



A REVIEW ON UTILIZATION OF INSTITUTIONAL DELIVERY SERVICE AND POTENTIAL DETERMINANT FACTORS IN ETHIOPIA FROM 2010 – 2015

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ABSTRACT

Introduction: Institutional delivery (child birth in health facility) is an important contributing factor to reduce the health risks to mothers and children globally. Ethiopia is among the countries with high maternal mortality and the utilization of institutional delivery service is very low.

Objective: To review on Utilization of Institutional Delivery Service and Potential Determinant Factors in Ethiopia from 2010 – 2015.

Methods: Review of the published articles which are concerned to the topic (2010 to 2015) with different study designs to draw the National level results.

Conclusion: In Ethiopia, determinants like absence of transport facility or lack of money for transportation, lack of decision making by women, normal previous home/Traditional Birth Attendant(TBA) assisted deliveries are the major reasons cited for low institutional delivery in the country. Educated mothers, mothers who access to health facility, and ANC (Ante Natal Care) attendant mothers found to be high tendency to deliver in the health facilities.

KEYWORDS : Delivery, obstetric, health facility, Ethiopi

INTRODUCTION

Mothers must receive assistance during childbirth and it has important health consequences for the mother and child. Since most gestation related deaths and obstetric complications cluster around the time of delivery and cannot be forecasted, skilled attendance at birth remains the most important intervention in reducing maternal mortality and complications. Skilled attendance during labor, delivery and the early post-partum period could reduce an estimated 13-33% of maternal deaths(1,2). Earlier, the 1999 UN International Conference on Population and Development (ICPD + 5) declaration, set a goal of 50% of all births to be assisted by a skilled attendant by 2010, and 60% by 2015 in countries with very high maternal mortality. The corresponding global goals were 85% in 2010 and 90% in 2015(3-5). Recent data, however, suggest that the skilled attendance at birth rate is very low in many settings, especially in sub-Saharan African and South Asian countries.

Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that can cause the death or serious illness of the mother and/or the newborn baby. An important component of efforts to reduce health risks to mothers and children is increasing the proportion of babies that are delivered in health facilities(6,7).

Ethiopia is among the countries with high maternal mortality, 350/100000 live births which is one of the highest in the world. Women are encouraged to deliver their babies in health institutions as a strategy to improve maternal health outcomes including decreasing maternal mortality. But the utilization of institutional delivery service is very low even among the community who has access to the health institutions. According to the 2014 Ethiopia Mini Demographic and Health Survey result, only 16.4% of pregnant women delivered in a health facility. In the different regional states the proportion is fluctuating and even it is lower than the country average like 9.9%, 12.0%, 13.3% and 14.9% in Afar, Amhara, Oromia and SNNP regional states respectively(8-10).

Being aware of the implication, the Ministry of Health of Ethiopia identified low rate of institutional delivery rate as one priority area in the National Reproductive Health strategy and directed to increase it to 60% by 2015(3,9,11). Therefore, this is a great initiative to prepare this reviewed document to show the gap on the low proportion and contributing factors on very low institutional delivery across the different regions of the country.

METHODS

Reviewing strategies for different studies conducted on institutional delivery in Ethiopia. All type of study designs including qualitative, quantitative and mixed approaches that had been applied under the topic utilization of institutional delivery and potential determinant factors in Ethiopia were considered for this review.

Study settings: Studies which were conducted on institutional delivery and related issues in different regional states of Ethiopia were considered for review.

Study Participants: Women who gave birth at least once were included and the institutional delivery rate was determined. In addition, the factors related to husband's perception on this issue were identified.

Strategy for identification of studies: Ten relevant English language articles included for review from the beginning of the year 2010 to end of 2016.

