmetrically distributed inverted funnel plot of this study showed that publication bias (Figure 3). The total heterogeneity of acceptability of immediate postpartum intrauterine contraceptive included was I² = 96.9%, with P < 0.001 by using of the random effect model to adjust observed inconsistency. A funnel plot directed that asymmetrical distribution and the Egger test worth was 0.011. But different studies suggest that Egger's regression or symmetry of funnel plots should be used whenever there are more than 10 studies included in a meta-analysis. So trim-and-fill analysis should not be necessary (Figure 3).

3. Results

A total of 567 published researches were included after a searching of studies through various worldwide databases. The found studies were screened using the Mendeley reference manager, and 123 duplicate studies were eliminated and 367 articles excluded by different title and abstract. From the residual 77 articles met for full text review, 72 articles were excluded based on the predetermined criteria (full text conducted outside of Ethiopia, outcome not well-defined). Finally, an overall of 5 primary studies were suitable and included in this systematic review and meta-analysis (Figure 1).

3.1. Characteristics of Selected Studies

As defined below (Table 2), all of these studies were published between 2020 and 2024. In the current systematic review and met analysis, 2207 moms who delivered were participated in estimating the pooled of acceptability of immediate postpartum intrauterine contraceptive among mothers who gave birth in Ethiopia. All study designs which included in this study were cross-sectional study. The prevalence of acceptability of immediate postnatal intrauterine contraceptive among mothers who gave birth were ranged from 10.9% to 35.61%. Five geographical regions including the nation's capital city of Addis Ababa were included in this meta-analysis; two studies included in this study were from the Oromia region [27, 32], two studies were from southern nation national people regional [18, 15] and one study from Addis Ababa city [27].

Table 2. Summary of characteristics of included studies.

Authors	Year of publication	Year of study	study area	Region	study setting	study design	sample	cases
Mesfin Gebremedhin. et al	2022	2019	Government Hospitals of Gamo	southern nation national people	IB	CS	452	161

Authors	Year of publication	Year of study	study area	Region	study setting	study design	sample	cases
			Zone	regional				
Yemisrach Shiferaw et al	2023	2020	public health facilities in Hawassa city	southern nation national people regional	IB	CS	392	65
Gurmesssa Daba et al	2020	2018	ambo town public health institutions	Oromia	IB	CS	417	145
Siham Abdullah et al	2023	2021	Public hospitals in Addis Ababa	Addis Ababa	IB	CS	412	45
Husen Zakir Abasime et al	2024	2024	Hospitals of North Shoa Zone	Oromia	IB	CS	534	95

3.2. Acceptability of Immediate Postnatal Intrauterine Contraceptive

The overall pooled magnitude acceptability of immediate postnatal intrauterine contraceptive among mothers who gave

birth in Ethiopia was found to be 20.12% (95% CI =18.49-21.75) (Figure 2). Study’s heterogeneity was examined by using the I² test, and the outcomes disclosed that there was no a significant degree of variation between the studies (I² =96.9%, P value < 0.001) (Figure 2).

