

Assessment of Factors Affecting Choice of Delivery Place among Pregnant Women in Jimma Zone, South West Ethiopia: Cross Sectional Study

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Abstract

Background: Utilization of health services is affected by a multitude of factors including not only availability, distance, cost, and quality of services, but also by socioeconomic factors and personal health beliefs. Majority of deaths from obstetric complications are preventable and the fact that every pregnancy faces risk which may not always be detected through the risk assessment approach during Antenatal care, to assure safe and successful delivery outcomes remains to be ensuring skilled personnel attendance of every child birth. The objectives of this study is to assess factors affecting institutional delivery practice among pregnant women Jimma zone.

Method: Cross sectional prospective study with quantitative methods of data collection was employed from February to March 2014. A total of 281 pregnant women selected by systematic sampling method and data were collected using pre-tested structured questionnaire.

Result: Out of 281 questionnaires, 277 were included in the analysis and making a response rate 98.6%. Of this 228(82.31%) had Antenatal follow up, 96.03% and 98.56% them had positive attitude towards institutional delivery practice and know safe delivery practice respectively. There was a significant association between age group, level of education, religion, Antenatal follow up, parity (p-value <0.05).

Conclusion and recommendation: The choice of institutional delivery practice was 64.62%. The factors affected mothers' choice of place of delivery includes mother's level of education, total number of deliveries in a life time; religion and ethnicity were found to be predictive for choice of place of delivery. Therefore, responsible bodies should make efforts to increase community based health education, awareness creation and information regarding importance of institutional delivery.

Keywords: Choice of delivery place; Pregnant; Jimma zone; Ethiopia

Abbreviations: AIDS: Acquired Immune Deficiency Syndrome; ANC: Antenatal Care; CI: Confidence Interval; HD: Home Delivery; HF: Health Facility; HIV: Human Immunodeficiency Virus; HSDP: Health Survey Demographic Program; ID: Institutional Delivery; KM: Kilo Meter; MCH: Maternal Child Health; OR: Odd Ratio; TBA: Traditional Birth Attendant; TTBA: Trained Traditional Birth Attendant; WHO: World Health Organization

Introduction

According to WHO, safe delivery service is one of the most important maternity care issues for women who are pregnant. Delivery is performed by someone with midwifery skills who is able to manage a normal delivery and who can recognize and manage obstetric complications and can refer in a timely manner [1].

Safe delivery practices and antenatal care are among the most effective health interventions for preventing maternal morbidity and mortality particularly in places where general health status of the women is poor. The antenatal period presents an important opportunity for identifying threats to the mother and unborn baby's health status, as well as for counseling on birth preparedness, delivery care and family planning options after the birth [2,3]. Globally, 211 million pregnancies and 136 million births occur every year. Pregnancy and child birth process put every woman at risk of complications but 99% of the maternal complication/deaths that occur in developing countries are avoidable or preventable.

Maternal mortality is the highest by far in sub-Saharan Africa, where the life time risk of death from pregnancy related conditions is 1 in 16, compared with 1 in 2800 in rich countries [1,4]. According to EDHS 2005 and 2011 the levels of maternal and infant morbidity and mortality Ethiopia, are among highest in the world. There are

673 and 676 maternal deaths for every 100,000 live birth and the infant mortality rate was 39 and 37 per 1,000 live births but the rate of institutional delivery, ANC follow up and MCH are remain lower even though they are major indicators of health service utilization in one country. Institutional deliveries at public and private hospitals, health centers and clinics were estimated to be 6%-10%. This implies that majority of pregnant women depend on assistance of non-medical personal like relatives, neighbors and TBA during their delivery [3]. By contrast, the rate of institutional deliveries for developed countries is about 95% [5-7].

Study conducted in Tanzania and WHO indicated as perceived key determinants of selection of place of delivery were lack of socio economic status/money, lack of transport, sudden onset of labor, short labor duration, staff attitudes, lack of privacy, reproductive behaviour, traditions and cultures and the patterns of decision making power within household [2,8-12].

