

A systematic review and meta-analysis of women's satisfaction with skilled delivery care and the associated factors in Ethiopia

SAGE Open Medicine

Volume 10: 1–13



© The Author(s) 2022

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/20503121211068249

journals.sagepub.com/home/smo

Keralem Anteneh Bishaw¹, Habtamu Temesgen²,
Haile Amha³, Melaku Desta¹, Yibelu Bazezew¹,
Temesgen Ayenew³, Tewodros Eshete⁴, Bekalu Bewket³,
Henok Mulugeta³ and Gebrehiwot Ayalew Tiruneh⁵

Abstract

Evidence of variation in maternity health service practices has increased the government's interest in quantifying and advancing the quality of institutional delivery care in the developing world, including Ethiopia. Therefore, we conducted a systematic review and meta-analysis to update and provide more representative data on women's satisfaction with skilled delivery care and the associated factors in Ethiopia. This systematic review and meta-analysis followed the Preferred Reporting Items 2015 guideline. We searched PubMed/Medline, SCOPUS, Embase, Web of Science, and Google Scholar electronic databases for all 36 included studies. The pooled prevalence of women's satisfaction with skilled delivery care and the associated factors were estimated using a random-effects model. Subgroup analysis and meta-regression were performed to identify the source of heterogeneity. Furthermore, publication bias was checked using eggert and funnel plots. All statistical analyses were performed using STATA version 14.0 software. The pooled prevalence of women's satisfaction with skilled delivery care was 67.31 with 95% confidence interval (60.18–74.44). Wanted pregnancy (adjusted odds ratio = 2.86, 95% confidence interval: (2.24–3.64)), having a plan to deliver at a health facility (adjusted odds ratio = 2.09, 95% confidence interval: (1.42–3.09)), access to ambulance service (adjusted odds ratio = 1.52, 95% confidence interval: (1.00–2.31)), waiting time < 15 min (adjusted odds ratio = 3.66, 95% confidence interval: (2.51–5.33)), privacy assured (adjusted odds ratio = 3.94, 95% confidence interval: (2.23–6.94)), short duration of labour < 12 hr (adjusted odds ratio = 2.55, 95% confidence interval: (1.58–4.12)), proper labour pain management (adjusted odds ratio = 3.01, 95% confidence interval: (1.46–6.22)), and normal newborn outcome (adjusted odds ratio = 3.94, 95% confidence interval: (2.17–7.15)) were associated with women's satisfaction. Almost two-thirds of women were satisfied with skilled delivery care. In comparison, the remaining one-third were not satisfied with the care. The quality of intrapartum care, unwanted pregnancy, lack of ambulance services, prolonged duration of labour, poor labour pain management, and complicated newborn outcome were factors affecting women's satisfaction with skilled delivery care in Ethiopia. Therefore, strategies need to be developed to increase the satisfaction level by considering the abovementioned factors during routine delivery care.

Keywords

Associated factors, skilled delivery care, women's satisfaction, Ethiopia

Date received: 27 June 2021; accepted: 2 December 2021

¹Department of Midwifery, College of Health Sciences, Debre Markos University, Debre Markos, Ethiopia

²Department of Human Nutrition and Food Science, College of Health Sciences, Debre Markos University, Debre Markos, Ethiopia

³Department of Nursing, College of Health Sciences, Debre Markos University, Debre Markos, Ethiopia

⁴Department of Health Informatics, College of Health Sciences, Debre Markos University, Debre Markos, Ethiopia

⁵Department of Midwifery, College of Health Sciences, Debre Tabor University, Debre Tabor, Ethiopia

Corresponding author:

Keralem Anteneh Bishaw, Department of Midwifery, College of Health Sciences, Debre Markos University, P.O. Box 269, Debre Markos, Ethiopia.

Email: keralemante2010@gmail.com



Cover letter

Women's satisfaction with skilled delivery care is critical for reducing maternal mortality and morbidity by avoiding negative experiences with the health care system to enhance subsequent maternal health services utilization. Providing satisfying delivery care for women has immediate and long-term effects on their health. It reduces the losses of women due to reasons related to pregnancy and childbirth, thus avoiding great social and personal tragedies of maternal death and morbidity. Therefore, this study aimed to estimate women's satisfaction level with skilled delivery care and the associated factors in Ethiopia.

The findings of the study were reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2015 guideline. A random-effect model was used to estimate the pooled level of women's satisfaction with delivery care. Eggers test and funnel plots were used to check publication bias. Subgroup analysis and meta-regression were performed to identify the source of heterogeneity.

The pooled women's satisfaction level with skilled delivery care in Ethiopia was 67.31%. Factors associated with women's satisfaction with skilled delivery care were wanted pregnancy, planned delivery at a health facility, ambulance service, privacy, short waiting time and duration of labour, proper management of labour pain, and healthy newborn outcomes. Therefore, addressing these factors is pertinent to increase women's satisfaction with skilled delivery care, as maternal satisfaction had immediate and long-term effects on their health and subsequent use of maternal health services to reduce maternal morbidity and mortality.

Introduction

Globally, more than 500,000 women die every year from complications of pregnancy and childbirth.¹ Reducing maternal mortality and morbidity is a global problem, especially in developing countries like Ethiopia,² mainly attributed to poor maternity quality of care.¹ However, the availability of maternal health services does not guarantee the utilization and optimal outcomes for women.³ Although healthcare coverage has dramatically improved in recent decades, institutional delivery remains persistently low, and maternal mortality remains high.⁴ Despite efforts by Ethiopian governments to promote health institution-based delivery services, 85% of births have occurred at home.⁵

Maternal satisfaction with skilled childbirth care is the most frequently reported indicator for assessing the quality of obstetric services.⁶ Women's satisfaction with delivery care is a multidimensional concept with the following aspects: availability of human resources, medicine, and supplies; perceived provider competency and emotional support; and physical environment of the delivery ward, quality of care, and the health status of the mother and the newborn.⁷⁻¹⁰

Satisfaction with skilled delivery care in childbirth is essential for women to develop return behaviour and use maternal health services.¹¹ Satisfying delivery care has a direct and long-term impact on women's health. It reduces maternal deaths, thus avoiding major social and personal tragedies by improving the subsequent utilization of maternal health services.¹² In contrast, disrespect and abuse of women during childbirth are decisive factors to skilled delivery care utilization, especially in low- and middle-income countries.¹³ According to a study conducted in the west and south Ethiopia, around 74.8% and 98.9% of women experienced disrespect and abuse during childbirth at health facilities and received non-respectful care, respectively.^{4,13} Client dissatisfaction at a public health facility causes parturient women to decrease the utilization of maternal health services.⁸

Improving maternal satisfaction during delivery is essential to support the efforts of reducing maternal mortality.¹ As a result, the World Health Organization recommends monitoring and evaluating maternal satisfaction to improve the quality and efficiency of skilled delivery care.³

In Ethiopia, different studies have been conducted to determine the prevalence of maternal satisfaction and associated factors. The prevalence of maternal satisfaction ranges from 18%¹¹ to 95%,¹⁴ which shows a great variation across different geographical areas and periods. Regarding the associated factors, several factors such as maternal age,^{12,15-19} residence place,^{14,19-22} educational status,^{1,12,14,16,17,23-27} Antenatal Care (ANC) utilization,^{6,12,14,15,18,21,24,26} status of pregnancy,^{12,14,18,25,28,29} maternal outcome,^{25,28,30,31} presence of waiting area,^{18,22,28,32} presence of a clean toilet,^{12,18,22,27,33} having a plan to delivery at health facility,^{1,3,12,17,22,26,34,35} waiting time to be seen by obstetric caregivers (OCGs),^{1,12,14,19,23-26,28,29} labour pain management,^{26,27,32,36,37} respectful delivery care,^{22,27,31,32,34,38} means of transportation,^{14,25,27,32} opportunity to talk,^{27,38} newborn outcome,^{1,26,29,31} privacy during examinations,^{1,12,16,28-30,34,35} mode of delivery,^{1,3,19,25,29,32,36} payment for the services,^{23,36} and duration of labour^{3,6,16,29} were frequently and consistently reported as significant factors affecting woman satisfaction with skilled delivery care. In addition, many factors such as gravidity, delivery time, overall cleanliness of health facility, competency of health caregivers, sex of birth attendant, newborn care, well-coming gate, health facility stay time after delivery, previous place of delivery, and availability of drugs have been reported in Ethiopia with wide discrepancy.^{1,3,6,8,11,12,14-42} Aside from the variability in women's satisfaction with delivery services and associated factors, the nationally representative pooled data on maternal satisfaction with labour and delivery services in Ethiopia was not representative of all regions. Furthermore, the existing pooled data on the area was limited to a few studies.⁴³ Therefore, this systematic review and meta-analysis aimed to provide more current and representative national data on women's satisfaction with skilled delivery care and the associated factors. The results of this study will be beneficial in

Table 1. Logic grid and example of database search to assess women's satisfaction and the associated factors with skilled delivery care in Ethiopia.