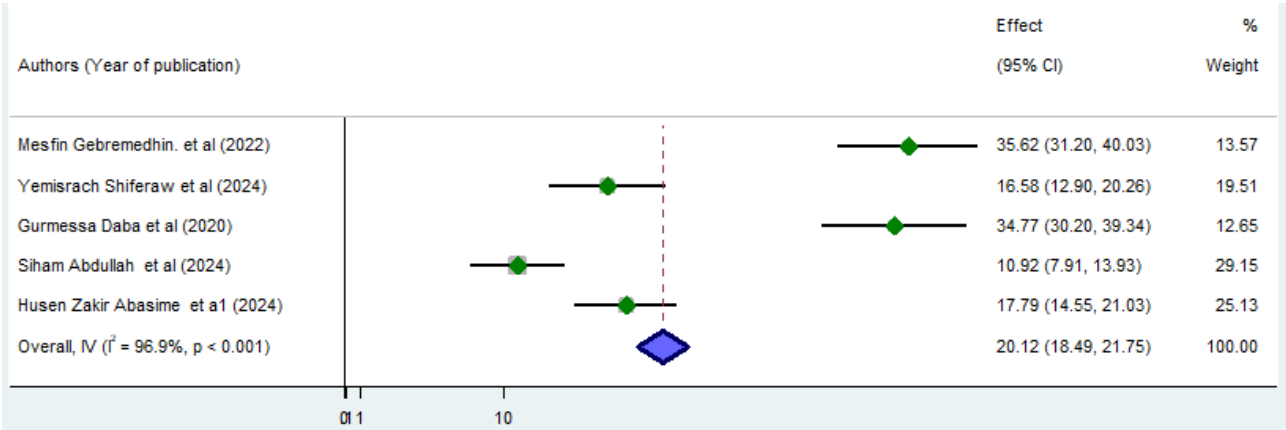


Figure 2. Overall pooled estimates of acceptability of immediate postnatal intrauterine contraceptive among mothers who gave birth in Ethiopia, 2025.

3.3. Publication Bias and Heterogeneity

The I² (variation in ES attributable to heterogeneity) test of the outcome showed the presence of high heterogeneity with I² = 96.9%, at p < 0.001. The studies included in the review were evaluated for publication bias among the researches. The

graph output of the funnel plot indicated asymmetrical distribution of the studies through visual inspection. the Egger test value was 0.011. But different studies suggest that Egger's regression or symmetry of funnel plots should be used whenever there are more than 10 studies combined in a meta-analysis. So trim-and-fill analysis should not be necessary (Figure 3).

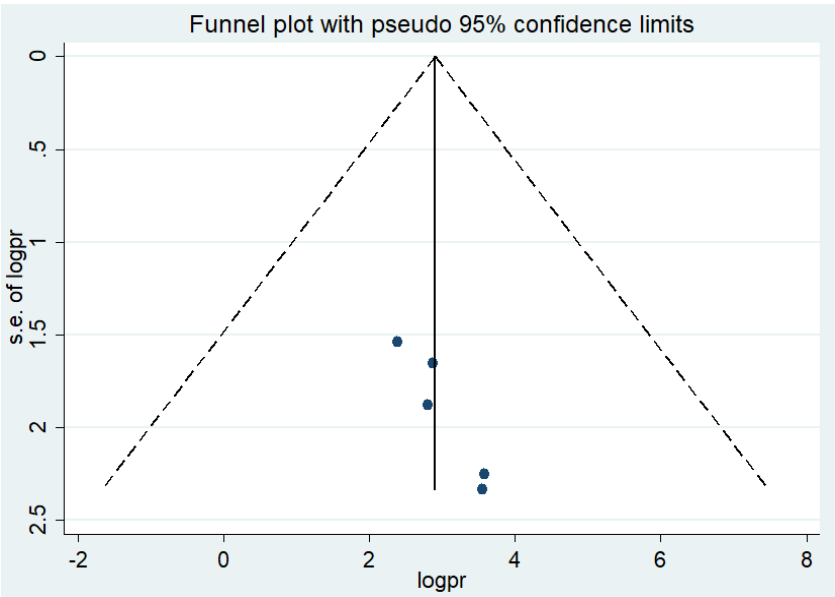


Figure 3. Funnel plot shows the study’s publication bias, 2025.

3.4. Subgroup Analysis

Based on the geographical location of the regions, the subgroup analyses were done and their results were revealed that southern nation national people had the highest pooled

estimation prevalence of acceptability of immediate postpartum intrauterine contraceptive at 24.39% (95% CI: 21.16-27.22), followed by the Oromia region at 23.48% (95% CI: 20.83-26.12), the Addis Ababa city at 10.92% (95% CI: 7.91-13.93) (See figure 4).

