Available online at http://www.journalijdr.com

IJDR

International Journal of
DEVELOPMENT RESEARCH

ISSN: 2230-9926

International Journal of Development Research
Vol. 06, Issue, 11, pp.10072-10079, November, 2016

Full Length Research Article

KNOWLEDGE AND PRACTICE ON PREVENTION OF OBSTETRIC FISTULA AMONG SKILLED BIRTH ATTENDANTS IN PUBLIC HEALTH CENTERS IN ADDIS ABABA, ETHIOPIA

***[1]Marit Legesse and [2]Semarya Berhe**

[1]Hamlin Midwifery College, Addis Ababa, Ethiopia
[2] Department of Nursing and Midwifery, College of Health Sciences, Addis Ababa University, Ethiopia

ARTICLE INFO

Article History:
Received 14th August, 2016
Received in revised form
29th September, 2016
Accepted 09th October, 2016
Published online 30th November, 2016

Key Words:
Obstetric Fistula,
Knowledge, Practice,
Skilled Birth Attendants,
Health Centers.

ABSTRACT

Background: Obstetric fistula although is eliminated in high income countries, it remains prevalent and debilitating condition in many parts of the developing world leaving women with the immediate consequences, such as leakage of urine or feces or both and has been observed since women first began delivering children despite of the fact that it is completely preventable if high quality basic and comprehensive maternal health services are available to all woman during pregnancy and childbirth by a well-trained and knowledgeable skilled birth attendants.
Objective: The objective of this study was to assess knowledge and practice on prevention of Obstetric Fistula among skilled birth attendants in public Health Centers in Addis Ababa.
Methods: Institutional based Quantitative Cross sectional study was undertaken in public health centers in Addis Ababa. A multi staged systematic random sampling technique was implemented to select a total of 548 skilled birth attendants. The data was collected by using self-administered questionnaire prepared in English language from March–April 2016 after ensuring that all requirement of Ethical consideration is fulfilled. The collected data was cleaned, entered and analyzed using SPSS Version 20 statistical software. A logistic regression statistical model was used for analysis. Descriptive statistics with frequency and percentages, table's graphs and cross-tabulations was used.
Results: This study revealed that 67% of skilled birth attendants had good knowledge on prevention of obstetric fistula and in-service training related to obstetric fistula (p-value, 0.03), resource availability (p-value, 0.002) and service year (p-value, 0.006) were significantly associated. About 66.2% of skilled birth attendants had good practice and pre-service training (p-value, 0.0001), in-service training (p-value, 0.028), resource availability (p-value, 0.003), qualification (p-value, 0.001) and knowledge (p-value, 0.001) were factors independently associated with practice on prevention of obstetric fistula.
Conclusion: In conclusion majority of skilled birth attendants were found to have good knowledge and good practice towards prevention of obstetric fistula.

INTRODUCTION

In Sub-Saharan most obstetric fistula follows prolonged and obstructed labor, usually associated with Cephalo -pelvic disproportion (Cowgill et al., 2015). A prospective study conducted in 6 sub- Saharan also revealed that an overall obstetric fistula incidence rate of 10.3 per 100,000 deliveries (2)Obstetric fistula although is eliminated in high income countries, it remains prevalent and debilitating condition in many parts of the developing world leaving women with the immediate consequences, it has been observed since women first began delivering children despite of the fact that it is completely preventable if high quality basic and comprehensive maternal health services are available to all woman during pregnancy and childbirth by a well-trained skilled birth attendants (Norman et al., 2007). The WHO estimated that 26,000 to 40,000 young Ethiopian women live with untreated fistula, where the national prevalence data indicate that for every 1000 women in the reproductive age group (15–49 years) there are 2.2 fistula patients, making more than 26 000 cases awaiting for repair (Kasamba et al., 2013; Norman et al., 2007 and Muleta et al., 2006). Prolonged delay in obtaining adequate emergency obstetric care relates to the three contributing factors to obstetric complications: a delay in deciding to seek care, a delay in arriving at a suitable health

****Corresponding author: Marit Legesse,***
Hamlin Midwifery College, Addis Ababa, Ethiopia.

facility, and a delay in receiving appropriate basic emergency obstetric care which is provided by skillful midwives and nurses (Kasamba et al., 2013 and Adler et al., 2013). Obstetric fistula has serious social and economic consequences on the lives of these women. The potential consequences for women who suffer from fistula are social, emotional and physical. The majority of the women are abandoned by their spouses, limited evidence of an increased risk of depression, social stigma and marginalization from their families and communities resulting in suicide (Norman et al., 2007; Biadgilign et al., 2013 and Njoroge et al., 2005). Many factors are associated with occurrence of fistula such as Access to a health institution which is a major problem for fistula patients, in Ethiopia, studies show that primi parity had the strongest and most consistent association with longer duration of labor, urethral damage and vaginal scarring or obliteration (Cowgill et al., 2015). Additional risk factors for obstetrical fistula commonly reported include, place of birth and presence of a skilled birth attendant, the use of partograph, early marriage, most of which are preventable provided that midwives and nurses who are the frontline care givers are knowledgeable and skillful.