Population	Condition	Context
Key terms labouring woman women woman	Key terms Women satisfaction Skilled delivery service Intrapartum care Institutional delivery service Associated factors Predictor	Key terms Ethiopia
Mesh terms Women's Health Services	MeSH terms –	MeSH terms Ethiopia
Databases	Searching terms	Number of studies
PubMed	((((labouring woman) OR (labouring women)) OR (Women's Health Services(MeSH Terms))) AND (((((Women satisfaction) OR (Skilled delivery service)) OR (Institutional delivery service)) OR (Associated factors)) OR (Predictor))) AND ((Ethiopia) OR (Ethiopia (MeSH Terms))).	443
Goggle Scholar	(Women OR mothers OR maternal, OR clients) AND Satisfaction AND labour AND delivery AND ('maternal satisfaction' OR 'women satisfaction' OR 'mothers satisfaction') AND ('Delivery service' OR 'Delivery care' OR 'labour and delivery care' OR ('labour and delivery service' OR 'childbirth services' OR 'delivery care services' OR 'intrapartum services') AND ('skilled delivery' OR 'institutional delivery') AND ('associated factors' OR 'predictors' OR 'Determinants') AND Ethiopia.	96
From other databases		13
Total retrieved articles		552
Number of included studies		36

Condition: Women's satisfaction towards skilled delivery care, and the associated factors like ANC visit, waiting time to be seen by health caregivers, privacy during examinations, planned delivery visit, newborn outcome, maternal outcome, payment for the services, means of transportation, and so on. Population: All women who gave birth in Ethiopia. Context: This review was conducted among all women who gave birth at health institutions of Ethiopia.

adapting and implementing methods to meet SDG 3.1 that calls for global maternal mortality to reduce to less than 70 per 100,000 live births. Furthermore, identifying and addressing the factors influencing mothers' satisfaction with their facility-based childbirth experience is the best strategy to improve delivery in health facilities in future pregnancies.⁴⁴

Method

Study design and search strategy

This systematic review and meta-analysis aimed to estimate the pooled satisfaction of women with skilled delivery care and the associated factors in Ethiopia. This systematic review and meta-analysis followed the Preferred Reporting Items for Systematic Review and Meta-Analyses 2015 guideline.⁴⁵ We systematically searched international databases like PubMed/Medline, SCOPUS, Embase, and Web of Science to identify published articles. Moreover, we searched google scholar to identify published studies and grey literature. All published and grey studies until 10 February 2021 were retrieved for critical appraisal and assessed for inclusion in

this review. The following search terms used using AND and OR Boolean operators to retrieve articles: (Women OR mothers OR maternal, OR clients) AND Satisfaction AND labour AND delivery AND ('maternal satisfaction' OR 'women satisfaction' OR 'mothers satisfaction') AND ('Delivery service' OR 'Delivery care' OR 'labour and delivery care' OR ('labour and delivery service' OR 'childbirth services' OR 'delivery care services' OR 'intrapartum services') AND ('skilled delivery services' OR 'institutional delivery services') AND ('associated factors' OR 'predictors') AND Ethiopia. The CoCoPop (Condition, Context, and Population) search strategy was used (Table 1).

Inclusion criteria and exclusion criteria

All community or health institution-based published and grey studies reporting women's satisfaction with skilled delivery care or the associated factors in the English language until 10 February 2021 are included in this review. However, articles without full access and did not report the outcome of the interest were excluded. Initially, articles were assessed independently for inclusion through a title and abstract. Then,

studies that passed the title and abstract review were also screened using the full text. In case of duplicated data, the full-text published article was retained.

Outcome of interest

The primary outcome of this study was women's satisfaction with skilled delivery care and the associated factors in Ethiopia. Women's satisfaction with institutional delivery care affects the choice of birthplace selection. It is vital to identify the gap between actual childbirth care and expected health care outcomes to reduce maternal mortality and improve the quality of delivery care.

Quality assessment and data extraction

The risk of bias included studies assessed using the Hoy risk of bias tool.⁴⁶ The three reviewers (Y.B., M.D., and K.A.B.) independently assessed and extracted the articles for overall study quality and inclusion in the review using a standardized data extraction format. The data extraction format included primary author, year of study, the study region, study design, sample size, level of woman satisfaction, and odds ratio of factors affecting maternal satisfaction on delivery care. Any disagreement between the reviewers was resolved through discussion and involving reviewers H.A., H.T., and H.M.

Data analysis

Data were extracted in Microsoft Excel and exported to STATA version 14.0 software for further analysis. The heterogeneity among studies was assessed using the I^2 test statistic.⁴⁷ A random-effects model was used to estimate the pooled prevalence of satisfaction with skilled delivery care. We used funnel plot⁴⁸ and Egger et al.'s⁴⁹ test to check for publication bias. In addition, we performed meta-regression and subgroup analysis to identify the source of heterogeneity. The effect of the selected predictor variables was analyzed using meta-analysis. The findings of this meta-analysis were presented using forest plot and odds ratio (OR) with its 95% confidence interval (CI).

Results

Article selection

Of the 552 articles retrieved, 536 were published and 14 were grey literature.¹⁴ Of these, 104 duplicated records and 409 articles were excluded through screening of the titles and abstracts. The remaining 39 studies were assessed for eligibility based on the inclusion and exclusion criteria. In addition, 2 studies were excluded from the total of 39 because the whole document could not be accessed,^{50,51} and the remaining one was excluded because it does not report the

outcome of interest.⁵² Finally, 36 studies were included in this systematic review and meta-analysis (Figure 1).

Characteristics of the included studies

This study includes a total of 36 cross-sectional studies with 16,875 participants to estimate the pooled prevalence of women's satisfaction with skilled delivery care and the associated factors. All the included studies were cross-sectional. From these, three were mixed,^{32,34,35} while one was a comparative cross-sectional.⁴¹ More than 90%³³ were health institution-based studies. The study included a maximum sample size of 1483 women in the Oromia region²⁰ and a minimum sample size of 197 women at the University of Gondar Referral Hospital.⁴¹ More than half of studies were conducted in Amhara region^{3,15,19,21,24,27,28,31,40-42} and Oromia region.^{1,12,17,18,20,29,30,32,34,37} Seven of the studies were from Southern Nations, Nationalities, and Peoples Representative (SNNPR) region,^{6,8,14,16,23,35,36} and 5 in Addis Ababa.^{11,25,33,38,53} The remaining three studies were from Harar,²⁶ Tigray,²² and Afar region.⁵⁴ The studies conducted in the SNNPR region¹⁴ and Addis Ababa,¹¹ respectively, reported the highest, 95%, and the lowest, 19%, level of women's satisfaction. Studies conducted after 2015 revealed the highest, 95%,¹⁴ and lowest level, 19%,¹¹ of satisfaction among women. The study conducted in Oromia reported the lowest (92.60%),¹⁸ and a 100% response rate was reported among studies in the Oromia, SNNPR, and Amhara region. More than three-quarters of the studies were conducted after 2015 (Table 2).

Women satisfaction with skilled delivery care

This systematic review and meta-analysis revealed that the pooled prevalence of woman satisfaction with skilled delivery care was 67.31 with 95% CI of (60.18–74.44) with significant heterogeneity between studies ($I^2=99.3$, $p=0.001$) (Figure 2). Therefore, subgroup analysis was conducted to identify the sources of heterogeneity by using study regions, year of study, and sample size.

Subgroup analysis

In the subgroup analysis, the highest (76.30) and lowest (61.13) satisfaction levels were reported from the SNNPR and Amhara region, respectively. The highest (72.35) satisfaction level was also found in studies conducted in ≤ 2015 years of study with a 95 % CI of (56.82–87.88) (Table 3).

Sensitivity analysis

A sensitivity analysis was performed to determine whether or not individual studies influenced the pooled prevalence estimates. The sensitivity analysis result revealed that none of the studies influenced the overall pooled prevalence in a random-effects model (Figure 3).

