

Prevalence of Institutional Delivery among Mothers in Kometa Sub-Locality, Mizan-Aman Town, Southwest Ethiopia

Masino Tessu¹, Tafesse Lamaro¹ and Andualem Henok²

1. Department of Nursing, Mizan-Tepi University, Mizan, Ethiopia
2. Department of Public Health, Mizan-Tepi University, Mizan, Ethiopia

Correspondence: Andualem Henok

 andualemhenok@gmail.com

Department of Public Health, Mizan-Tepi University, Mizan, Ethiopia

Tel: 251910906749

Abstract

Background: Institutional delivery is a delivery that has taken place in any medical facility owned by skilled delivery assistance. The proportion of women who delivered with assistance of skilled attendant is one of the indicators in meeting the MDG5.

Objective: This study was aimed at assessing prevalence of institutional delivery among mothers in Kometa sub-locality in Mizan-Aman town, Southwest Ethiopia.

Methods: The study was conducted in Kometa sub-locality which is located in Mizan-Aman town, Bench Maji zone, Southwest Ethiopia. Community based cross sectional study design was conducted among randomly selected child bearing age women. Single population proportion formula was used to calculate sample size. The sample was 220. Data was collected using structured questionnaire developed based on the objective of the study after thorough review of different literatures. The collected data was analyzed and presented by tables and charts. Data was collected by trained health science students.

Results: About one-third 66(31.58%) of the study respondents were between the age of 20-24 years. The majority of the respondents were married 172(82.29%). More than half were housewives 109(55.02%). Almost one quarter of the respondents 52(24.88%) had no education. Among 209 respondents 160(76.56%) women gave birth more than three times and 84(40.02%) had more than three children. Majority 110(52.63%) of the respondents' age at first marriage was between age of 15-19 years and age at first delivery was between 20-24 years 109(52.15%). Regarding the place of delivery, nearly two-third of respondents 139(66.50%) delivered at health facility and nearly one-third of the respondents 70(33.50%) delivered at home: of those who delivered at home only 5(7.14%) were assisted by skilled personnel and 58(82.86%) did not know the effect of home delivery. Out of all the respondents only 102(48.80%) decided place of delivery by themselves. Out of all the respondents who were asked about the next place of delivery 23(11.00%) and 186(89.00%) wanted to give birth at home and health facility respectively.

Conclusion: The prevalence of institutional delivery was high. This could be achieved due to high ANC utilization. Therefore efforts should be made to sustain ANC utilization in the study area.

Keywords: Institutional delivery; Prevalence; Antenatal care; Mizan-aman

Received: Sep 03, 2015, **Accepted:** Oct 16, 2015, **Published:** Oct 30, 2015

Background

Institutional delivery is a delivery that has taken place in any medical facility owned by skilled delivery assistance [1]. Appropriate delivery care is crucial for both maternal and prenatal health and increasing skilled attendants at birth is a central goal of the safe motherhood (SMH) and child survival movement. Skilled attendance at delivery is an important indicator in monitoring progress towards millennium development goals (MDGs) to reduce the maternal mortality ratio by three quarter (75%) between 1990-2015 [2].

In one of the sub-Saharan Africa countries, Uganda, proportion of mothers delivering at health facilities has been persistently low. But the rates are even lower in rural areas [3]. In Ethiopia where 85% of the population lives in rural area availability of health service, especially maternal health care service is extremely difficult. Over all access to maternity care is on average 23% for rural and 52% for urban area. These findings clearly indicate that there is high need and much should be done in collaboration with partners in order to achieve Millennium Development Goals (MDG). Most of the deaths occur in the rural parts of the country and most are avoidable. The prevention of maternal and neonatal mortality is a priority for the Ethiopian Government, the UN (United Nations) and WHO (World Health Organization) with MDG 4 and 5 calling for a two-thirds decrease in neonatal mortality and three-fourths decrease in maternal mortality respectively by 2015 [4].

The world figure estimated on maternal mortality rate to be 400/100,000 live births. It is higher in Africa (830) followed by Asia (330), Oceania (240), Latin America and Caribbean (199) and at the bottom the developed countries which was 20 [5].

Every day at least 1600 women die worldwide from the complication of pregnancy and child birth, 90% of which occurring in Asia and sub-Saharan Africa. Maternal mortality rate was shown to have the largest discrepancy between developing and developed countries among others. A life risk of mothers' death in developing countries was forty times higher than that of developed countries [6].