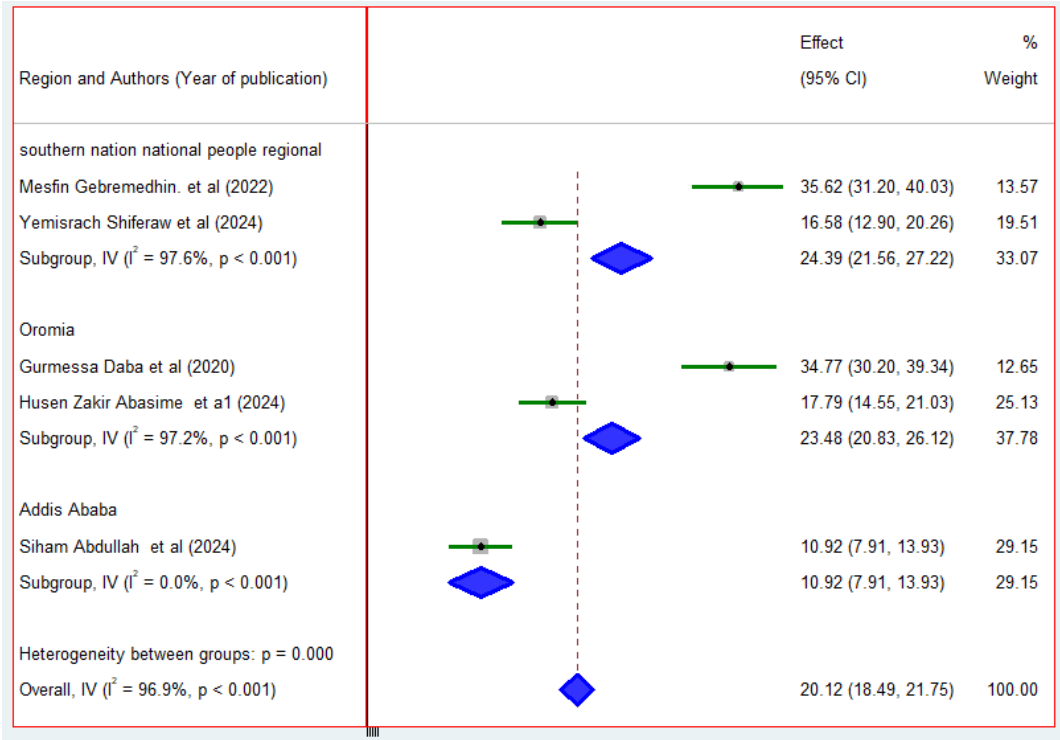


Figure 4. Sub-group analysis of region which included study in meta-analysis on acceptability of immediate postpartum intrauterine contraceptive in Ethiopia, 2025.

4. Discussion

This systematic review and meta-analysis mapped out the assessment of pooled prevalence of acceptability of immediate postnatal intrauterine contraceptive among who delivered in Ethiopia. The review highlighted on the distribution, design, quality and characteristics of the studies. The review comprised five studies from different regions of Ethiopia which all studies' analysis used primary data. All of the comprised studies were facility-based studies.

The pooled prevalence of acceptability of immediate postpartum intrauterine contraceptive in Ethiopia was 20.12% with (95% CI =18.49-21.75). This was in line with the systematic review done in Ethiopia (20%) [33]. Nevertheless, the result of this study finding was higher than the primary study of done at public health facilities in Hawassa city, Ethiopia (16.3%) [18], at Public Hospitals in Addis Ababa (11%) [34] and at Hospitals of North Shoa Zone, Ethiopia (17.8%) [32].

The results of pooled of acceptability of immediate postnatal intrauterine contraceptive was lower than primary study conducted at Government Hospitals of Gamo Zone, Southern Ethiopia (35.6%) [15]. The observed disparity could be caused by a variety of variables. One noteworthy aspect is that certain studies represent post-term pregnancies, which may have contributed to the claimed prevalence rates. Additionally, variations in the reported prevalence of acceptance of immediate postpartum intrauterine contraception use may be caused by differences in sample characteristics and methodology between research.

The results of the subgroup analysis by area showed that the capital city of Addis Ababa, Ethiopia, had the lowest prevalence of acceptability of immediate postnatal intrauterine contraception, while the southern country national people regional state had the greatest. This discrepancy could result from variations in the quality and accessibility of long-acting family planning services, like intrauterine contraceptive devices, in the research location.