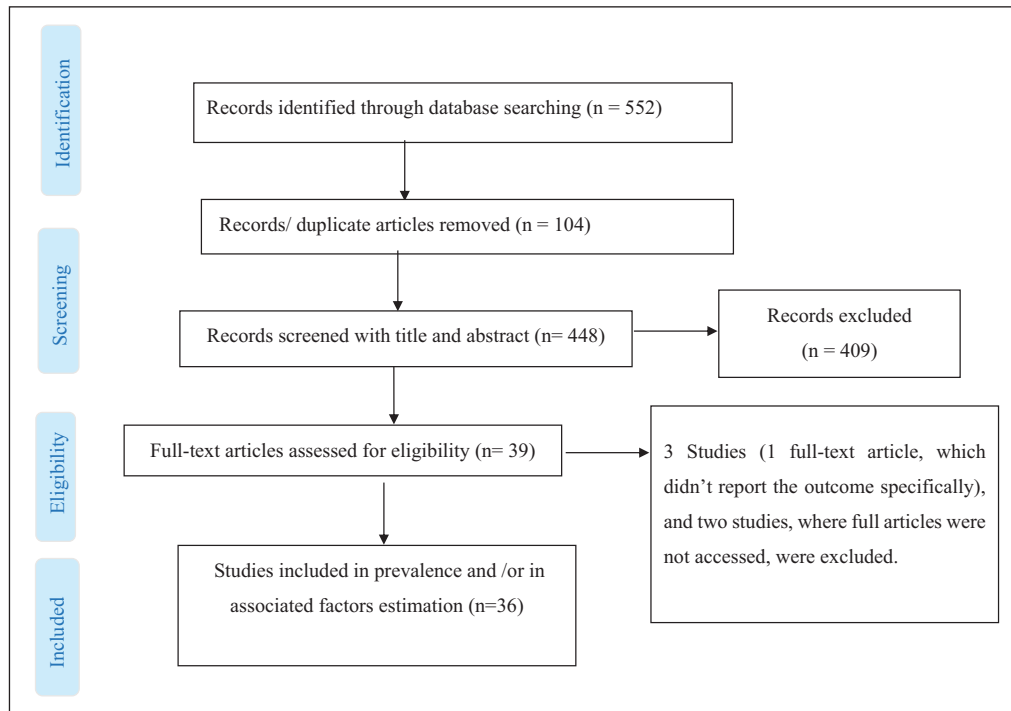


Figure 1. A flow chart of the 36 included studies in the systematic review and meta-analysis on women's satisfaction towards skilled delivery care and the associated factors in Ethiopia.

Publication bias

Egger's test, with a p value of ($p=0.001$), and asymmetry of funnel plot showed the presence of publication bias. To adjust this publication bias, the trim and fill analysis was done (Figure 4).

Meta-regression

Meta-regression was performed to identify the source of heterogeneity using study/publication year and sample size as a covariate. However, the result showed that sample size and publication/study year were not significant to be considered, as the source heterogeneity (Table 4).

Factors associated with maternal satisfaction on skilled delivery care

This meta-analysis identified different factors associated with women's satisfaction in delivery care in Ethiopia. Significantly associated factors were wanted pregnancy, planned delivery at a health facility, access to ambulance service, proper labour pain management, the short waiting time to be seen by OCGs, assuring privacy during examination, short duration of labour, and good newborn outcome. In addition, this meta-analysis revealed that the wanted pregnancy was associated with the satisfaction of women with skilled delivery care (adjusted odds ratio (AOR)=2.86, 95% CI: (2.24–3.64)).

Women who planned to give birth at a health facility were 2.09 times more likely to be satisfied with skilled delivery

care than those who did not (AOR=2.09, 95% CI: (1.42–3.09)). In this meta-analysis, a positive association was observed between getting an ambulance service to arrive at a health facility and women's satisfaction in skilled delivery care (AOR=1.52, 95% CI: (1.00–2.31)).

This meta-analysis and systematic review revealed that the odds of women being satisfied by skilled delivery care were 3.66 more likely in those women who waited for ≤ 15 min than women who waited for > 15 min to be seen by the OCGs (AOR=3.66, 95% CI: (2.51–5.33)). It also revealed that women whose privacy was respected were 3.94 times more likely to be satisfied than those who did not privacy was not respected (AOR=3.94, 95% CI: (2.23–6.94)).

In addition, women with a labour duration of < 12 hr were 2.55 times more likely satisfied with skilled delivery care compared to those women whose labour persist for more than 12 hr (AOR=2.55, 95% CI: (1.58–4.12)). This meta-analysis stated that women whose labour pain was managed were 3.01 times more likely to be satisfied than women whose labour pain was not managed (AOR=3.01, 95% CI: (1.46–6.22)). Finally, good newborn outcome was positively associated with women's satisfaction with skilled delivery care (AOR=3.94, 95% CI: (2.17–7.15); Table 5).

Discussion

Although global efforts to decrease maternal mortality have been increased, maternal satisfaction and its associated factors also need to be addressed by a developing country.¹⁰ This study reported that the pooled prevalence of Ethiopian

Table 2. Characteristics of the 36 included studies in the meta-analysis, Ethiopia.

Author	Year	Region	Source type	Study design	Study setting	Sample	Prevalence	Sample	Response rate	Quality
Demas et al. ¹¹	2017	Addis-Ababa	Journal	Cross-sectional	Hospital based	394	19	394	99%	8
Tayelgn et al. ²⁸	2011	Amhara	Journal	Cross-sectional	Hospital based	417	61.9	417	100%	8
Dewana et al. ²³	2016	SNNPR	Journal	Cross-sectional	HC.based	256	90.2	256	100%	8
Garoma et al. ²⁰	2020	Oromia	Journal	Cross-sectional	Hospital based	1483	55.35	1483	99.70%	8
Edaso and Teshome ¹	2019	Oromia	Journal	Cross-sectional	Hospital based	477	74.6	477	100%	7
Mekonnen et al. ¹⁵	2015	Amhara	Journal	Cross-sectional	Hospital based	594	74.9	594	100%	8
Amdemichael et al. ¹²	2014	Oromia	Journal	Cross-sectional	Hospital based	398	80.7	398	100%	6
Assefa ³⁸	2017	Addis Ababa	Dissertation	Cross-sectional	HC.based	461	82	461	100%	6
Asres ²⁷	2018	Amhara	Journal	Cross-sectional	Hospital based	420	88	420	100%	8
Taddese et al. ⁴¹	2020	Amhara	Journal	Cross-sectional	Hospital based	197	47.6	197	100%	7
Bitew et al. ³	2015	Amhara	Journal	Cross-sectional	Hospital based	398	81.7	398	100%	7
Tesfaye et al. ³⁶	2016	SNNPR	Journal	Cross-sectional	HC.based	430	79.1	430	100%	6
Getenet et al. ²⁶	2019	Harar	Journal	Cross-sectional	Hospital based	398	84.7	398	100%	8
Firdie et al. ²⁴	2017	Amhara	Dissertation	Cross-sectional	Hospital based	403	65.5	403	94.60%	7
Tadesse et al. ¹⁸	2017	Oromia	Journal	Cross-sectional	HC.based	422	65.2	422	92.60%	9
Yarinbab et al. ⁶	2019	SNNPR	Journal	Cross-sectional	Co. based	280	30.4	280	100%	8
Darebo ³⁵	2016	SNNPR	Journal	Cross-sectional	BH&HC based	380	67.9	380	96.80%	8
Temamo et al. ¹⁴	2018	SNNPR	Journal	Cross-sectional	Hospital based	737	95	737	99.86%	8
Yohannes et al. ¹⁶	2013	SNNPR	Journal	Cross-sectional	HC.based	363	82.9	363	100%	7
Gashaye et al. ⁴⁰	2019	Amhara	Journal	Cross-sectional	Hospital based	593	31.3	593	100%	8
Gonie et al. ³⁴	2018	Oromia	Journal	Cross-sectional	BH&HC based	366	78.7	366	100%	6
Agimas et al. ¹⁹	2018	Amhara	Dissertation	Cross-sectional	Hospital based	496	21.2	496	95%	6
Tadele et al. ¹⁷	2020	Oromia	Journal	Cross-sectional	HC.based	477	74.8	477	96%	8
Gebremeskel et al. ²²	2018	Tigray	Dissertation	Cross-sectional	Hospital based	302	70.2	302	100%	7
Karoni et al. ⁴²	2020	Amhara	Journal	Cross-sectional	BH&HC based	894	61.4	894	99.8%	8
Babure et al. ²⁹	2020	Oromia	Journal	Cross-sectional	Hospital based	260	82	260	98.8%	7
Birhane et al. ³¹	2020	Amhara	Dissertation	Cross-sectional	Hospital based	422	87.6	422	99.5%	6
Gejea et al. ³⁰	2020	Oromia	Journal	Cross-sectional	Hospital based	384	83.9	384	100%	8
Demis et al. ²¹	2020	Amhara	Journal	Cross-sectional	Hospital based	398	51	398	100%	8
Debela et al. ³²	2021	Oromia	Journal	Cross-sectional	Co. based	460	36.6	460	98%	9
Alemu ³³	2019	Addis Ababa	Dissertation	Cross-sectional	Hospital based	422	51.7	422	95.3%	7
Mohammed et al. ⁵⁴	2017	Afar	Journal	Cross-sectional	Co. based	530	33.5	530	97.6%	6
Bulto et al. ³⁷	2020	Oromia	Journal	Cross-sectional	HC.based	560	60.8	560	99.64%	9
Melese et al. ⁵³	2014	Addis Ababa	Journal	Cross-sectional	Hospital based	423	92.9	423	100%	5
Mehari ²⁵	2019	Addis Ababa	Dissertation	Cross-sectional	HC.based	582	89.7	582	97%	8
Agumasie et al. ⁸	2018	SNNPR	Journal	Cross-sectional	Hospital based	398	87.7	398	97.9%	9