Poor access and weak referral systems by skilled birth attendants are some of the reasons why women deliver at home under unskilled care those results in obstructed labor and Fistulas occurrence as a result of the 3 classic delays in getting the appropriate emergency obstetric care (EmOC). Direct prevention can occur during delivery when skilled providers identify women and girls at risk for obstetric fistula and link them with innovative interventions. Community-based programs can be used for social education to prevent fistula and midwives and nurse can play a key role in the prevention of this tragic obstetric complication (Opiah et al., 2012). The international fistula day (23rd May) was created to draw global attention to obstetric fistula and mobilize support for on-going initiatives in addition to increasing the number of skilled birth attendants as one of prevention strategies (Adler et al., 2013 and Banke-Thomas et al., 2014). Though strategies exist to reduce and prevent Obstetric fistula with simple and effective technology for monitoring progress of labor readily available in health facilities, clinical observation revealed that, it is not being used at all or not correctly used by skilled birth attendants (Kayondo et al., 2011). Therefore, this research claims its own uniqueness due to the reason that, it is an additional scientific attempt to assess the Knowledge and practice of obstetric Fistula prevention among midwives and nurses in public health centers.

METHODS AND MATERIALS

A cross sectional study design was conducted on midwives and nurses who are employed and currently working in public health centers in Addis Ababa from October 2015 to May 2016.To generalize the finding from the sample population to the reference population a multistage sampling method was used.4 sub-cities were selected randomly by lottery method and from each sub-city 4 Health Centers were chosen randomly. The sample size for each Health Center was allocated proportionately to their size. The study participants, fulfilling the inclusion criteria were given self-administered questionnaire by simple random sampling using list of staff Roster. In order to assure the quality of data, the following measures were undertaken. Data collection tool was adapted from Prevention and Management of Obstetric Fistula: A Curriculum for Nurses and Midwives 2012, East, Central, and Southern African Health Community (ECSA-HC) and Engender Health/Fistula Care. The questionnaire was used as a self-administered one. By conducting repeated revisions, the questions were made as simple as possible to be answered by the participants. In addition 5 previously recorded partograph were taken from each health centers and assessed for its completeness with the correct components. Further actions were made to ensure the quality of data; the questionnaire underwent pre-testing on 5% of 567 (28 respondents.

Vague questions that were difficult to be answered by most of the participants were emphasized and corrected accordingly during the pretest and the number of data collectors in need was estimated. Four data collectors and two supervisors were recruited and were trained about how to obtain informed consent and collect data for one day by the principal investigator. Data collectors and supervisors were student and BSC holder nurses respectively. The PI and two recruited supervisors were responsible for supportive supervision on the spot and on reviewing all filled questionnaires on daily basis. Data collected through quantitative method was processed and analyzed. To analyze the quantitative data, different statistical techniques were used by using SPSS version 20. Specifically Percentage, cross tabulation, binary logistic regression techniques were used to analyze those computed data. The cross tabulation and Percentage were to describe the prevalence (descriptive statistics) and binary logistic regression was employed to identify and examine the association between the dependent variable and independent variables.

Ethical considerations

Ethical clearance was obtained from Addis Ababa University; College of Health Sciences Ethical review board. The ethical clearance describes that there was no any intervention made on the study participants. Informed consent explained the non-malfeasance and the beneficence of the findings from the study for the betterment of the services was obtained from each participant prior to filling out the questionnaire. The participants were informed on their right to participate or deny the participation at any stage.

RESULTS

Socio demographic characteristics of respondents

A total of 548 skilled birth attendants in public Health Centers in Addis Ababa were surveyed with 96.6% response rate. Nearly third quarters of respondents were females (73.7%). Majority of the respondents about 389(65.5%) were aged between 25-34 years while 97 (17.7%) were younger than 25 years. The mean age of the study participants was 29 ±6.2 years Table 1.