Electronic searches: The Pub Med database was used to search to find these studies. The key words "delivery, obstetric", "health facilities" and "Ethiopia" with their MeSH (medical subject heading) were used: Therefore, using the following keyword independently: "Delivery, obstetric"; "health facility"; and "Ethiopia" with MeSH the search result were 66882, 657305 and 7782 articles respectively. When these keywords were used in combination: the first combination was "Delivery, obstetric" [MeSH] OR "health facility" [MeSH] OR "Ethiopia" [MeSH] the search result were 97696 articles and 77668 of them were in English. The second combination "Delivery, obstetric" [MeSH] AND "health facility" [MeSH] AND "Ethiopia" [MeSH] the search result were 30 articles and 29 of them were in English. Finally, decision was made to work on the second combination search result in which it contains only the intersection of the key words. Besides, result was filtered by date of publication of 5 years, and species of human search result were only 19 articles. Finally 10 topics of the articles which were related to the topic of interest were selected and saved through the send to collection.

Screening: After selecting 10 articles, abstract was used to identify 5 eligible articles to be reviewed, analyzed and summarized.

- o Studies in which the methodology was not clear was excluded
- o Studies conducted in the same region and time period selected

based on the quality/rank of the article among the screening criteria for review

- o Studies in which the contents/main finding was not related to the topic of interest were excluded
- o Studies in which the full text were not available were also excluded

Prioritization of the Articles: A checklist was used to measure the priority of the articles for the same studies conducted in the same region and same time period. Accordingly, priority was given for clearly stated methods like study design (mixed or qualitative approach), setting, participants, data source/management, variables, methods of analysis and; result. Clear flow of ideas from statement of problem, rationales, objectives, methods and results were given priority.

RESULTS

Ten articles were selected for review process which is conducted in Ethiopia available online through different publishers since 2012 till 2015. Finally based on different inclusion criteria mainly; a) correspondence (if the study was conducted in the same time and place), b) not related to the area of present study, c) the distribution like in different regions of the country and urban rural mix were considered to screen the working articles as stated below (Table 1). Only five, three from cities and two from rural areas of different regional states of the country studies were selected for identifying there common characteristics of these studies and the stated reasons/main determinates for women who do not prefer institutional delivery.

Table 1: listes of articles and exclusion criteria

Journal Name and Authors	Title of the study	Exclusion criteria
1. BMC Pregnancy Childbirth: February 5, 2015 Bayu H., Adefris M, et al.	Pregnant women's preference and factors associated with institutional delivery service utilization in Debra Markos Town, North West Ethiopia: a community based follow up study.	The study was conducted in the neighboring districts in same time period with same study design(as in #5 selected study)
2. BMC Pregnancy Childbirth: December 19, 2014 Mwlaku YA. Woldearegawi B. et al.	Poor linkages in maternal health care services-evidence on antenatal care and institutional delivery from a community-based longitudinal study in Tigray region, Ethiopia.	The study was conducted in the same place in same time perion(as in #4 selected study)
3. BMC Res Notes. August 21, 2014 Roro MA. Hussen EM. et al	Why do women not deliver in health facilities: a qualitative study of the community perspectives in south central Ethiopia?	Selected
4. BMC Pregnancy Childbirth: May 28, 2014 Hagos S. Shaweno D. et al	Utilization of institutional delivery service at Wukro and Butajera districts in the Northern and South Central Ethiopia.	Selected
5. Reprod. Health: March 14, 2014 Abeje G. Azege M. Setegn T.	Factors associated with Institutional delivery service utilization among mothers in Bahir Dar City administration, Amhara region: a community based cross sectional study.	Selected
6. BMC Pregnancy Childbirth: January 18, 2013 Yisma E. Dessalegn B. et al	Knowledge and utilization of partograph among obstetric care givers in public health institutions of Addis Ababa, Ethiopia.	Not related to utilization of institutional delivery
7. Reprod. Health: December 15, 2012 Fikre AA. Desmissie M.	Prevalence of institutional delivery and associated factors in Dodota Woreda (district), Oromia regional state, Ethiopia	Selected
8. BMC Pregnancy Childbirth: October 08, 2012 Amano A. Gebryehu A. Berhanu Z.	Institutional delivery service utilization in Munisa Woreda, South East Ethiopia: a community based cross-sectional study.	The study was conducted in the same zone in same time period with same study design (as in #7 selected study)
9. Int J Gynaecol Obstet December 2013 Moyer CA. Tadesse L. Fisseha S.	The relationship between facility delivery and infant immunization in Ethiopia.	Full text is not available
10. Pan Afr Med J. December 26, 2012 Mekonnen MG. Yalew Kn. Et al	Determinants of delivery practices among Afar pastoralists of Ethiopia.	Selected