HC: Health Centre; Co.: Community; BH&HC: Both Hospital and Health Centre; SNNPR: Southern Nations, Nationalities, and Peoples Representative.

women's satisfaction in delivery services was 67.31%, with a 95% CI of (60.18–74.44). This finding is in line with a meta-analysis in low-income countries.⁴³ This result is also in line with studies conducted in India (68.7%)⁵⁵ and Pakistan

(61%).⁵⁶ But this finding was higher than a study done in Jordan 17.8%,⁵⁷ Xiengkhuang province (38.6 %),⁵⁸ Nepal (56%),⁵⁹ Senegal (56%),⁴⁴ Kenya (54.5%),⁶⁰ Nairobi (56%),⁶¹ Sudan (47.5%),⁶² and Eritrea (20.8%).⁶³

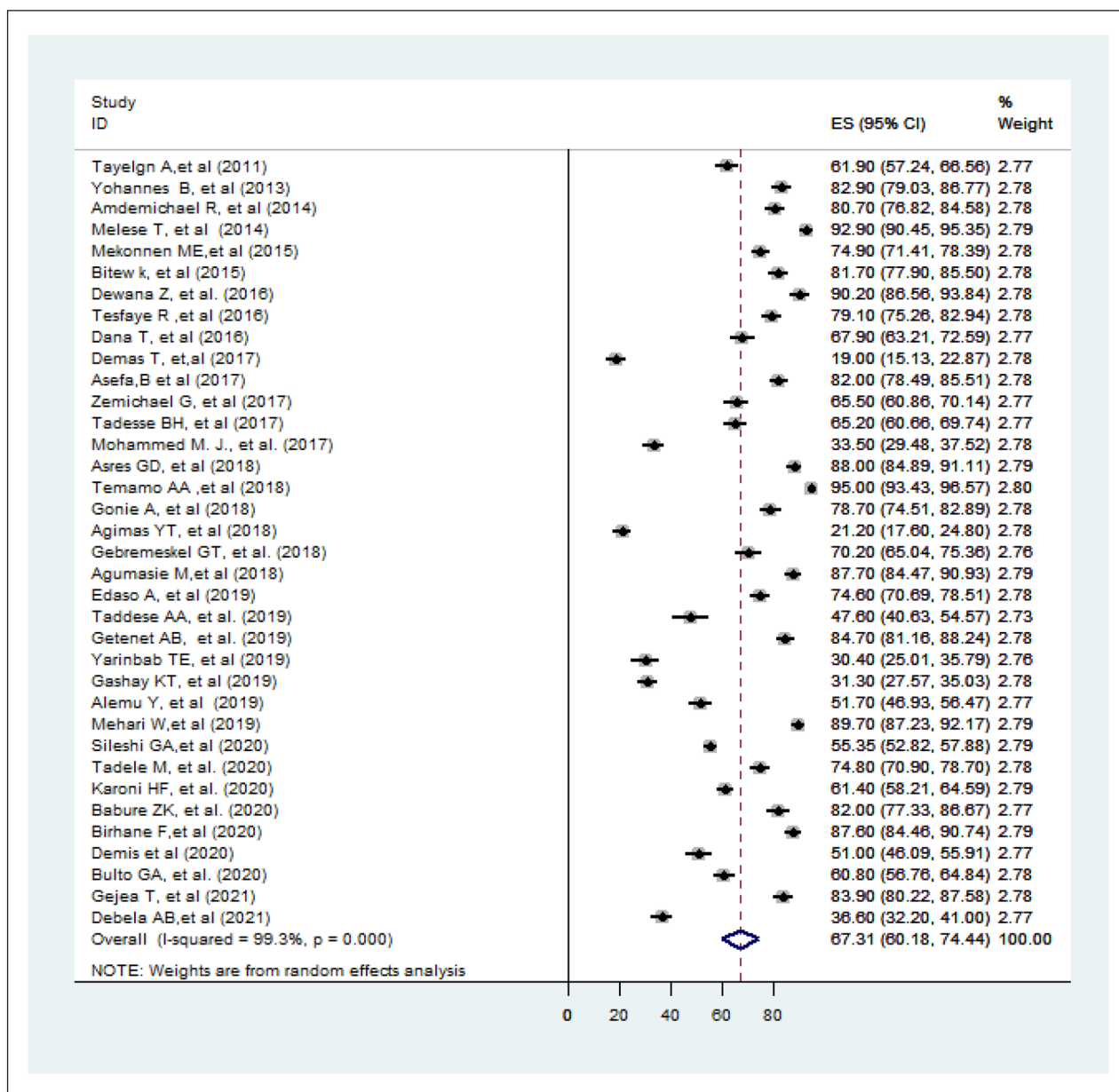


Figure 2. Forest plot showed the pooled prevalence of women satisfaction with 95 % confidence intervals.

Table 3. Subgroup analysis of the pooled prevalence of women’s satisfaction, 95% CI, and heterogeneity estimate with a p value.

Variables	Number of studies	Pooled prevalence (95% CI)	I ² (p value)	
By region	Addis Ababa	5	67.10, (41.97–92.22)	99.7 % (0.000)
	Amhara	11	61.13, (47.16–75.11)	99.3% (0.000)
	SNNPR	7	76.30, (63.67–88.93)	99.2 % (0.000)
	Oromia	10	69.26, (60.193–78.33)	98.3% (0.000)
	Other regions*	3	62.80, (30.51–95.09)	99.4% (0.000)
By year of publication	≤2015	6	72.35, (56.82–87.88)	96.2% (0.000)
	>2015	30	66.09, (57.91–74.26)	99.4% (0.000)
By sample size	<400	15	68.62, (56.95–80.29)	99 % (0.000)
	≥400	21	66.47, (57.22–75.72)	99.5% (0.000)

Other regions*: Tigray, Harar, and Afar. CI: confidence interval; SNNPR: Southern Nations, Nationalities, and Peoples Representative.