Knowledge of respondents towards prevention of obstetric fistula

On the overall assessment of knowledge of skilled birth attendants 367(67.0%) were found to have good knowledge towards prevention of obstetric fistula. Most of the respondents, 500 (91.2%) knew normal labor lasts less than 24 hours. Among respondents 508(92.7%) knew use of partograph during labor prevents occurrence of obstetric fistula Table 2.

Table 1. Socio demographic characteristic of skilled birth attendants in selected public health centers in Addis Ababa, Ethiopia, March 2016

Variables	Frequency	Percent
Age (years)		
< 25	97	17.7
25-34	359	65.5
35-44	68	12.4
>44	24	4.4
Total	548	100
Sex		
Male	144	26.3
Female	404	73.7
Total	548	100
Marital status		
Single	304	55.5
Married	229	41.8
Separated/divorced	15	2.7
Total	548	100
Religion		
Orthodox Christian	390	71.2
Islam	41	7.5
Protestant	101	18.4
Other	16	2.9
Total	548	100
Language		
Amharic only	366	66.8
Amharic and Oromifa	114	20.8
Amharic and Tigrigna	49	8.9
Amharic and other	19	3.5
Total	548	100
Income		
<1000	43	7.8
1000-2499	329	60.0
2500-3999	99	18.1
≥4000	77	14.1
Total	548	100

Practice of respondents towards prevention of obstetric fistula

Overall 663(66.2%) were found to have good practice towards prevention of obstetric fistula. Majority, 491(89.6%) had implement birth preparedness and complication readiness plan for pregnant women while 493(90.0%) had health education session to raise women's awareness on birth preparedness and complication readiness. 438(79.9%) participants report that they use partograph to monitor labor. Only 132(24.1%) of respondents advise laboring woman to empty her bladder every two hours. Table 3

Factors associated with knowledge of skilled birth attendants on prevention of obstetric fistula

On bivariate analysis income (p-value = 0.023), in-service training related to prevention of obstetric fistula (p-value=0.035), resources availability to implement care for pregnant/laboring women (p-value = 0.001) qualification, (p-value = 0.038), Institution trained in, (p-value = 0.037) service year, (p-value=0.012) were found to be significantly associated with knowledge on prevention of obstetric fistula. Multivariate logistic regression models were used to examine factors associated with knowledge on prevention of obstetric fistula and in-service training related to prevention of obstetric fistula, resources availability to implement care for pregnant/laboring women and service year remained to be significantly associated. Skilled birth attendants who had in-service training related to prevention of obstetric fistula were 53% more likely to be knowledgeable as compare to skilled birth attendants who were not trained.(AOR =1.53, 95% CI 1.043-2.245).

Table 2. Knowledge of skilled birth attendants towards prevention of obstetric fistula in selected public health centers in Addis Ababa, Ethiopia, March 2016

Variables	Frequency	Percent
Mention at least one cause of obstetric fistula		
Yes	540	98.5
No	8	1.5
Total	548	100
How long does normal labor last		
Less than 24 hours	500	91.2
More than 24 hours	48	8.8
Total	548	100
Early identification of obstructed labor at health centers prevent obstetric fistula		
Yes	463	84.5
No	85	15.5
Total	548	100
Partogram is a good tool to monitor labor progress		
Yes	521	95.1
No	27	4.9
Total	548	100
Use of Partogram prevents obstructed labor		
Yes	508	92.7
No	40	7.3
Total	548	100
Rehydration with intravenous fluid is useful to prevent obstetric fistula		
Yes	320	58.4
No	228	41.6
Total	548	100
Younger age is a factor to develop obstetric fistula		
Yes	421	76.8
No	124	22.6
Total	548	100
Early marriage contributes to obstetric fistula		
Yes	492	89.8
No	56	10.2
Total	548	100
Childhood malnutrition contributes to obstetric fistula		
Yes	354	64.6
No	194	35.4
Total	548	100
Use of family planning prevent occurrence of obstetric fistula		
Yes	420	76.6
No	128	23.4
Total	548	100
Access to maternity service by skilled birth attendants prevent obstetric fistula		
Yes	512	93.4
No	36	6.6
Total	548	100
Midwives/nurses have a role to prevent obstetric fistula		
Yes	527	96.2
No	21	3.8
Total	548	100
Insertion of Foley catheter following obstructed labor prevent obstetric fistula		
Yes	441	80.5
No	107	19.5
Total	548	100
Overall knowledge status		
Knowledgeable	367	67.0
Not knowledgeable	181	33.0

As indicated in table 5 below, skilled birth attendants who reported to have resources to implement care for pregnant/laboring women were 2.78 times more likely to be knowledgeable as compare to skilled birth attendants who reported that resources were not available to implement care for pregnant/laboring women. (AOR =2.78, 95% CI 1.461-5.288). Similarly skilled birth attendants who had six to ten years of working experience were 1.9 times more likely to be knowledgeable as compare to skilled birth attendants who had less than two years of experience. (AOR =1.901, 95% CI 1.075-3.360).