Also amidterm assessment of the third Ethiopian Health Sector Development Program (HSDP III) identified poor quality skilled

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birth attendance as one of the critical bottlenecks for improving the lower utilization of hospital delivery. The study also suggested not only the quality of clinical care but also gender sensitivity, preservation of dignity and cultural sensitivity are among the factors explained the low utilization of health services for delivery [13-19].

In general identifying factors that determining the choice of place of delivery is greatly contribute to reduce maternal mortality and morbidity. In view of the fact that our country Ethiopia is among the developing country in which the maternal mortality rate estimates the range between 720 per100.000 live births and it is among the means thus used to reduce maternal mortality and morbidity [20]. But in Ethiopia, specifically in Jimma, studies showing the clear picture of predictors of choice of place of delivery have not been conducted. Thus, this study is proposed to fill this information gap in Jimma zone with the potential of generalizability of its result to similar settings and population of the country at large.

Materials and Method

A community-based cross-sectional study was conducted from February-April 2014, in Jimma town which is one of the biggest towns in Ethiopia. It is located 352 Kms Southwest of the capital city Addis Ababa. The town has three districts (Woredas) and 13 sub-districts (kebeles). The number of households reported in the town is about 32,191 and the total population of Jimma town is 120,960. Total number of pregnant women, non-pregnant women and women of child bearing age as estimated from the total populations of town in the 2007 population and housing census of Ethiopia comprises 5738, 27,786, and 33,373 respectively [3].

Study population for this study were all sampled pregnant women and selected by systematic sampling technique using the house number as sampling frame. The first house was selected using lottery method. In cases the absence for eligible subject the immediate next house was considered.

Data were collected through face to face interview using pre-tested structured questionnaire which were grouped and arranged according to the particular objectives that they can address.

Prior to analysis, data cleaned and entered into SPSS version 16.0 statistical packages, checking for normality, completeness, and inconsistencies was also done. In addition to descriptive statistics, chi-square test was employed to assess for association between dependent and independent variables of the study. Statistical significance was declared at $P < 0.05$.

Ethical consideration

A copy of research proposal was submitted to Jimma University College of Public Health and Medical Sciences Department of Nursing and Midwifery and Ethical clearance was obtained and permission from respective authorities and verbal consent of respondents' was obtained before the data collection. To get full co-operation, respondents were reassured about the confidentiality of their response. They were also ensured their voluntarily participation and right to take part or terminate at any time they wanted.

Result

Socio-demographic characteristics

Out of the total 281 filled interview questioner 277(98.6%) were included in analysis and four were incomplete and rejected. Of the

total 277,78 (28.16%) were in age range of 25-29, 125(45.13%) Muslim, 120(43.32%) had primary level of education, 265(59.57%) were house wife, 157(56.68%) were Oromo and 270(97.47%) had family support (Table 1).

Obstetric characteristics

From 277 respondents majority 228(82.31%) had ANC follow up, out of this 138(60.53%) visit on the first 3 months of pregnancy, 96(34.66%) were para one, 259(93.5%) were delivered normally and 263(94.95%) had wanted pregnancy (Table 2).

Socio-demographic Characteristics	Category	N (n=277)	percentage
Age	15-19	16	5.8
	20-24	71	25.6
	25-29	78	28.2
	30-34	47	17.0
	35-39	46	16.6
	≥40	19	6.9
Religion	Muslim	125	45.1
	Orthodox	105	37.9
	Protestant	47	17.0
Educational status	Illiterate	62	22.4
	Read & Write	6	2.2
	Grade 1-8	120	43.3
	Grade 9-12	64	23.1
	Above 12 th grade	25	9.0
Occupational status	Government employee	60	21.7
	Private	52	18.8
	House wife	165	59.6
Ethnicity	Oromo	157	56.7
	Dawuro	44	15.9
	Kefa	29	10.5
	Amhara	27	9.7
	Others	20	7.2
Family support	Yes	270	97.5
	No	7	2.5

Table 1: Distribution of respondents by their socio demographic characteristics Jimma, February - April, 2014.