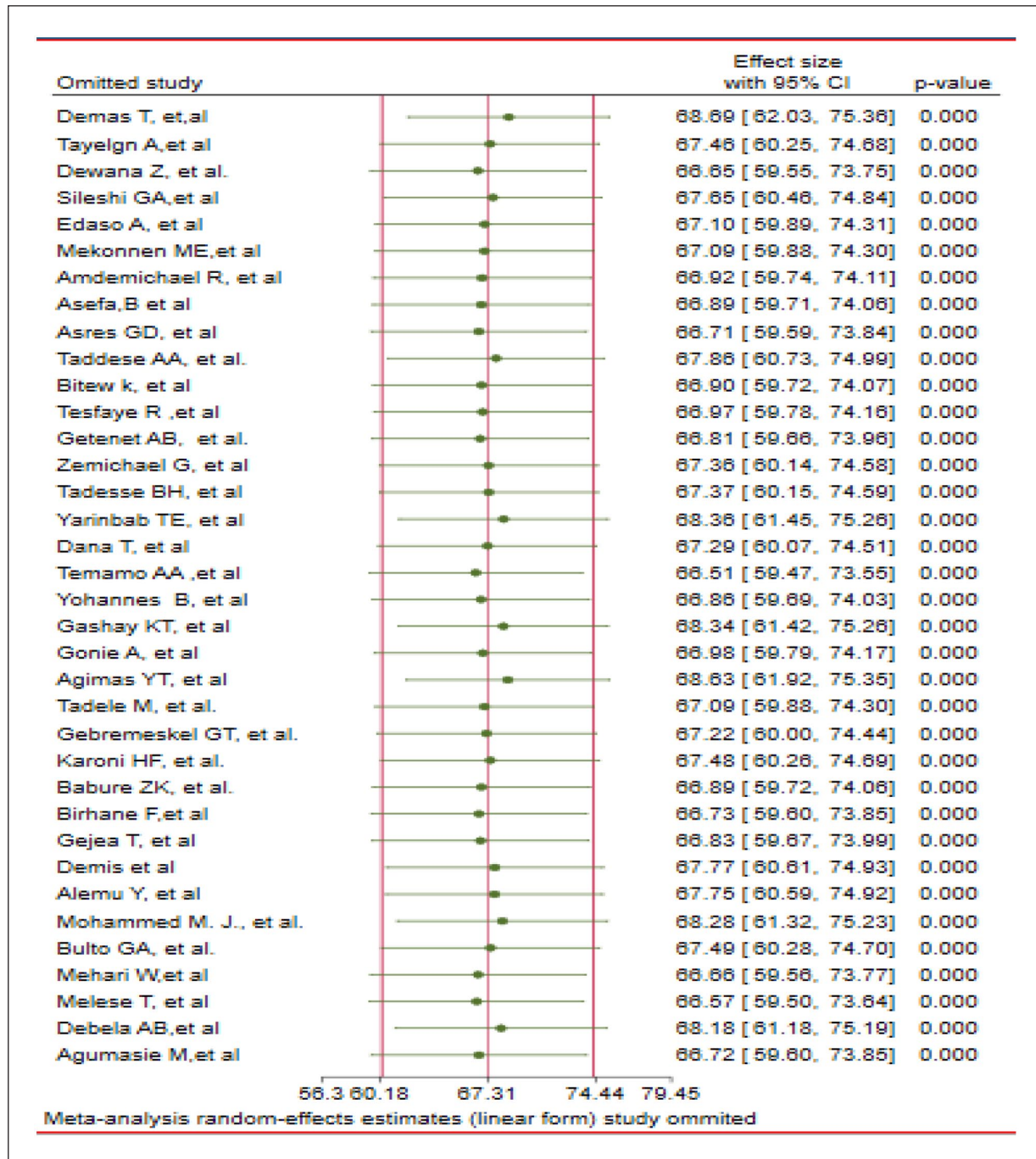


Figure 3. Result of sensitivity analysis of the included 36 studies.

On the other hand, this finding was lower than the studies conducted in India (79.2%),⁵⁵ Sweden (90%),⁶⁴ Serbia (81%),⁶⁵ Nepal (89.88%),⁶⁶ Saudi Arabia (89.5 %),⁶⁷ Mozambique (92.5%),⁹ and Egypt (78.5%).⁶⁸ This might be due to the difference in the quality delivery service provided, women's level of expectation and experiences, and a difference in socio-demographic characteristics of study participants. This may also be due to a difference in social and cultural factors that determine the perception of labouring

women towards delivery care. A difference in the quality of services provided for labouring women across countries and type of health facilities contributed to this difference. Experience and prelabour expectations of women also determine maternal satisfaction with childbirth.⁶⁹

The subgroup analysis of this study revealed that the highest (76.30%) pooled prevalence was reported in the SNNPR region, followed by the Oromia region (69.26 %). This difference might be due to a difference in socio-demographic

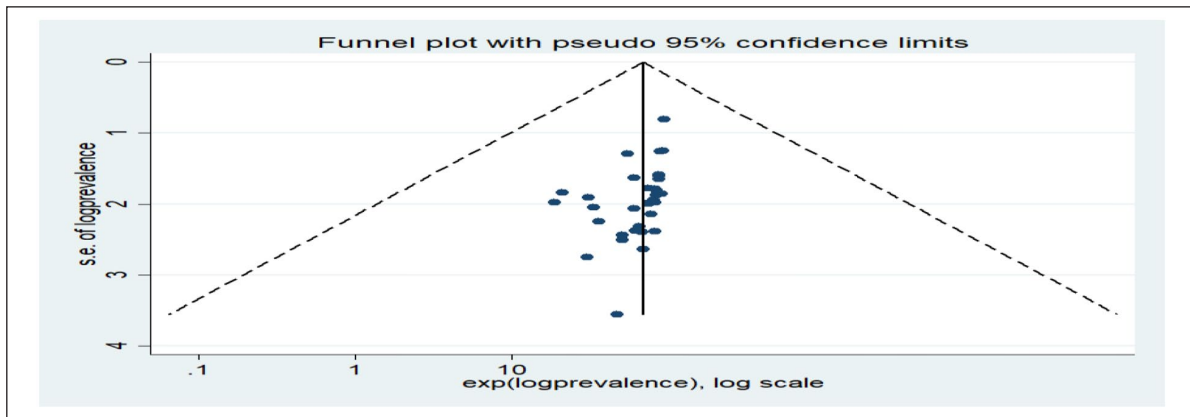


Figure 4. Funnel plot the test of publication bias.

Table 4. Meta-regression analysis of factors affecting between-study heterogeneity.

Heterogeneity source	Coefficients	Standard error	p value
Sample size	3.404273	7.348788	0.646
Publication/year of the study	-14.25986	9.433925	0.140

characteristics, expectations of women about childbirth quality of services, and differences in social and cultural norms of the women across the region.

Despite advancement and increased accessibility of maternal health services, the subgroup analysis based on year reported that maternal satisfaction was 72.35 % among studies conducted at or before 2015, greater than the later years with 66.09%. This discrepancy may be due to changing the perceptions and expectations about the quality of services by the labouring women who demand better quality childbirth care in a health facility over time. This might also be due to increased women's awareness about the standard of delivery services increased maternal health services utilization. For instance, ANC utilization has increased from 28% in 2005 EDHS⁷⁰ to 74% in 2019 mini EDHS,⁷¹ making women expect a better quality of delivery care. For women to be satisfied by the given delivery services, OCGs should consider the women's expectations and provide consistent care.⁶⁶

In this meta-analysis, women who wanted their pregnancy were 2.60 times more likely to be satisfied than mothers who did not. A study conducted in Kenya supports this finding.⁶¹ Thus, women's dissatisfaction, worry, or ambivalence resulting from unwanted pregnancy was associated with reduced satisfaction, which might impair their perception of their birth experience and satisfaction. This meta-analysis revealed that women who planned to give birth at health institutions were 2.09 times more likely to be satisfied than those who did not. This might be due to having a plan to deliver at health facilities based on better knowledge about

labour and delivery-related complications that contribute to a woman having more realistic expectations about the services than those who did not plan. Respectful and compassionate maternity care during the antenatal period may also increase women's satisfaction during delivery.⁴³

Women who get ambulance service to arrive at health facility more likely to satisfy than women did not (AOR=1.52). This result is supported by a study done in India.⁷² This might be due to policies exempting women from direct payment for childbirth services results in women's satisfaction.⁷³ Reduction in adverse pregnancy outcomes and access to skilled delivery care through emergency obstetric transportation contributes to an increased satisfaction rate of women.⁷⁴

This study revealed that women who waited for ≤ 15 min were 3.66 times more likely to be satisfied with labour and delivery services than those who waited for > 15 min to be seen by the health caregivers. This finding is congruent with a study conducted in Bangladesh,⁷⁵ Bengal,⁷⁶ and Nepal.⁵⁹ This result was also consistent with a study in the Musandam region of Omanin which reported prolonged waiting time as a factor for dissatisfaction of clients with the services provided⁷⁷ and in Iran where 6.4% of women were disappointed by long waiting time until they have been seen by health caregivers.⁷⁸ This is due to reducing waiting times to be seen by health caregivers is mandatory for satisfying clients,⁷⁹ and longtime waiting creates a sense of ignoring among clients by health caregivers and health facility which may end up with dissatisfaction of clients. Moreover, longer waiting times can be associated with childbirth complications, such as stillbirth, death of a newborn, and maternal death,⁸⁰ and also impair the quality of services provided for women.