Table 3. Practice of skilled birth attendants towards prevention of obstetric fistula in selected public health centers in Addis Ababa, Ethiopia, March 2016

Variables	Frequency	Percent
Implement birth preparedness and complication readiness plan for pregnant women		
Yes	491	89.6
No	57	10.4
Total	548	100
Have health education session on birth preparedness and complication readiness		
Yes	493	90.0
No	55	10.0
Total	548	100
Used partograph to monitor labor		
Yes	438	79.9
No	110	20.1
Total	548	100
If no why		
Lack of knowledge	24	21.8
Time consuming	13	11.8
Not available	30	27.3
No enforcement	13	11.8
Not working in labor ward	12	10.9
Other	18	16.4
Total	110	100
Identify women at risk to develop obstetric fistula		
Yes	474	86.5
No	74	13.5
Total	548	100
How often do you advise a laboring woman to empty her bladder		
Every one hour	236	43.1
Every two hour	132	24.1
Every four hour	143	26.1
Once during labor	37	6.8
Total	548	100
Overall practice		
Good	363	66.2
Poor	185	33.8

Factors associated with practice of skilled birth attendants on prevention of obstetric fistula

On bivariate analysis marital status (p-value = 0.042), income (p-value = 0.119), pre-service training related to prevention of obstetric fistula (p-value=0.001) in-service training related to prevention of obstetric fistula (p-value=0.001),resources availability to implement care for pregnant/laboring women (p-value = 0.001) qualification, (p-value = 0.0001), Institution trained in, (p-value = 0.001) health unit, (p-value=0.05) and knowledge on prevention of obstetric fistula (p-value=0.0001) were found to be significantly associated with practice on prevention of obstetric fistula. Multivariate logistic regression models were used to examine factors associated with practice on prevention of obstetric fistula and pre-service training related to prevention of obstetric fistula,in-service training related to prevention of obstetric fistula,resources availability to implement care for pregnant/laboring women, qualification and knowledge on prevention of obstetric fistula remained to be significantly associated.

Skilled birth attendants who had pre-service training related to prevention of obstetric fistula were 2.2 times more likely to have good practice as compare to skilled birth attendants who were not trained.(AOR =2.192, 95% CI 1.481-3.243). Skilled birth attendants who had in-service training related to prevention of obstetric fistula were 58.5% more likely to have good practice as compare to skilled birth attendants who were not trained.(AOR =1.585, 95% CI 1.051-2.391). Those skilled birth attendants who reported to have resources to implement care for pregnant/laboring women were 2.85 times more likely to have good practice as compare to skilled birth attendants who reported that unavailability of resources were not able to implement care for pregnant/laboring women. (AOR =2.848, 95% CI 1.435-5.652). Diploma nurses and degree nurses were found to be 59% and 70.4% less likely to have good practice as compare to Diploma midwifes respectively. (AOR =0.410, 95% CI 0.228-0.738; AOR =0.296, 95% CI 0.158-0.555). In addition, the results of multivariate logistic regression analysis revealed that skilled birth attendants who were found to be knowledgeable on prevention of obstetric fistula were 2.47 times more likely to have good practice than those who were not knowledgeable. (AOR =2.465, 95% CI 1.652-3.678). Table 7.

Partograph completeness

Among 80 partograph observed from selected public health centers only 18(22.5%) of them were found to be appropriately plotted with cervical dilatation, uterine contraction and decent of the head which are the components to measure the progress of labor. From the total 80 partograph observed cervical dilatation were appropriately plotted in 45(56.25%) of the partograph. The results obtained for uterine contraction were also similar to cervical dilatation, 45(56.25%). In 25(31.25%) of the partograph the decent of the head were appropriately plotted.