Obstetric Characteristics	Category	Frequency (n=277)	Percentage
History of ANC follow up	Yes	228	82.3
	No	49	17.7
Time of commencement of ANC follow up	1st 3 months	138	60.5
	3-6 months	81	35.5
	≥6 months	9	4.0
Parity	1	96	34.7
	2	77	27.8
	3	47	17.0
	4	23	8.3
	5+	34	12.3
Past birth out come	Normal	259	93.5
	Abnormal	18	6.5
Types of pregnancy	Wanted	263	95.0
	Unwanted	14	5.1

Table 2: Distribution of the respondent by their obstetric characteristics Jimma, February - April, 2014.

Attitude (perception at home versus at health facility) towards institutional delivery

Out of 277 mothers participated in the study 96.03% had positive attitude towards institutional delivery and the rest 11(3.97%) had negative (Figure 1).

Knowledge on choice of place of delivery

Out of the total 277 (98.56%) all of them were knew about safe delivery practice.

Choice of place of delivery

Out of the total 277 (98.56%) who were interviewed 179(64.62%) had choice to deliver in health institution (Figure 2).

Table 3 indicates the relationship among socio-demographic and obstetric characteristics and place of delivery.

Reason for home delivery

Economy and short duration/uncomplicated labour were the predominant reason given by 86.74% of the women who had home delivery of their last child. Fear of interventions and repeated examinations (attitude) at hospitals was the concern of 13.26% of the women who preferred home delivery and 14(14.3%) of them were less than 40 minute away in terms of time from health facility and it is not their problem (Table 4).

Association between dependent and independent variables

There was a significant association between age group, level of education, religion, Ethnicity, ANC follow up, parity and choice of place of delivery (p-value <0.05) (Table 5).

Discussion

In this study 98(35.38%) of the study participants selected home delivery. This result was less than what have been observed in the study conducted in Kenya, Nyandarua, South District in which 51.8% is home delivery, in Ethiopia (EDHS 2005 and 2011) where home delivery accounts for 96.3% , 91.5% in Oromia region respectively and Jimma zone in which home delivery was 71% [3,10,17]. The possible

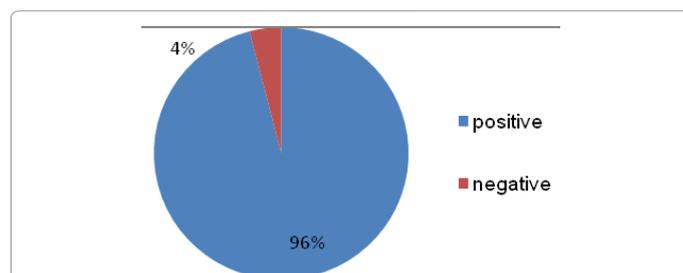


Figure 1: Distribution of the respondents by attitude towards institutional delivery Jimma, February - April, 2014.

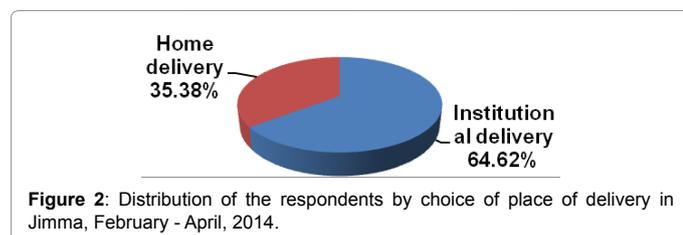


Figure 2: Distribution of the respondents by choice of place of delivery in Jimma, February - April, 2014.