Studies have pursued to identify determinants that are linked with Institutional delivery. Many studies verified in reporting significant association with maternal education, household wealth, maternal age, autonomy of the mother and physical access to health institution. Other determinants include quality of care, previous or current antenatal care follow up and health

lack of decision making by women, normal previous home/TBA assisted deliveries are the major reasons cited for low institutional delivery in the country. On top of this some studies in Ethiopia also reported that place of residence being urban residence and maternal education are factors positively forecasting institutional delivery **table2**(1,5,12).

care cost are also significantly associated. In Ethiopia, determinants like absence of transport facility or lack of money for transportation,

Table 2: Summary of results of the reviewed papers

Study topic and Author	Study Methods	Main Findings
Roro MA. et al Why do women not deliver in health facilities?: a qualitative study of the community perspectives in south central Ethiopia Region: SNNP in town	Study design: Qualitative approaches using focus group discussion among male and female participants Participants: women and men sample size: 81 (36 men and 45 women from Butajira)	Majority of women gave birth at home why?? Factor related to women: like decision making on place of delivery, Women trust on TBAs, wrong perception on health facilities (HFs), lack of privacy, cultural / religious factors, economic and access to Hfs, Health staff related factors: staffs were not patient centered, refusal of admission, lack of privacy, information gap, poor competence, shortage of staff and materials in HFs
Hagos S. Shaweno D. et al Utilization of institutional delivery service at Wukro and Butajera districts in the Northern and South Central Ethiopia. Region: Tigri and SNNP in town	Study design: quantitative approaches, community based cross sectional study was used participants : women sample size: 4949 women who delivered in the last two years	25% of women gave birth at health facility. Among women who delivered at HFs. Why?? Identified factors: Distance from HFs, maternal age, maternal education, income, women's occupation, antenatal care (4+) use and number of pregnancy, autonomy of the mother

<p>Abeje G. Azege et al Factors associated with Institutional delivery service utilization among mothers in Bahir Dar City administration, Amhara region: a community based cross sectional study. Region: Amhara in City</p>	<p>Study design: quantitative approaches, a community based cross sectional study with structured, interviewer administered local language version questionnaire was used participants: women sample size: 484 Mothers</p>	<p>More than three forth (78.8%) of mothers delivered HF's. Why?? Identified factors: Level of education, age at first marriage; and gestational age at ANC visit</p>
<p>Fikre AA. Desmissie M. Prevalence of institutional delivery and associated factors in Dodota Woreda (district), Oromia regional state, Ethiopia Region: Oromia in Rural</p>	<p>Study design: A mixed approach, community based cross sectional design was applied with three focus group discussion Participants: women sample size: 506 Women who gave birth in the last two years</p>	<p>Around one fifth (18.2%) of the mothers delivered their last baby in HF's: Why?? Identified factors: place of residence, mothers educational, pregnancy related health problems, previous history of prolonged labor, and decision made by husbands or relatives But ANC attendance during the index pregnancy did not show any association.</p>
<p>Mekonnen MG. Yalew Kn. Et al Determinants of delivery practices among Afar pastoralists of Ethiopia. Region: Afar pastoral region in Rural</p>	<p>Study design: A cross-sectional quantitative design was employed for interviewing Participants: women sample size: 502 who delivered within the last one year</p>	<p>Only 16.7% of mothers delivered their last baby in HF's, among home delivery 92.5% assisted by TBA and 3.2% by Health Extension Workers/nurses at HealthPost or home: Why?? Identified factors: ANC attendance, educational status and occupation of mother, occupation of husband and gravidity</p>