DISCUSSIONS

In the current study in-service training is identified as a contributing factor for having good Knowledge and practice; this may be explained by the fact that training would improve the status of knowledge about the area of interest. Similarly those who received training could have able to use partographappropriately than those who did not. This finding may support the idea that training improves the status of existing knowledge and practice. The possible explanation for midwives to have good practice on prevention of obstetric fistula than nurses is firstly, midwives are the most frequently working skilled birth attendants in labor and delivery unit where there is a possibility of implementing the knowledge they have. Secondly, they might have also better chance of getting in-service obstetric training which contributes to Obstetric Fistula prevention.

Almost half 49.1% of diploma midwives in the current study reported that they had in-service training but only 33.8% and 35.1% of diploma nurses and degree nurses had the training respectively. Even midwives might have a higher chance of getting more pre-service education and clinical practice related to obstetric fistula than nurses. In the current study also showed this because, 72.8% of diploma midwives had adequately addressed obstetric fistula during their pre-service training while only 53.9% and 59.7% of diploma nurses and degree nurses had the training respectively. This study also revealed that resource availability significantly associated to knowledge and practice related to obstetric fistula. The reason for this could be absence of material and equipment's including partograph formats, intravenous fluid in some facilities could prevent skilled birth attendants from practicing key intervention to pregnant and laboring women to protect them from prolonged labor and subsequent consequences including obstetric fistula. Year of experience is found to be significantly associated with the contributing factor to knowledge on prevention of Obstetric Fistula, this might be

due to the fact that experienced skilled birth attendants can improves their status of knowledge and practice through informal and formal learning.

The other possible explanation is that the more they stay in the profession the more chance of getting in-service training which contribute to good practice and knowledge.

Table 4. Bivariate analysis of factors associated with knowledge of skilled birth attendants on prevention of obstetric fistula in selected public health centers in Addis Ababa, Ethiopia, March 2016

Variables	Knowledge on prevention of obstetric fistula		COR (95 CI)	P- VALUE
	Poor	Good		
Age				
<25	33 (34.0)	64 (66.0)	1	0.882
25-34	119 (33.1)	240(69.9)	1.04(0.647-1.671)	0.871
35-44	20(29.4)	48(70.6)	1.217(0.633-2.418)	0.533
>44	9(37.5)	15(62.5)	0.859(0.340-2.172)	0.749
Sex				
Male	43(29.9)	101(70.1)	1	0.347
Female	138(34.2)	266(65.8)	0.821(0.544-1.239)	
Religion				
Orthodox	124(31.8)	266(68.2)	1	0.247
Muslim	18(43.9)	23(56.1)	0.596(0.310-1.144)	0.120
Protestant	36(35.6)	65(64.4)	0.842(0.532-1.333)	0.462
Other	3(18.8)	13(81.2)	2.020(0.565-7.217)	0.279
Language				
Amharic Only	118(32.2)	71(62.1)	1	0.516
Amharic + Oromiffa	43(37.7)	248(67.8)	0.786(0.507-1.217)	0.280
Amharic + Tigregna	13(26.5)	36(73.5)	1.318(0.624-2.578)	0.420
Amharic+ Other	7(36.8)	30(63.2)	0.816(0.313-2.125)	0.672
Marital Status				
Single	92(30.3)	212(69.7)	1	0.295
Married	83(36.2)	146(63.8)	0.763(0.530-1.098)	0.146
Separated/ Divorced	6(40.0)	9(60.0)	0.651(0.225-1.882)	0.428
Income				
<1000	15(34.9)	28(65.1)	1	0.023
1000-2499	121(36.8)	208(63.2)	0.921(0.473-1.792)	0.808
2500-3999	31(31.3)	68(68.7)	1.175(0.551-2.506)	0.676
4000-5500	14(18.2)	63(81.8)	2.411(1.027-5.661)	0.043
Pre-Service Training Related To Prevention Of Obstetric Fistula				
No	81(36.8)	139(63.2)	1	0.123
Yes	100(30.5)	228(69.5)	1.491(1.028-1.906)	
In-Service Training Related To Prevention Of Obstetric Fistula				
No	121(36.4)	211(63.6)	1	0.035
Yes	60(27.8)	156(72.2)	1.329(0.926-2.164)	
Qualification				
Midwife Diploma	31(27.2)	83(72.8)	1	0.219
Midwife Degree	20(30.8)	45(69.2)	0.84(0.430-1.641)	0.610
Nurse Diploma	88(38.6)	140(61.4)	0.59(0.364-0.971)	0.038
Nurse Degree	40(29.9)	94(70.1)	0.878(0.504-1.528)	0.645
Masters	2(28.6)	5(71.4)	0.934(0.172-5.065)	0.937
Institution Trained In				
Government	89(28.5)	223(71.5)	1	0.037
Private	89(39.0)	139(61.0)	0.623(0.434-0.0895)	0.011
Other	3(37.5)	5(62.5)	0.665(0.156-2.842)	0.582
Health Unit Currently Working On				
ANC	27(30.3)	62(69.7)	1	0.012
Delivery	30(24.2)	94(75.8)	1.365(0.741-2.513)	0.319
FP	24(43.6)	31(56.4)	0.563(0.280-1.131)	0.107
Under Five	13(22.4)	45(77.6)	1.507(0.702-3.239)	0.293
OPD	42(38.5)	67(61.5)	0.695(0.383-1.258)	0.230
ART	3(18.8)	13(81.2)	1.887(0.497-7.166)	0.351
TB	2(22.2)	7(77.8)	1.524(0.297-7.820)	0.613
EPI	10(47.6)	11(52.4)	0.479(0.182-1.262)	0.136
Other	30(44.8)	37(55.2)	0.537(0.227-1.040)	0.065
Working In Private Institutions				
Yes	44(31.9)	94(68.1)	1	0.741
No	137(33.4)	273(66.6)	0.933(0.617-1.409)	
Service Year				
<2 Years	48(36.6)	83(63.4)	1	0.011
2-5 Years	88(38.6)	140(61.4)	0.920(0.590-1.435)	0.713
5-10 Years	27(23.7)	87(76.3)	1.863(1.065-3.260)	0.029
>10 Years	18(24.0)	57(76.0)	1.831(0.968-3.466)	0.063
Resources Available To Implement Care For Pregnant/Laboring Women				
No	24(55.8)	19(44.2)	1	0.001
Yes	157(31.1)	348(68.9)	2.800(1.490-5.261)	