This review revealed that women whose privacy was assured were 3.94 times more likely to be satisfied than those whose privacy was not guaranteed. This finding was congruent with a review from developing countries.⁸¹ Studies from Bangladesh,⁷⁵ India,⁷² Ghana,^{73,82} and Uganda⁸³ also support this evidence. In addition, a survey in Eritrea revealed dissatisfaction towards service given was associated with a lack

Table 5. The adjusted odds ratio between women's satisfaction with skilled delivery care and the associated factors in Ethiopia, 2021.

Predictors	Number of studies	Adjusted odds ratio (AOR)	I ²	p value
Wanted pregnancy	6	2.86, (2.24–3.64)	0.0%	0.682
Having a plan to deliver at health facility	8	2.09, (1.42–3.09)	76.9%	0.001
Access to ambulance service	4	1.52, (1.00–2.31)	49.3%	0.116
Waiting time < 15 min	5	3.66, (2.51–5.33)	23.7%	0.263
Privacy assured	8	3.94, (2.23–6.94)	87.6%	0.001
Duration of labour < 12 hr	4	2.55, (1.58–4.12)	53.7%	0.091
Proper labour pain management	5	3.01, (1.46–6.22)	86.9%	0.001
Normal newborn outcome	4	3.94, (2.17–7.15)	59.5%	0.060

of adequate privacy measures during the examination.⁶³ This is because the obstetric caregiver process to perform physical examination affects women's satisfaction level,⁸⁴ and privacy is an essential factor determining women's satisfaction level with maternal care services.¹⁰ Keeping privacy also was taken as respecting the women and their local culture and norms.

This meta-analysis found that the shorter duration of labour was associated with a higher rate of satisfaction among women (AOR=2.55). This evidence is consistent with a study in Sweden.⁸⁵ The possible reason may be the negative effect of prolonged labour on birth outcomes and women's experiences.⁸⁶ Mothers with prolonged labour are at risk of a negative birth experience.⁸⁷ This might also be because women with prolonged labour were more likely to be dissatisfied with repeated vaginal examinations and persistent labour pain.

A quasi-experimental study in Iraq supports this evidence. This meta-analysis found that women whose labour pain was managed were 3.01 times more likely to be satisfied than those whose women labour pain was not managed (AOR=3.01). Women whose labour pain was managed was associated greater satisfaction with childbirth experience.⁸⁸ This finding is also in line with a study in Jordan, as inadequate labour pain relief was associated with low satisfaction.⁵⁷

Finally, according to this meta-analysis, women with good newborn outcomes were 3.94 times more likely to be satisfied than women with poor newborn outcomes. A study in Iraq supports this finding that women with healthy newborn outcomes were more satisfied.⁸¹ This is because pregnant mothers want a normal baby, so if they deliver a baby without complications, the mother's satisfaction will change, and they will become more satisfied. Having a healthy newborn can help to balance the negative experiences of childbirth.

Strength and limitation

This systematic review and meta-analysis attempted to include all regions and available evidence in Ethiopia to ensure the representativeness of the findings. The majority of the included studies were facility-based and cross-sectional, which may be considered a limitation. This review could be better interpreted if the limitations of the original studies were considered.

Conclusion

Although the Ethiopian government strives to increase skilled birth deliveries, only 67.31% of women were satisfied in institutional delivery care. This meta-analysis revealed that wanted pregnancy, having a plan to give delivery at a health facility, getting ambulance service, privacy, short waiting time and duration of labour, labour pain management, and healthy newborn outcome were factors associated with women's satisfaction.

Therefore, responsible bodies should work to meet the expectations of labouring women by maintaining their privacy, reducing waiting time to be seen by health caregivers, and encouraging women to develop a birth plan to deliver at health institutions and avoid unwanted pregnancy to increase women's satisfaction in the skilled delivery care. Also, measures should be taken to improve the quality of intrapartum care for a better newborn outcome, accessibility of ambulance services, and labour pain management.

Overall, this meta-analysis has the potential to be a very useful reference for planners of midwifery care in low-income countries to prevent preventable maternal and neonatal morbidity and mortality during childbirth and the postpartum period.

Acknowledgements

We would like to thank all the authors included in this systematic review and meta-analysis.

Author contributions

KA, HT, TE, and HM were involved in the design, selection of study, statistical analysis, and developing the initial drafts of the article. KA, HA, MD, YB, and TA were involved in data extraction. All authors prepared and revised subsequent drafts. KA, HT, BB, and GA prepared the final draft of the article. Finally, all authors read and approved the final draft of the article.

Availability of data and material

All the datasets analyzed during this study are available from the corresponding author upon reasonable request.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.


Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iDs

Keralem Anteneh Bishaw  <https://orcid.org/0000-0001-7386-9418>

Haile Amha  <https://orcid.org/0000-0002-7583-6780>

Temesgen Ayenew  <https://orcid.org/0000-0001-5411-6947>

Supplemental material

Supplemental material for this article is available online.

References

- Edaso AU and Teshome GS. Mothers' satisfaction with delivery services and associated factors at health institutions in west Arsi, Oromia regional state, Ethiopia. *MOJ Womens Health* 2019; 8(1): 110–119.
- Teferre AS, Alemu FM and Woldeyohannes SM. Institutional delivery service utilization and associated factors among mothers who gave birth in the last 12 months in Sekela District, North West of Ethiopia: a community-based cross sectional study. *BMC Pregnancy Childbirth* 2012; 12(1): 74.
- Bitew K, Ayichiluhm M and Yimam K. Maternal satisfaction on delivery service and its associated factors among mothers who gave birth in public health facilities of Debre Markos Town, Northwest Ethiopia. *Biomed Res Int* 2015; 2015: 460767.
- Bobo FT, Kasaye HK, Etana B, et al. Disrespect and abuse during childbirth in Western Ethiopia: should women continue to tolerate? *PLoS ONE* 2019; 14(6): e0217126.
- Kebede A, Hassen K and Teklehaymanot AN. Factors associated with institutional delivery service utilization in Ethiopia. *Int J Womens Health* 2016; 8: 463–475.
- Yarinbab TE, Ambo WA, Regea T, et al. Level of maternal satisfaction and its determinants at health facilities in Mizan-Aman town, Ethiopia: cross sectional study. *Int J Womens Health Wellness* 2019; 5(1): 88.
- Goodman P, Mackey MC and Tavakoli AS. Factors related to childbirth satisfaction. *J Adv Nurs* 2004; 46(2): 212–219.
- Agumasie M, Yohannes Z and Abegaz T. Maternal satisfaction and associated factors on delivery care service in Hawassa city public hospitals, South Ethiopia. *Gynecol Obstet* 2018; 8(5): 1000473.
- Mocumbi S, Högborg U, Lampa E, et al. Mothers' satisfaction with care during facility-based childbirth: a cross-sectional survey in southern Mozambique. *BMC Pregnancy Childbirth* 2019; 19(1): 303.
- Srivastava A, Avan BI, Rajbangshi P, et al. Determinants of women's satisfaction with maternal health care: a review of literature from developing countries. *BMC Pregnancy Childbirth* 2015; 15: 97.
- Demas T, Getinet T, Bekele D, et al. Women's satisfaction with intrapartum care in St Paul's Hospital Millennium Medical College Addis Ababa Ethiopia: a cross sectional study. *BMC Pregnancy Childbirth* 2017; 17(1): 253.
- Amdemichael R, Tafa M and Fekadu H. Maternal satisfaction with the delivery services in Assela Hospital, Arsi zone, Oromia region. *Gynecol Obstet* 2014; 4(12): 1000257.
- Ukke GG, Gurara MK and Boynito WG. Disrespect and abuse of women during childbirth in public health facilities in Arba Minch town, south Ethiopia—a cross-sectional study. *PLoS ONE* 2019; 14(4): e0205545.
- Temamo AA, Abebe A and Menta AA. Mothers' satisfaction with institutional delivery service and associated factors among women attending hospitals in Wolaita Zone administration, SNNPR, Ethiopia. *J Nutr Diet Pract* 2018; 2(2): 1–12.
- Mekonnen ME, Yalew WA and Anteneh ZA. Women's satisfaction with childbirth care in Felege Hiwot Referral Hospital, Bahir Dar city, Northwest Ethiopia, 2014: cross sectional study. *BMC Res Notes* 2015; 8(1): 528.
- Yohannes B, Tarekegn M and Paulos W. Mothers' utilization of antenatal care and their satisfaction with delivery services in selected public health facilities of Wolaita Zone, Southern Ethiopia. *Int J Sci Technol Res* 2013; 2(2): 74–85.
- Tadele M, Bikila D, Fite RO, et al. Maternal satisfaction towards childbirth Service in Public Health Facilities at Adama town, Ethiopia. *Reprod Health* 2020; 17: 60.
- Tadesse BH, Bayou NB and Nebek GT. Mothers' satisfaction with institutional delivery service in public health facilities of Omo Nada district, Jimma Zone. *Clin Med Res* 2017; 6(1): 23–30.
- Agimas TT, Boke MM and Abebe SM. Mothers satisfaction on delivery service and associated factors among mothers who gave birth at Gondar University specialized and teaching hospital, Northwest Ethiopia 2018, 2018, <https://www.researchsquare.com/article/rs-4248/v1>
- Garoma S, Mannekulih E, Workineh T, et al. Client satisfaction and associated factors with skilled delivery services among women delivered in the public health institutions of Oromia region, Ethiopia. *Asian J Sci Technol* 2020; 11(1): 10590–10597.
- Demis A, Nigatu R, Assefa D, et al. Maternal satisfaction with intrapartum nursing care and its associated factors among mothers who gave birth in public hospitals of North Wollo zone, northeast Ethiopia: institution-based cross-sectional study. *J Pregnancy* 2020; 2020: 8279372.
- Gebremeskel TG, Tukue D, Gebremariam L, et al. Assessment of service satisfaction and associated status among women who have given birth in Adigrat general hospital, Ethiopia, 2018, 2020, https://www.researchgate.net/publication/340494028_Assessment_of_service_satisfaction_and_associated_status_among_women_who_have_given_birth_in_Adigrat_general_hospital_Ethiopia_2018
- Dewana Z, Fikadu T, G/Mariam A, et al. Client perspective assessment of women's satisfaction towards labour and delivery care service in public health facilities at Arba Minch town and the surrounding district, Gamo Gofa zone, south Ethiopia. *Reprod Health* 2016; 13(1): 11.
- Firdie A, Maru A, Deriye A, et al. Maternal satisfaction on delivery care services and associated factors among mothers who gave birth in the University of Gondar teaching and referral hospital, northwest Ethiopia, 2020, https://www.researchgate.net/publication/344793650_Maternal_Satisfaction_on_Delivery_Care_Services_and_Associated_Factors_Among_Mothers_who_Gave_Birth_in_the_University_of_Gondar_Teaching_and_Referral_Hospital_Northwest_Ethiopia
- Mehari W. *Maternal satisfaction on delivery service in public health centers: facility based cross sectional study*. Addis Ababa, Ethiopia: Addis Ababa University, 2019.