Socio-demographic and Obstetric characteristics		Place of delivery			
		Home		Health Unit	
		Number	%	Number	%
Age group (year)	15-19	6	37.5	10	62.5
	20-24	32	45.1	39	54.9
	25-29	19	24.4	59	75.6
	30-34	13	27.7	34	72.3
	35-39	19	41.3	27	58.7
	≥40	9	47.4	10	52.6
Parity	1	26	27.1	70	72.9
	2	20	26.0	57	74.0
	3	27	57.5	20	42.6
	4	11	47.8	12	52.2
	5+	14	41.2	20	58.8
Educational status	Illiterate	33	53.2	29	46.8
	Read & write	2	33.3	4	66.7
	Grade 1-8	45	37.5	75	62.5
	Grade 9-12	16	25	48	75
	Grade 12+	2	8	23	92
ANC follow up	Yes	63	27.6	165	72.4
	No	31	63.3	18	36.7
Religion	Muslim	54	43.2	71	56.8
	Orthodox	35	33.3	70	66.7
	Protestant	9	19.2	38	80.9
Ethnicity	Oromo	62	39.5	95	60.5
	Dawuro	15	34.1	29	65.9
	Kefa	12	41.4	17	58.6
	Amhara	2	7.4	25	92.6
	Others	7	35.0	13	65.0

Table 3: Distribution of the study population by Socio-demographic and Obstetric characteristics and place of delivery, Jimma, February - April, 2014.

Characteristics	N (n=98)		%
Reason for preference of Home delivery	Economy	13	13.2
	Attitude	45	46.0
	Short duration/uncomplicated labor	40	40.8
Distance from Health facility in terms of time	10 minute	14	14.3
	20 minute	33	33.7
	30 minute	37	37.8
	≥40 minute	14	14.3

Table 4: Distribution of the study population by reason for home delivery and Distance from health facility in terms of time in Jimma, February - April, 2014.

explanation for this difference may be the difference in study period, socio-economic characteristic and educational level variation which influences positively selection of place of delivery, current strategies of governments for better access to information, awareness about the advantages of institutional delivery.

The predictors for choice of place of delivery were: income, feeling of privacy and being surrounded by family members and friends, fear of interventions (medical - surgical), repeated vaginal examination, educational status, parity, religion, age of the mothers and history antenatal follow up. This finding is consistent with what have been observed in the study conducted in Northern Nigeria [9], Northern Gondar Zone [11], Tigray, Samre Saharti District [20], Jimma zone, Shabe Town [12] where the stated predictors for choice of place of delivery were: income, privacy, fear, repeated vaginal examination, educational level, parity, age of the mothers, history antenatal follow up,

Variables	Category	Place of delivery				X ² and P Value
		Home		Health Unit		
		N	%	N	%	
Age group (year)	15-19	6	37.5	10	62.5	P=0.017 X ² =15.5
	20-24	32	45.1	39	54.9	
	25-29	19	24.4	59	75.6	
	30-34	13	27.7	34	72.3	
	35-39	19	41.3	27	58.7	
	≥40	9	47.4	10	52.6	
Religion	Muslim	54	43.2	71	56.8	P=0.011 X ² =8.95
	Orthodox	35	33.33	70	66.67	
	Protestant	9	19.15	38	80.85	
Ethnicity	Oromo	62	39.5	95	60.5	P=0.021 X ² =11.5
	Dawuro	15	34.1	29	65.9	
	Kefa	12	41.4	17	58.6	
	Amhara	2	7.4	25	92.6	
	Others	7	35.0	13	65.0	
Educational status	Illiterate	33	53.225	29	46.774	P=0.000 X ² =20.1
	Read & write	2	33.33	4	66.67	
	Grade 1-8	45	37.5	75	62.5	
	Grade 9-12	16	25	48	75	
	Grade 12+	2	8	23	92	
ANC follow up	Yes	63	27.63	165	72.37	P=0.000 X ² =22.8
	No	31	63.265	18	36.73	
Parity	1	26	27.08	70	72.92	P=0.000 X ² =20.1
	2	20	25.97	57	74.026	
	3	27	57.45	20	42.55	
	4	11	47.83	12	52.17	
	5+	14	41.18	20	58.88	

Table 5: Association between factors and place of delivery in Jimma, February - April, 2014.

history of complicated obstetric history, attitude of the mothers, Advice given during follow up.