Table 5. Multivariate analysis of factors associated with knowledge of skilled birth attendants on prevention of obstetric fistula in selected public health centers in Addis Ababa, Ethiopia, March 2016

Variables	Knowledge On Prevention Of Obstetric Fistula		AOR (95 CI)	P- Value
	Poor	Good		
In-Service Training On Prevention Of Obstetric Fistula				
No	121(36.4)	211(63.6)	1	0.03
Yes	60(27.8)	156(72.2)	1.53(1.043-2.245)	
Service Year				
<2 Years	48(36.6)	83(63.4)	1	0.006
2-5 Years	88(38.6)	140(61.4)	0.875(0.557-1.375)	0.562
5-10 Years	27(23.7)	87(76.3)	1.901(1.075-3.360)	0.027
>10 Years	18(24.0)	57(76.0)	1.870(0.477-3.578)	0.059
Resources Available To Implement Care For Pregnant/Laboring Women				
No	24(55.8)	19(44.2)	1	0.002
Yes	157(31.1)	348(68.9)	2.78(1.461-5.288)	

Table 6. Bivariate analysis of factors associated with practice of skilled birth attendants on prevention of obstetric fistula in selected public health centers in Addis Ababa, Ethiopia, March 2016

Variables	Practice on prevention of obstetric fistula		COR (95 CI)	P- VALUE
	Poor	**Good**		
Age				
<25	38(39.2)	59(66.8)	1	0.533
25-34	119(33.1)	240(66.9)	1.299(0.817-2.064)	0.268
35-44	22(32.4)	46(67.6)	1.347(0.702-2.583)	0.370
>44	6(25.0)	18(75.0)	1.932(0.704-5.304)	0.201
Sex				
Male	50(34.7)	94(65.3)	1	0.776
Female	135(33.4)	269(66.6)	1.060(0.710-1.582)	
Religion				
Orthodox	136(34.9)	254(65.1)	1	0.567
Muslim	12(29.3)	29(70.7)	1.294(0.640-2.617)	0.473
Protestant	30(29.7)	71(70.3)	1.267(0.788-2.037)	0.328
Other	7(43.8)	9(56.2)	0.688(0.251-1.889)	0.468
Language				
Amharic Only	124(33.9)	242(66.1)	1	0.516
Amharic + Oromiffa	39(34.2)	75(65.8)	0.985(0.632-1.535)	0.280
Amharic + Tigregna	18(36.7)	31(63.3)	0.882(0.475-1.640)	0.420
Amharic+ Other	4(21.1)	15(78.9)	1.921(0.624-5.913)	0.672
Marital Status				
Single	89(29.3)	215(66.1)	1	0.042
Married	91(39.7)	138(60.3)	0.628(0.437-0.902)	0.012
Separated/ Divorced	5(33.3)	10(66.7)	0.882(0.475-1.640)	0.737
Income				
<1000	9(20.9)	34(79.1)	1	0.119
1000-2499	111(33.7)	218(66.3)	0.520(0.241-1.122)	0.096
2500-3999	41(41.4)	58(58.6)	0.374(0.162-0.864)	0.021
4000-5500	24(31.2)	53(68.8)	0.585(0.243-1.408)	0.231
Pre-Service Training On Prevention Of Obstetric Fistula				
No	101(45.9)	119(54.1)	1	0.001
Yes	84(25.6)	244(74.4)	2.465(1.715-3.544)	
In-Service Training On Prevention Of Obstetric Fistula				
No	132(39.8)	200(60.2)	1	0.001
Yes	53(24.5)	163(75.5)	2.030(1.388-2.968)	
Qualification				
Midwife Diploma	20(17.5)	94(82.5)	1	0.0001
Midwife Degree	14(21.5)	51(78.5)	0.775(0.361-1.663)	0.513