5. Limitation

Acceptability of immediate postnatal intrauterine contraceptive had no clear standard explanation and this confronted the insertion of the articles. Furthermore, it is not widely researched in the nation, which led to the findings of a small number of published publications. However, it was challenging to match the variables from several research for the Meta-Analysis because the variables were not consistently examined across the investigations. The danger of bias may have also understated the prevalence and acceptability of rapid postpartum intrauterine contraception, despite our best efforts to reduce it. Additionally, we are unable to analyze unpublished studies from the nation's universities, which could lead to relatively few lost.

6. Conclusion

In summary, this review highlights that acceptability of immediate postpartum intrauterine contraceptive was a low. Thus, the government needs to develop strategies to increase Immediate Post-Partum Intrauterine Contraceptive acceptability.

Abbreviations

ANC	Antenatal Care
FP	Family Planning
IUCD	Intrauterine Contraceptive Device
IPPIUCD	Immediate Post-partum Intrauterine Contraceptive
PPFP	Postpartum Family Planning

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Author Contributions

Bacha Merga Chuko: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing - original draft, Writing - review, Formal Analysis, & editing.

Fikru Assefa Kibrat: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing - original draft, Writing - review, Formal Analysis, & editing.

Zufela Sime: Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing - original draft, Writing - review, Formal Analysis, & editing.

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Nebiyu Taye: Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing - original draft, Writing - review, Formal Analysis, & editing.

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Ethical Approval and Consent to Participate

Not relevant because this study did not use primary data, which requires ethical approval and participant permission.

Data Availability Statement

The original aids obtainable in the study were included in the articles/Supplementary Material; further studies can be directed to the corresponding author.

Conflict of Interest

The authors declare no conflicts of interest.

References

- [1]. MOH. National Guideline for Family Planning Services In Ethiopia. 2020; (July): 1-78.
- [2]. UNDESA. World Family Planning. United Nations. 2022. 43 p.
- [3]. WHO. Reducing early and unintended pregnancies among adolescents. 2016.
- [4]. Welfare M of H& F. IUCD Reference Manual for Medical Officers and Nursing Personnel. 2017; (September).
- [5]. Adella GA, Abteu GK, Gellaw MT, Kassie GA, Gesese MM, Abebe EC, et al. Determinants of immediate postpartum long acting reversible contraceptive utilization among women who gave birth in public health facilities in northwest Determinants of immediate postpartum long acting reversible contraceptive utilization among women who. 2024; (April).
- [6]. Staveteig S. Uptake and Discontinuation of Long-Acting Reversible Contraceptives (LARCs) in DHS ANALYTICAL. 2015; (September).
- [7]. Demographic M, Survey H. Ethiopia. 2019.
- [8]. Welfare M of H and F. Reference Manual for IUCD Services. 2018; (March).
- [9]. WHO. Programming Strategies for Postpartum Family Planning. 2017.
- [10]. Eva G, Gold J, Makins A, Bright S, Dean K, Tunnacliffe E anne. Economic Evaluation of Provision of Postpartum Intrauterine Device Services in Bangladesh and Tanzania. 2021; 107-22.
- [11]. America L, America N, Africa W. Contraception Evidence brief. 2017; (3).
- [12]. Bolling KR, Wahdan Y, Warnock N, Lott J, Schoendorf J, Pisa F, et al. Utilisation, effectiveness, and safety of immediate postpartum intrauterine device insertion: a systematic literature review. 2022; 1-30.
- [13]. Ochen AM, Chi PC, Lawoko S. Predictors of teenage pregnancy among girls aged 13-19 years in Uganda. BMC Pregnancy Childbirth. 2021; 19: 231-231.
- [14]. Janwadkar A, Shekhawat GS. Acceptance, perception, experience and satisfaction of the couple with postpartum intrauterine contraceptive devices (PPIUCD) insertion. 2016; 3(4): 55-64.
- [15]. Safdar Z, Sabir SF, Zaib S, Abid S, General L. Female ' s Experience with Post-placental Intrauterine Contraceptive Device Use in a Tertiary Care Centre in Pakistan. 2022.
- [16]. Bhudhrani DS, Godria P. Acceptance and factors linked with postpartum IUCD use in women delivering at a tertiary care hospital. 2024; 13(7): 1677-82.
- [17]. Okullo A, Amongin D, Izudi J. Use of postpartum intrauterine contraceptive device among women in northern Uganda. 2024; (February 2023): 1-7.
- [18]. Gonie A, Worku C, Assefa T, Bogale D, Girma A. Acceptability and factors associated with post-partum IUCD use among women who gave birth at bale zone health facilities,. 2018; 3(6): 1-8. <https://doi.org/10.1186/s40834-018-0071-z>
- [19]. Melis T. Acceptability and Factors Associated with Immediate Postpartum Intrauterine Contraceptive Device Use Among Women Who Gave Birth at Government Hospitals of Gamo Zone, Southern Ethiopia, 2019. 2021; 93-101.
- [20]. Guye AH, Kanea EB, Nigussie T, Girma D, Shambi DB. Utilization of immediate postpartum intrauterine device and its associated factors among women who gave birth in public hospitals in West Wollega Zone. 2023; (November): 1-14.
- [21]. Assefaw M, Azanew G, Engida A, Tefera Z, Gashaw W. Determinants of Postpartum Intrauterine Contraceptive Device Uptake among Women Delivering in Public Hospitals of South Gondar Zone, Northwest Ethiopia, 2019: An Unmatched Case-Control Study. 2021; 2021.
- [22]. Shiferaw Y, Jisso M, Fantahun S, Eshetu B, Assefa AA. Acceptance, utilization, and factors associated with immediate postpartum intrauterine contraceptive device among mothers delivered at public health facilities in Hawassa city, Ethiopia: Institution - based study. Reprod Health. 2023; 1-11.
- [23]. Kelbore SJMWG, Yesera GE, Metebo MSSKAMKN, 1, Yesgat YM, Determinants of Postpartum IUCD Utilization Among Mothers Who Gave Birth in Gamo Zone Public Health Facilities, Southern Ethiopia : a Case-Control Study. dovepress. 2020; 125-33.
- [24]. Adewole IF, Hussain R, A NYB. Unwanted Pregnancy and Associated Factors Among.: 175-84.
- [25]. Onebunne CAC, Bello FA. Unwanted pregnancy and induced abortion among female undergraduates in University of Ibadan, Nigeria. 2019.