In Ethiopia maternal mortality rate was continuous to be unacceptably high level 673/100,000. As Ethiopian Demographic and Health Survey (EDHS 2011) has shown the maternal mortality was 676/100,000 live births, for the seven years period preceding the survey which was not significantly different from EDHS 2005 report 673/100,000 live birth. The major causes of maternal death in Ethiopia are similar to most developing countries such as infection, hemorrhage, obstructed labor, abortion and hypertension in pregnancy [7]. Serious disease and disabilities which include prolonged uterine rupture, pelvic inflammatory disease, fistula, incontinency and pain during sexual intercourse as a result of inadequate or inappropriate care during pregnancy and delivery affect child bearing women [5].

The proportion of women who delivered with assistance of skilled attendant is one of the indicators in meeting the MDG5. In almost all countries where health professionals attend more than 80% of deliveries, maternal mortality is below 200/100,000 live births. The study conducted in Sekela district Amhara region

showed that the percentage of institutional delivery was about 3.5% in EDHS 2005 which in turn was much lower than the national level [8].

Proper medical attention and hygienic conditions during delivery can reduce the risk of complication including infection that may lead to death or serious illness of mothers and baby or both. Hence, an important component in the effort to reduce the health risks of mothers and children is to increase the proportion of babies delivered in a safe and clean environment and under the supervision of health professionals [7,9]. Hence the purpose of this study was to determine the status of skilled delivery service utilization.

Conducting a study on assessment of prevalence of institutional delivery has a great importance to bring behavioral change on the community under the study. According to EDHS 2005, maternal mortality rate in Ethiopia was high. But there was no research done in this area regarding mortality and morbidity of mothers related to unsafe delivery. Therefore, this study was aimed at assessing prevalence of institutional delivery.

Methods

Study area and period

Kometa sub-locality is located in Mizan-Aman town, Bench Maji zone, south west Ethiopia. It has 1260 households and 6003 population. About 85% of population depends on agriculture and the main cash crop of economic source is coffee and fruit. There is one Hospital in Mizan –Aman.

Study design

Community based cross sectional study design was conducted among randomly selected child bearing age women.

Study population

The study population was all child bearing age women. All child bearing age women who gave birth in the last 5 years in the town regardless of their birth outcome were included in the sample.

The sample size

Single population proportion formula was used to calculate sample size. The following assumption was made. Proportion of institutional delivery in Ethiopia $P=10\%$ [7], $d=0.05\%$, $CI=95\%$ ($Z_{\alpha/2}=1.96$) and 5% non response rate.

$$\begin{aligned} N &= Z_{\alpha/2}^2 p(1-p) / d^2 \\ &= 1.96^2 (0.1)(1-0.1) / (0.05)^2 \\ &= 140 \end{aligned}$$

Adding 5% non-respondent rate the sample size was =147

Considering design effect of 1.5 the final sample was 220.

Sampling method

Eligible women were selected using simple random sampling techniques during data collection. Kometa kebele (sub-locality) has 8 villages and from those villages 4 were randomly selected and from each randomly selected village 55 participants were

selected by using systematic random sampling. When two or more women were available in the same household, lottery method was used to conduct interview. When there was no eligible woman in the selected household during data collection, the nearest household was included in the study.

Data collection procedure

Data was collected using structured questionnaire developed based on the objective of the study after thorough review of different literatures. The questionnaire was prepared in English and later translated to Amharic. Data collection was focus on the following themes: institutional delivery, place of delivery, factor affecting institutional delivery. The questionnaire was assessed for necessary data then the questionnaires modified in relation to the objective of this study. Data was collected by trained health science students.

Data quality assurance

The data collectors were trained on the data collection technique. The questionnaire was pretested and modified. Each completed questionnaire was checked immediately after returning from interview to ascertain that all the questions were answered consistently.

Data analysis procedures

The collected data was analyzed by using scientific calculators, manually and presented by graph, tables and charts. Data was kept with soft copy or hard copy after it is checked for its completeness, entered, cleaned and rechecked.

Ethical consideration

Ethical clearance and approval was sought from Mizan-Tepi University, college of health science. Formal letter requested to the kebeles. Consent was obtained from the study participants. Data was collected after informing about the objective of the study and the benefit and the fact that they have the right to decide not to participate in the study. Confidentiality was kept during data collection and thereafter.

Results

Sociodemographic characteristics

A total number of 220 samples, making 95% response rate were participated in the study. Two third 66(31.58%) of the study respondents i.e. women who gave birth in the last five years were between the age of 20-24 years. The majority of the respondents were married 172(82.29%). More than half were housewives 109(55.02%); almost one quarter of the respondents 52(24.88%) had no education. About 8.61% respondents' husband had no education. More than half were orthodox Christians 115(55.02%). Nearly two-third of the respondents were in low economical level (66.50%) (Table 1).