Nurse Diploma	90(39.5)	138(60.5)	0.326(0.188-0.566)	0.0001
Nurse Degree	59(44.0)	75(56.0)	0.270(0.150-0.488)	0.0001
Masters	2(28.6)	5(71.4)	0.532(0.0096-2.939)	0.469
Institution Trained In				
Governmet	85(27.2)	227(72.8)	1	0.001
Private	98(43.0)	130(57.0)	0.497(0.346-0.713)	0.0001
Other	2(25.0)	6(75.0)	1.123(0.222-5.674)	0.888
Health Unit Currently Working On				
Anc	20(22.5)	66(88.9)77.5)	1	0.050
Delivery	31(25.0)	93(75.0)	0.870(0.457-1.653)	0.670
Fp	25(45.5)	30(54.5)	0.348(0.168-0.720)	0.004
Under Five	20(34.4)	38(65.5)	0.551(0.264-1.149)	0.112
Opd	50(45.9)	59(54.1)	0.342(0.183-0.639)	0.001
Art	24(35.8)	43(64.2)	0.519(0.257-1.051)	0.069
Tb	1(11.4)	8(88.9)	2.319(0.273-19.66)	0.441
Epi	9(42.9)	12(57.1)	0.386(0.143-1.048)	0.062
Other	5(31.2)	11(68.8)	0.638(0.198-2.051)	0.450

Continue……

Working In Private Institutions				
Yes	44(31.9)	94(68.1)	1	0.590
No	141(34.4)	269(65.6)	0.893(0.591-1.348)	
Service Year				
<2 Years	45(34.4)	86(65.6)	1	0.051
2-5 Years	90(39.5)	138(60.5)	0.802(0.513-1.256)	0.335
5-10 Years	30(26.3)	84(73.7)	1.465(0.844-2.542)	0.174
>10 Years	20(26.7)	55(73.3)	1.439(0.769-2.690)	0.255
Resources Available To Implement Care For Pregnant/Laboring Women				
No	27(62.8)	16(37.2)	1	0.001
Yes	158(31.3)	347(68.7)	3.706(1.942-7.073)	
Knowledge On Prevention Of Obstetric Fistula				
Not Knowledgeable	89(49.2)	92(50.8)	1	0.0001
Knowledgeable	96(26.2)	271(73.8)	2.731(1.881-3.965)	

Table 7. Multivariateanalysis of factors associated with practice of skilled birth attendants on prevention of obstetric fistula in selected public health centers in Addis Ababa, Ethiopia, March 2016

Variables	Practice on prevention of obstetric fistula		AOR (95 CI)	P- Value
	Poor	Good		
Pre-service training on prevention of obstetric fistula				
No	101(45.9)	119(54.1)	1	0.0001
Yes	84(25.6)	244(74.4)	2.192(1.481-3.243)	
In-service training on prevention of obstetric fistula				
No	132(39.8)	200(60.2)	1	0.028
Yes	53(24.5)	163(75.5)	1.585(1.051-2.391)	
Resources available to implement care for pregnant/laboring women				
No	27(62.8)	16(37.2)	1	0.003
Yes	158(31.3)	347(68.7)	2.848(1.435-5.652)	
Qualification				
Midwife diploma	20(17.5)	94(82.5)	1	0.001
Midwife degree	14(21.5)	51(78.5)	0.834(0.372-1.870)	0.660
Nurse diploma	90(39.5)	138(60.5)	0.410(0.228-0.738)	0.003
Nurse degree	59(44.0)	75(56.0)	0.296(0.158-0.555)	0.0001
Masters	2(28.6)	5(71.4)	0.870(0.146-5.171)	0.878
Knowledge on prevention of obstetric fistula				
Poor knowledge	89(49.2)	92(50.8)	1	0.0001
Good knowledge	96(26.2)	271(73.8)	2.465(1.652-3.678)	