- [26]. Nelson AL. Prenatal contraceptive counseling and method provision after childbirth. 2017; 53-63.
- [27]. Makins A, Cameron S. Post pregnancy contraception. *Best Pract Res Clin Obstet Gynaecol*. 2020; 1-14.
- [28]. Kripa S, Shetty H. Knowledge, attitude and practice of contraception among the postnatal women in a tertiary care hospital in a rural area in Southern. 2017; 6(5): 1821-4.
- [29]. Tefera LB, Abera M, Fikru C, Tesfaye DJ. Utilization of Immediate Post-Partum Intra Uterine Contraceptive Device and Associated Factors: A Facility based Cross Sectional Study among Mothers Delivered at Public Health Faci... *Journal of Pregnancy and Child Utilization of Immediate Post-Partum I*. 2017; (January).
- [30]. Daba G, Deressa JT. Assessment of intention to use postpartum intrauterine contraceptive device and associated factors among pregnant women attending antenatal clinics in ambo town public health institutions, Ethiopia, 2018. 2021; 1-9.
- [31]. UN. Economic UNDoI. World population prospects: 1978; 1-10.
- [32]. Stewart LA, Clarke M, Rovers M, Riley RD, Simmonds M SG. Preferred reporting items for a systematic review and meta-analysis of individual participant data: the PRISMA-IPD statement. *Jama* 2015; 313(16): 1657-65. 2015; 16(1657-65): 313.
- [33]. Peters, M. D. et al. The Joanna Briggs Institute reviewers' manual 2015:. 2015. *Methodol JBI scoping Rev*. 2015; (1).
- [34]. Borenstein M, Higgins JP, Hedges LV RH. Basics of meta-analysis: I^2 is not an absolute measure of heterogeneity. *Res Synth Methods*; 8(1): 5-18. *J South Asian Fed Obstet Gynaecol*. 2017; 1(8): 5-18.