ANALYSIS

Institutional delivery in different regional states of Ethiopia indicates that in most of the rural part of the region there was very low proportion of mothers delivered at health facilities, while in the town relatively there was slight increase as compared to the former. But in the city especially in the regional level as the study in Amhara regional city showed that more than three forth of mothers delivered in health facility. The main reason given for lower institutional deliveries across all the studies were low educational status of mothers (10,11,13–15). On top of this, it could be due to access, to health facilities, transport and information, inequality among the rural, town and city communities. Other factors like autonomy of mothers, distance from health facilities were agreed by the three researches conducted in Dodota district, Oromia regional state, Wukro and Butajera districts in the Northern and South Central Ethiopia and the qualitative study conducted in South Central Ethiopia(11,13,15).

On the other hand age of mother and gestational age at ANC visit were showed significant association with institutional delivery. Those factors like income and occupation of mother/husband, number of pregnancies, pregnancy related health problem and previous history of prolonged labor were significantly associated in different studies conducted in the country which was supported by other studies conducted in outside of the country. Unlike others in one of the study conducted in Dodota district, Oromia regional state indicated that ANC visit didn't show significant association with institutional delivery(13). This might be due to different study participants with disparities on their culture, attitudes and values.

On the other hand, in the qualitative study the researcher classified as determinants in two themes factor related to mother: like decision making on place of delivery which was mainly done by the husband; mothers trust on traditional birth attendants; wrong perception of mothers on health institutions; lack of privacy; cultural and religious factors; economic and access to health institution; were some of the determinant factors which hamper the institutional delivery. While health staff related factors are: like staffs were not patient centered, refusal of admission, lack of privacy, information gap, poor competence, shortage of staff and materials at HF's(15).

DISCUSSION

Quality: This review process allows appreciating several researchers outcome and appropriating for comparing among different findings which were conducted by applying different study designs. In addition to this, it demonstrates to decision makers at National level about the performance of the health sectors among different regional states of the country.

Especially in the methodology the screening and prioritization of articles were empowered to have these relatively powerful articles for this review process. Besides, the articles were published and accessible relatively at the same time between 2012 and 2014, therefore, this review would be helpful for the country level governmental and nongovernmental implementers to use this review as an input or as baseline for planning intervention on the determinants.

Limitations:

- o Ten articles were reviewed and only five were consider for final review process
- o Absence of reviewed articles which would reduce credibility/power of this studies
- o The screening criteria was subjective therefore it would be disposed to selection bias
- o Most of the studies were a snapshot/correctional therefore it would be very difficult to identify the true causal linkage among determinant factors with utilization of health facilities during delivery
- o There is no longitudinal research which can identify the root causes for why mothers didn't come/prefer health institution during delivery
- o Most of the studies were only based on mothers' information. It would be meaningful and powerful if the studies include participants from husbands, health workers, traditional birth attendants and responsible political leaders to identify the possible source of problem and perception of these different responsible actors.
- o some studies are based on very small-scale engagement with participants

CONCLUSION

In most of the studies institutional delivery was interestingly very low. Educated mothers, mothers who access to health facility, and ANC attendant mothers in most of the reviewed study found to be high tendency to deliver in the health facilities. The program needs to strengthen the capacities of mothers to attend ANC services, as well as build the capacity of health workforce, in order to win the confidence of the community. Providing training for TBAs about the risk of unsafe delivery at home and incentivized them whenever they

Refer/bring the pregnant mother to the health facility. Establishing an ambulance service for referred cases is a must to address the transport access to pregnant mothers.

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