This study showed that only 22.5% of partograph charts observed in public health centers were appropriately plotted with cervical dilatation, uterine contraction and decent of the head which are the components to measure the progress of labor. This is lower when compared with study done in Nigeria to assess knowledge and utilization of the partographin two tertiary health facilities, which found that only 37.5%and 32.6% utilized partograph charts were properly filled in two institutions (12). The reason for this difference could be that the current study done in primary health care facilities whereas the study done in Nigeria is conducted in tertiary health facilities where more training and more experienced and skilled professional could be available.

Conclusions

In conclusion overall 67% of skilled birth attendants were found to have good knowledge while 66.2% had good practice towards the prevention of Obstetric Fistula. In-service training related to prevention of Obstetric Fistula, resources availability to implement care for pregnant/laboring women and service year of skilled birth attendants were found to be significantly associated with knowledge on prevention of Obstetric Fistula. All the factors under knowledge plus qualification and knowledge on prevention of Obstetric Fistula were independent associated factors to practice prevention of Obstetric Fistula.

Competing interests

The authors declare that they have no competing interests

Authors' contribution

ML and SB participated in proposal development, data collection, analyzing of the data and developing of the manuscript. All authors read and approved the final manuscript.

Acknowledgement

It gives us a great reputation and opportunity to thank Addis Ababa University for financial support and our earnest thanks to study participants who spent their valuable time responding to the questionnaire accordingly.

REFERRENCES

Cowgill, K.D., Bishop, J., Norgaard, A.K., Rubens, C.E., Gravett, M.G. 2015. Obstetric fistula in low-resource countries, 15(1):193.

Kasamba, N., Kaye, D.K., Mbalinda, S.N. 2013. *Community awareness about risk factors, presentation and obstetric fistula in Nabitovu village,* Iganga district, Uganda.. 13:229.

Norman, A.M., Breen, M., Richter, H.E. 2007. *Prevention of obstetric urogenital fistulae : some thoughts on a daunting task.*, 485–91.

Muleta, M. 2006. *Obstetric Fistula in Developing Countries* : 962–6.

Adler, A.J., Ronsmans, C., Calvert, C., Filippi, V. 2013. *Estimating the prevalence of obstetric fistula : a systematic review and meta-analysis.* BMC Pregnancy and Childbirth.

Biadgilign, S., Lakew, Y., Reda, A.A., Deribe, K. 2013. *A population based survey in Ethiopia using questionnaire as proxy to estimate obstetric fistula prevalence*: results from demographic and health survey, 10(1):14.

Njoroge, P.D. 2005. al/J *Obstetrics and Gynaecology. East Cent Africa* 2005; 1876-85 Vol. 18(2)::67–120.

Opiah, M.M., Ofi, A.B., Essien, E.J., Monjok, E. 2012. *Knowledge and Utilization of the Partograph among Midwives in the Niger Delta Region of Nigeria*. Afr J Reprod Heal 16[1]125-132)

Adler, A.J., Fox, S., Campbell, O.M.R., Kuper, H. 2013.*Obstetric fistula in Southern Sudan: situational analysis and Key Informant Method to estimate prevalence.* BMC Pregnancy Childbirth,13:64.

Banke-Thomas, A.O., Wilton-Waddell, O.E., Kouraogo, S.F., Mueller, J.E. 2014. *Current Evidence Supporting Obstetric Fistula Prevention Strategies in Sub Saharan Africa*: l, 18(183):118–118.

Kayondo, M., Wasswa, S., Kabakyenga, J., Mukiibi, N., Senkungu, J., Stenson, A., et al. 2011. *Predictors and outcome of surgical repair of obstetric fistula at a regional referral hospital, Mbarara, western Uganda.*. BioMed Central; 11:23.

Fistula, O., Package, T. 2010. Module 6 : *Obstetric Fistula – Definition , Causes and Contributing Factors , and Impact on Affected Women What is an obstetric fistula*.

****