Institutional delivery

Regarding the place of delivery, among 209 respondents nearly two-third of respondents 139(66.50%) delivered at health facility and nearly one-third of the respondent 70(33.50%) delivered at home: of those who delivered at home only 5(7.14%) were

assisted by skilled personnel and about 58(82.86%) did not know the effect of home delivery (Table 2).

Obstetric history

Among 209 respondents about 160(76.56%) women gave birth more than three times and of this 84(40.02%) had more than three children. Majority of the respondents' age at first marriage was between age of 15-19 years 110(52.63%) and age at first delivery was between 20-24 years 109(52.15%) (Table 3).

Ante natal care follow-up

Out of 209 respondents about 172(82.3%) had got health education and of this about 120(69.77%) had got education by HEW (Health Extension Workers) and 52(30.23%) by CHWs (Community Health Workers). Majority of the respondents attended ANC 179(85.65%), out of this, 146(69.86%) had visited once. Among those who attended ANC about 108(60.34%) had follow up because of they got good service. Among respondents 20(14.35%) didn't attend ANC, out of this 19(95.00%) didn't know importance and 8(40.00%) said that health facility was far (Table 4).

Decision on place of delivery

Out of all 209 respondents only 102(48.80%) were decided place of delivery by themselves, 48(22.97%) by both women and their husbands, 38(18.18%) and 21(10.05%) by health worker and her husband respectively (Figure 1).

Out of all the respondents who were asked about the next place of delivery 23(11.00%) and 186(88.00%) wanted to give birth at home and health facility respectively.

Discussion

Our study tried to identify prevalence of institutional delivery among women with in reproductive age group living in kometa kebele. This study revealed that among 209 respondents who were asked about ANC follow up in the last five years; about 85.65% had ANC follow up prior to the study, while the rest had no ANC follow up. This was high compared to the study conducted in Jhang district in Pakistan and Sahrti Samre district Tigray where 34.6% and 54% of women had ANC follow-up respectively [5]. The fact that majority of those who attend ANC were might be due to information they got from health personnel or it could be due to availability and accessibility of health facility near to their area of living and husband encouragement or it might be due to our small sample size relative to the study which is conducted in Pakistan and Tigray respectively. Our study result was also higher than the study conducted in Mizan health center (near to the current study area) which was 47.9% [10]. This could be because those coming to mizan health center may be from rural area where as our study participants were from urban area. Among the respondents who follow ANC 75.11% were literate. On contrary this is higher than the study conducted in the 2005 EDHS which was 21% [5,9]. This could be due to that our study area was relatively urban.

Regarding place of recent delivery, majority of the respondents 139(66.50%) delivered at health facility recently and of this about

Table 1 Sociodemographic characteristics of women in kometa kebele 2013, (N=209).

Variable	N (%)	Variable	N (%)
Age group		Religion	
15-19	33(15.78)	Orthodox	115(55.02)
20-24	66(31.58)	Protestant	44(21.05)
25-29	38(18.18)	Muslim	32(15.31)
30-34	26(12.44)	Catholic	18(8.61)
35-39	29(13.87)	Ethnicity	
40-44	14(6.69)	Bench	86(41.14)
45-49	3(1.43)	Kafa	52(24.88)
Marital status		Amara	42(20.9)
Married	172(82.29)	Sheka	16(7.66)
Single	6(2.9)	Oromo	13(6.22)
Divorced	16(7.66)	Income	
Widowed	15(7.17)	<500	139(66.50)
Occupation		500-1000	55(20.31)
Farmer	46(22.00)	>1000	15(7.17)
House wife	109(55.02)	Distance to reach HF	
Daily labor	10(4.78)	<2km	127(60.16)
Employee	28(13.39)	>2km	82(39.23)
Merchants	16(7.66)	Time to reach HF	
Mothers education		<30min	107(51.19)
Illiterate	52(24.88)	>30 min	102(46.80)
1-4	84(40.19)		
4-9	50(23.92)		
10-12	23(11.00)		

Table 2 Frequency distribution of recent place of delivery, assistance during delivery for recent birth and reason for home delivery in kometa kebele, 2013.

Variable	Frequency (%)
Place of recent delivery	
Home	70 (33.49)
Hospital	139(66.5)
Assistance during delivery at home	
TBA	34(48.57)
Education skilled person	5(7.14)
Relative	15(21.42)
Neighbor	40(57.14)
Reason at home delivery recently	
Easily labor	55(78.57)
Transport problem	32(45.7)
Health facility far	15(21.42)
Don't know effect	58(82.86)

Table 3 Percentage distributions showing obstetric history of women in kometa kebele, 2013.