26. Getenet AB, Roba KT, Endale BS, et al. Women's satisfaction with intrapartum care and its predictors at Harar hospitals, Eastern Ethiopia: a cross-sectional study. *Nurs Res Rev* 2019; 9: 1–11.
27. Asres GD. Satisfaction and associated factors among mothers delivered at Asrade Zewude Memorial Primary Hospital, Bure, West Gojjam, Amharic, Ethiopia: a cross sectional study. *Glob J Med Res* 2018; 8(2): 1000293.
28. Tayelgn A, Zegeye DT and Kebede Y. Mothers' satisfaction with referral hospital delivery service in Amhara region, Ethiopia. *BMC Pregnancy Childbirth* 2011; 11(1): 78.
29. Babure ZK, Assefa JF and Weldemariam TD. Maternal satisfaction and associated factors towards delivery service among mothers who gave birth at Nekemte Specialized Hospital, Nekemte town, East Wollega zone, Oromia regional state, Western Ethiopia, 2019: a cross sectional study design. *J Womens Health Care* 2020; 9(3): 489.
30. Gejea T, Abadiga M and Hasen T. Maternal satisfaction with delivery services of government hospitals in Ambo town, West Shoa zone, Oromia region, Ethiopia, 2020. *Patient Prefer Adherence* 2020; 14: 1225–1235.
31. Birhane F, Ejigu Y and Kilfie Y. Client satisfaction with delivery service in Debre Markos Referral Hospital, Amhara region, North Ethiopia, 2012.
32. Debela AB, Mekuria M, Kolola T, et al. Maternal satisfaction and factors associated with institutional delivery care in central Ethiopia: a mixed study. *Patient Prefer Adherence* 2021; 15: 387–398.
33. Alemu Y. *Clients' satisfaction level towards labor and delivery services at selected public and private hospitals, Addis Ababa, Ethiopia, 2019*. Addis Ababa, Ethiopia: Addis Ababa University, 2019.
34. Goni A, Tebeje B and Sinaga M. Satisfaction towards skilled delivery services and associated factors among mothers who gave birth at government health facilities, Jimma town, Ethiopia. *Clin Mother Child Health* 2018; 15(3): 1000302.
35. Darebo TD. Factors associated with client satisfaction with institutional delivery care at public health facilities in South Ethiopia. *J Med Physiol Biophys* 2016; 25: 1–10.
36. Tesfaye R, Worku A, Godana W, et al. Client satisfaction with delivery care service and associated factors in the public health facilities of Gamo Gofa zone, southwest Ethiopia: in a resource limited setting. *Obstet Gynecol Int* 2016; 2016: 5798068.
37. Bulto GA, Demissie DB, Tasu TL, et al. Mother's satisfaction with the existing labor and delivery care services at public health facilities in West Shewa zone, Oromia region, Ethiopia. *BMC Pregnancy Childbirth* 2020; 20: 303.
38. Assefa B. *Maternal satisfaction with delivery services of public health centers in Addis Ababa, Ethiopia, 2017*. Addis Ababa, Ethiopia: Addis Ababa University, 2017.
39. Birhanu Z, Assefa T, Woldie M, et al. Determinants of satisfaction with health care provider interactions at health centres in central Ethiopia: a cross sectional study. *BMC Health Serv Res* 2010; 10(1): 78.
40. Gashaye KT, Tsegaye AT, Shiferaw G, et al. Client satisfaction with existing labor and delivery care and associated factors among mothers who gave birth in University of Gondar Teaching Hospital; Northwest Ethiopia: institution-based cross-sectional study. *PLoS ONE* 2019; 14(2): e0210693.
41. Taddese AA, Gashaye KT, Dagne H, et al. Maternal and partner's level of satisfaction on the delivery room service in University of Gondar Referral Hospital, northwest, Ethiopia: a comparative cross-sectional study. *BMC Health Serv Res* 2020; 20(1): 233.
42. Karoni HF, Bantie GM, Azage M, et al. Maternal satisfaction among vaginal and cesarean section delivery care services in Bahir Dar city health facilities, Northwest Ethiopia: a facility-based comparative cross-sectional study. *BMC Pregnancy Childbirth* 2020; 20(1): 473.
43. Fikre R, Eshetu K, Berhanu M, et al. What determines client satisfaction on labor and delivery service in Ethiopia? Systematic review and meta-analysis. *PLoS ONE* 2021; 16(4): e0249995.
44. Oikawa M, Sonko A, Faye EO, et al. Assessment of maternal satisfaction with facility-based childbirth care in the rural region of Tambacouda, Senegal. *Afr J Reprod Health* 2014; 18(4): 95–104.
45. Moher D, Shamseer L, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst Rev* 2015; 4(1): 1.
46. Hoy D, Brooks P, Woolf A, et al. Assessing risk of bias in prevalence studies: modification of an existing tool and evidence of interrater agreement. *J Clin Epidemiol* 2012; 65(9): 934–939.
47. Higgins JPT, Thompson SG, Deeks JJ, et al. Measuring inconsistency in meta-analyses. *BMJ* 2003; 327(7414): 557–560.
48. Mavridis D and Salanti G. Exploring and accounting for publication bias in mental health: a brief overview of methods. *Evid Based Ment Health* 2014; 17(1): 1–5.
49. Egger M, Smith GD, Schneider M, et al. Bias in meta-analysis detected by a simple, graphical test. *BMJ* 1997; 315(7109): 629–634.
50. Eziawdres D. *Assessment of maternal satisfaction on delivery service and its associated factors among mothers in Yeka sub-city public health centers, Addis Ababa, Ethiopia*. Addis Ababa, Ethiopia: Addis Continental Institute of Public Health (ACIPH), 2020.
51. Zeleke E. *Assessment of maternal satisfaction with delivery services in public health facilities of Addis Ketema sub-city, Addis Ababa, Ethiopia*. Addis Ababa, Ethiopia: Addis Continental Institute of Public Health (ACIPH), 2018.
52. Marama T, Bayu H, Merga M, et al. Patient satisfaction and associated factors among clients admitted to obstetrics and gynecology wards of public hospitals in Mekelle town, Ethiopia: an institution-based cross-sectional study. *Obstet Gynecol Int* 2018; 2018: 2475059.
53. Melese T, Gebrehiwot Y, Bisetegn D, et al. Assessment of client satisfaction in labor and delivery services at a maternity referral hospital in Ethiopia. *Pan Afr Med J* 2014; 17: 76.
54. Mohammed MJ, Mohammed YE and Reddy PS. Institutional delivery service utilization and associated factors among mothers in Afambo district, Afar, Ethiopia-2016. Community based cross sectional study. *Med Res Chron* 2017; 4(4): 363–379.
55. Jha P, Larsson M, Christensson K, et al. Satisfaction with childbirth services provided in public health facilities: results from a cross-sectional survey among postnatal women in Chhattisgarh, India. *Glob Health Action* 2017; 10(1): 1386932.