Conclusions and Recommendation

This study identified that, more than one third 98(35.38%) were selected of home delivery. The predictors for selection of place of delivery were: income, privacy, fear intervention, repeated vaginal examination, mothers' level of education, parity, age of the mothers, history antenatal follow up and advices given during follow up.

Thus responsible authorities, policy makers and interested body should have to discuss on this issue to provide community based health education, awareness creation and improve better access to information for mothers regarding maternal institutional delivery. Moreover, further prospective studies are recommended in terms of the involvements of husbands as their involvement is believed crucial for selected of place of delivery.

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References

1. World Health Organization (WHO) (2005) The 2005 World Health Report.; Make every mother and child count, WHO Geneva, Switzerland.

- WHO/UNICEF/UNFPA (2004) Maternal Mortality in 2000: Estimates developed by WHO, UNICEF and UNRPA. Geneva, Switzerland.
- Central statistical Agency and ORC macro (2006) Ethiopia Demographic and health Survey 2005: Addis Ababa, Ethiopia and Calverton Maryland, USA.
- Oluwole D (2004) An Overview of the maternal and newborn health situation in the African Region, in African health monitor. A magazine of WHO Regional Office for Africa. 5: 2-4.
- WHO, UNICEF (2003) ANC in developing countries: promises, achievements and missed opportunities. An Analysis of trends, levels and differentials, 1990-2001. WHO Geneva, Switzerland, 2003.
- Singh S (2004) Adding it up: the Benefits of investing in sexual and reproductive health care. New York: The Alan guttmacher institute and UNFPA.
- WHO (2005) What is the effectiveness of antenatal care? (Supplement). Copenhagen, WHO Regional Office for Europe, health Evidence Network.
- Mbaruku G, Msambichaka B, Galea S, Rockers PC, Kruk ME (2009) Dissatisfaction with traditional birth attendants in rural Tanzania. *Int J Gynaecol Obstet* 107: 8-11.
- Idris SH, Gwarzo UMD, Shehu AU (2006) Determinants of place of delivery among women in semi-urban settlement in Zaria, Northern Nigeria. *Annals of African Medicine* 5: 68-72.
- Wanjira C, Mwangi M, Mathenge E, Mbugua G, Ng'ang'a Z (2011) Delivery practices and associated factors among mothers seeking child welfare services in selected health facilities in Nyandarua South District, Kenya. *BMC Public Health* 11: 360.
- Mesfin Nigussie, Damen Haile Mariam, Getnet Mitike (2002) Assessment of safe delivery service utilization women of child bearing age in Northern Gonder Zone, Northwest Ethiopia, 2002.
- Mulusew M (2003) Preference and factors affecting mothers as to the site of delivery in Shebe town, south -western Ethiopia. Jimma University, in press.
- Report of the New Zealand Parliamentarians' Group on Population and Development Open Hearing on Maternal health in the Pacific 21 September 2009.
- Ethiop. J. Health Dev (2004) 18.
- Bashour H, Abdulsalam A (2005) Syrian women's preferences for birth attendant and birth place. *Birth* 32: 20-26.
- Abyot Asres (2010) Assessment of factors associated with safe delivery service utilization among women of childbearing age in Sheka Zone, SNNPR, South West Ethiopia School of Public Health Faculty of Medicine, Addis Ababa University For Uttar Pradesh September 2010.
- Tsinuel Girma, Hailu Nida (2008) Traditional new born care in Jimma town South West Ethiopia.
- Mahdi SS, Habib OS (2010) A study on preference and practices of women regarding place of delivery. *East Mediterr Health J* 16: 874-878.
- Yalem Tsegay Assfaw (2010) Determinants of Antenatal Care, Institutional Delivery and Skilled Birth Attendant Utilization in Samre Saharti District, Tigray, Ethiopia GC.
- WHO (2010) World Health Statistics. Maternal mortality ratio. 24.