Variable	Frequency
Total number of pregnancy	
1-2	30(14.35)
3-4	160(76.56)
4-5	39(18.66)
Number of children	
1-2	92(44.01)
3-4	84(40.02)
+5	28(13.40)
Age at first marriage	
15-19	110(52.63)
20-24	65(31.1)
+25	34(16.27)
Age at first delivery	
15-19	71(33.97)
20-24	109(52.15)
+25	3(1.44)

69.86% had received ANC from the trained health professional at least once for their last birth. This was high when compared to the study of 2011 EDHS result which was 34% and the study conducted in Tanzania which was 56% [7,11]. Our study result of institutional delivery was also higher than the study conducted in Awi zone which was 15.7% [24]. In our study prevalence of home delivery was 33.5%. This was lower compared with the study conducted in Oromia region which was 81.8% [12,13]. Our study result of home delivery was also lower than the study conducted in Arbaminch zuria district which was 79.8% [14]. Concerning skilled birth attendants about 5(7.14%) delivered at home by skilled birth attendants. However, this was low compared to the study conducted in Burji special province which was 15% [7].

Concerning the issue of women decision making power, this study showed that 102(48.80%) able to choose place of delivery. But another research conducted in Harar in Eastern Ethiopia showed that 61.5% were able to choose place of delivery which was higher [15].

Conclusion

The prevalence of institutional delivery was high. This could be achieved due to high ANC utilization. Therefore efforts should be made to sustain ANC utilization in the study area.

Table 4 Percentage distribution showing history of antenatal care follow-up among women in kometa kebele 2013.

Characteristics t	Number (%)	
	Yes	No
Those who get HE	172(82.3)	37(17.7)
Who give HE:		
HEW	127(69.77)	52(30.23)
CHW	52(30.23)	127(69.77)
Attend ANC	179(85.65)	20(14.35)
Number of visit		
1 st visit	146(69.86)	53(30.14)
2 nd visit	118(56.46)	61(43.54)
3 rd visit	72(34.45)	107(65.55)
4 th visit	51(24.40)	128(75.60)
Reason for follow up		
Sick	30(16.76)	149(83.24)
Health facility near	70(39.1)	109(60.90)
Good service	108(60.34)	71(39.66)
Husband encourage	40(19.14)	139(80.86)
To know health status	20(9.57)	159(90.43)
Reason not follow up		
No health problem	18(90)	12(10)
Work load	16(80)	14(20)
Health facility far	8(40)	22(60)
Don't know importance	19(95)	1(5)

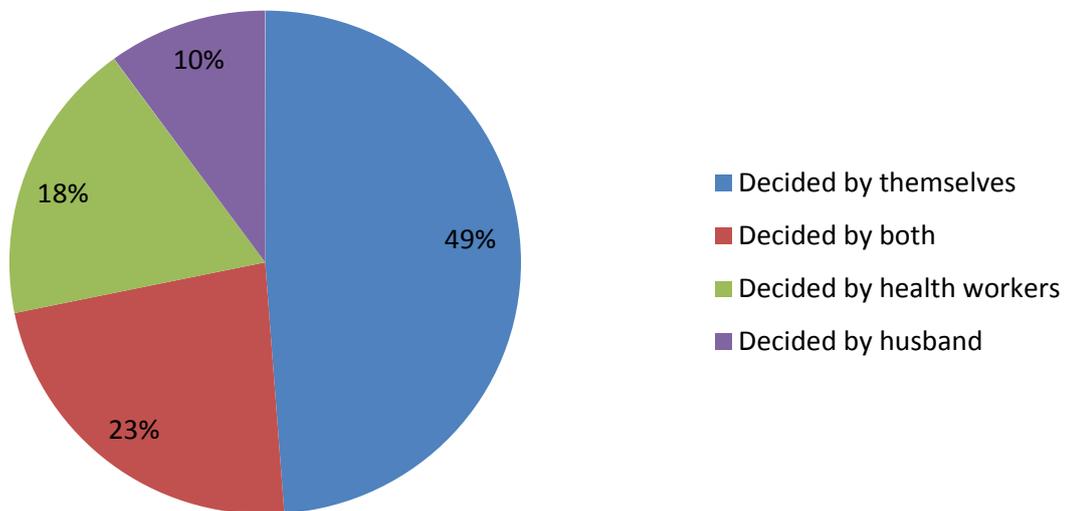


Figure 1 Percentages of persons who decide place of delivery in the last 5 years in kometa kebele, 2013.

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