56. Ashraf M, Ashraf F, Rahman A, et al. Assessing women's satisfaction level with maternity services: evidence from Pakistan. *Int J Collab Res Intern Med Publ Health* 2012; 4(11): 1841–1851.
57. Mohammad KIS, Shaban I, Homer C, et al. Women's satisfaction with hospital-based intrapartum care: a Jordanian study. *Int J Nurs Midwifery* 2014; 6(3): 32–39.
58. Khammany P, Yoshida Y, Sarker MAB, et al. Delivery care satisfaction at government hospitals in Xiengkhuang Province under the maternal and child health strategy in Lao PDR. *Nagoya J Med Sci* 2015; 77(1–2): 69–79.
59. Paudel YR, Mehata S, Paudel D, et al. Women's satisfaction of maternity care in Nepal and its correlation with intended future utilization. *Int J Reprod Med* 2015; 2015: 783050.
60. Gitobu C, Gichangi P and Mwanda W. Satisfaction with delivery services offered under the free maternal healthcare policy in Kenyan public health facilities. *J Environ Public Health* 2018; 2018: 4902864.
61. Bazant ES and Koenig MA. Women's satisfaction with delivery care in Nairobi's informal settlements. *Int J Qual Health Care* 2009; 21(2): 79–86.
62. Handady SO, Sakin HH and Alawad AAM. An assessment of intra partum care provided to women in labor at Omdurman Maternity Hospital in Sudan and their level of satisfaction with it. *Int J Publ Health Res* 2015; 3(5): 218–222.
63. Kifle MM, Ghirmai FA, Berhe SA, et al. Predictors of women's satisfaction with hospital-based intrapartum care in Asmara public hospitals, Eritrea. *Obstet Gynecol Int* 2017; 2017: 3717408.
64. Waldenström U, Rudman A and Hildingsson I. Intrapartum and postpartum care in Sweden: women's opinions and risk factors for not being satisfied. *Acta Obstet Gynecol Scand* 2006; 85(5): 551–560.
65. Matejić B, Miličević MŠ, Vasić V, et al. Maternal satisfaction with organized perinatal care in Serbian public hospitals. *BMC Pregnancy Childbirth* 2014; 14(1): 14.
66. Panth A and Kafle P. Maternal satisfaction on delivery service among postnatal mothers in a government hospital, Mid-Western Nepal. *Obstet Gynecol Int* 2018; 2018: 4530161.
67. Tehsin F, Mohammed AO, Lassoued L, et al. Parturient satisfaction with intrapartum and postpartum care in a maternity referral hospital at Al Ahsa, Saudi Arabia. *J Soc Obstet Gynaecol Pak* 2018; 8(3): 169–175.
68. Sayed W, Abd El, Aal DEM, Mohammed HS, et al. Maternal satisfaction with delivery services at tertiary university hospital in upper Egypt, is it actually satisfying? *Int J Reprod Contracept Obstet Gynecol* 2018; 7(7): 2547–2552.
69. Kannan S, Jamison RN and Datta S. Maternal satisfaction and pain control in women electing natural childbirth. *Reg Anesth Pain Med* 2001; 26(5): 468–472.
70. ORC Macro (Macro International Inc.). *Ethiopia demographic and health survey 2005*. Addis Ababa, Ethiopia: Central Statistical Agency, 2006.
71. Ethiopian Public Health Institute (EPHI) and ICF International. *Ethiopia mini demographic and health survey 2019: key indicators*. Addis Ababa, Ethiopia: Ethiopian Public Health Institute (EPHI); Rockville, MD: ICF International, 2019.
72. Bhattacharyya S, Srivastava A, Saxena M, et al. Do women's perspectives of quality of care during childbirth match with those of providers? A qualitative study in Uttar Pradesh, India. *Glob Health Action* 2018; 11(1): 1527971.
73. Abdallah NA. *Factors influencing women's satisfaction with child birth services in the tamale metropolis*. Legon, Ghana: University of Ghana, 2018.
74. Ehiri J, Alaofè H, Asaolu I, et al. Emergency transportation interventions for reducing adverse pregnancy outcomes in low- and middle-income countries: a systematic review protocol. *Syst Rev* 2018; 7(1): 65.
75. Aldana JM, Piechulek H and Al-Sabir A. Client satisfaction and quality of health care in rural Bangladesh. *Bull World Health Organ* 2001; 79(6): 512–517.
76. Das P, Basu M, Tikadar T, et al. Client satisfaction on maternal and child health services in rural Bengal. *Indian J Community Med* 2010; 35(4): 478–481.
77. Ghobashi M and Khandekar R. Satisfaction among expectant mothers with antenatal care services in the Musandam region of Oman. *Sultan Qaboos Univ Med J* 2008; 8(3): 325–332.
78. Heidari R, Borna S, Haghollahi F, et al. Satisfaction with the prenatal clinics in Zanjan, Iran. *J Fam Reprod Health* 2008; 2(1): 41–47.
79. Globerman S, Esmail N, Day B, et al. *Reducing wait times for health care: what Canada can learn from theory and international experience*. Vancouver, BC, Canada: Fraser Institute, 2013.
80. Kabali E, Gourbin C and De Brouwere V. Complications of childbirth and maternal deaths in Kinshasa hospitals: testimonies from women and their families. *BMC Pregnancy Childbirth* 2011; 11(1): 29.
81. Mohammed AK. Maternal satisfaction regarding quality of nursing care during labor and delivery in Sulaimani Teaching Hospital. *Int J Nurs Midwifery* 2016; 8(3): 18–27.
82. Dzomeku MV. Maternal satisfaction with care during labour: a case study of the Mampong-Ashanti district hospital maternity unit in Ghana. *Int J Nurs Midwifery* 2011; 3(3): 30–34.
83. Kigenyi O, Tefera GB, Nabiwemba E, et al. Quality of intrapartum care at Mulago national referral hospital, Uganda: clients' perspective. *BMC Pregnancy Childbirth* 2013; 13(1): 162.
84. Kabakian-Khasholian T, Campbell O, Shediak-Rizkallah M, et al. Women's experiences of maternity care: satisfaction or passivity? *Soc Sci Med* 2000; 51(1): 103–113.
85. Kempe P and Vikström-Bolin M. Women's satisfaction with the birthing experience in relation to duration of labour, obstetric interventions and mode of birth. *Eur J Obstet Gynecol Reprod Biol* 2020; 246: 156–159.
86. Nystedt A and Hildingsson I. Diverse definitions of prolonged labour and its consequences with sometimes subsequent inappropriate treatment. *BMC Pregnancy Childbirth* 2014; 14(1): 233.
87. Gaudernack LC, Michelsen TM, Egeland T, et al. Does prolonged labor affect the birth experience and subsequent wish for cesarean section among first-time mothers? A quantitative and qualitative analysis of a survey from Norway. *BMC Pregnancy Childbirth* 2020; 20(1): 605.
88. Ali RM. Assessment of women's satisfaction with childbirth experience after utilization of pain management practices at Al-Elwiyia Maternity Teaching Hospital. *Med Legal Update* 2021; 21(2): 940–943.