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Active Management of Third Stage of Labour: Practice and Associated Factors among Obstetric Care Providers' at Health Facilities in Kembata-Tembaro Zone, Southern Ethiopia 2018

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Abstract

Introduction: Every year, more than half a million women die with complications related to child birth and pregnancy. Worldwide, bleeding after child birth is the leading direct cause of approximately one third of maternal death. Practicing good active management of third stage of labour prevents bleeding after child birth. But, it was estimated that annually 1.4 million deliveries didn't get good active management of third stage of labour. Thus, this study was aimed to assess obstetric care providers practice and associated factors in Kembata-Tembaro Zone, Southern Ethiopia 2018.

Methods: Institutional-based cross-sectional study design was used. One hundred seventy one study participants were enrolled using simple random sampling technique. To collect data, questionnaires and checklists were used. Descriptive statistic was used to describe study participants. Multivariate logistic regression analysis was carried out to identify associated factors with practice of active management of third stage of labour.

Results: Magnitude of good practice of active management of third stage among respondents was 29.8% only. The factors that significantly associated were, knowledge respondents on active management of third stage of labour (AOR=4.88, 95%CI: 2.10-11.33), pre-service or in-service training (AOR=4.760, 95% CI: 1.89-11.96) and service year (AOR=2.51, 95%CI: 1.07-5.92).

Conclusion: The magnitude of good practice of active management of third stage of labour among respondents' was low. Thus, improving practice of active management of third stage of labour among obstetric care providers needs great attention by all stakeholders. Proving in-service training to obstetric care providers may improve practice towards active management of third stage labour.

Keywords: Obstetric care; Ethiopia; Logistic regression; Child birth; Pregnancy

Introduction

Every year, more than half a million women die to pregnancy and child birth related complications worldwide [1]. Bleeding is a leading direct cause of maternal death, representing 27.1% of maternal death. More than two third of reported maternal death from bleeding was classified as postpartum haemorrhage [2].

In Africa 33.9% of maternal deaths are due to postpartum haemorrhage [3]. In Ethiopia, twenty thousand women die due to pregnancy and child birth complications. The majority of the deaths occur due to excessive bleeding after child birth within first four hours [4-6].

In low resources countries the most prominent challenges are, lack of qualified health care providers, the insufficient or incorrect practice of active management of the third stage of labour, the underestimation of blood loss and also the impairment in communication and transportation infrastructure [7].

Postpartum haemorrhage can be prevented by active management of third stage of labour. However about 10% of all maternal deaths were averted with full use of active management of third stage of labour [2,8]. The practice of active third stage labour management was very low in African countries (Benin, Ethiopia and united republic of Tanzania), which ranges from 0.5-17.6% [9].

Annually, it was estimated that 1.4 million deliveries didn't practice appropriate active management of third stage labour [9]. But, World Health Organization recommends that all women should get appropriate active management of third stage labour administered by skilled care provider [10].

Preventing postpartum haemorrhage is a significant strategy to reduce maternal morbidity and mortality. But, many obstetric care providers failed to appropriately practice active management of third stage labour.

According to Ethiopian demographic health survey 2016, maternal mortality rate was 412 per 100,00 live births [11]. the magnitude of deliveries that active management of the third stage of labour appropriately practiced by obstetric care providers was only 4.5% which needs serious attention to active management of third stage labour practice [9].

As studies revealed that multiple factors affected appropriate

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practice of active management of third stage of labour [9]. Those factors significantly associated were: Lack of training, absence of fridge, sex of care providers, year of experience, knowledge towards active management of third stage labour, availability of standard document and other health facility factors [1,12].

Determining the level of practice of active management of third stage labour and its associated factors among obstetric care providers is significantly important to tackle bleeding after child birth that highly contributing for maternal morbidity and mortality in the study area.

Therefore, this study was aimed to access practice of active management of third stage labour and its' associated factors of among obstetric care providers in the Kembata-Tembaro Zone, Southern Ethiopia 2018.

Method and Materials

Study design, period and area

Facilities-based cross-sectional study design was conducted from January 20 to February 28, 2018 in Kembata-Tembaro Zone Southern Ethiopia.

Source population

All obstetric care providers at health facilities in Kembata-Tembaro Zone, Southern Ethiopia

Sample size determination

Single population formula was used to compute the sample size by considering the assumptions, 95% confidence interval, 5% margin of error, p=15.7%, practice of active management of third stage of labour study southern Ethiopia [13]. Sample size coreection formula was conscidered, because the total health care providers in the Zone was less that 10,000. Finally, considering 10% non-response rate, the total sample size was 180.

Sampling techniques

All health centers and hospitals where obstetrics care service given were included in the study. Sample size was proportionally allotted to each health facility. To enrol study participant simple random sampling was used.

Data collection procedure and tool

Structured self-administered questionnaire was used to collect data on knowledge of study participants on active management of third stage of labour. The questionnaire was adopted from published literatures and prepared in English. Observational checklist was used collect information on practice of active management of third stage of labour care providers and that was adopted from FIGO/ICM guideline [14,15]. The questionnaire had three sections: Socio-demographic characteristics, facility factors and knowledge on active management of third stage of labour.

Data collection procedures

The birth attendants were observed during active third stage of labour and finally self-administered questionnaire filled by the birth attendant. But, obstetric care providers didn't know the specific skill being observed. Finally, the observational checklist and the self-administered questionnaire of each study participants were combined according to the coded information on the questionnaires.

Data quality control

Reliability test was done for data collection tools by using coronach alpha (0.85). A pre-test was done at health facilities in Hosana town, Hadiya Zone. Training was given for data collectors and supervisor regarding data collection tools. All filled checklist and questionnaires were checked for completeness and consistency before data entry.

Data analysis

Data was entered using the Epi-data version-4.2 and exported to the SPSS version-20 for analysis. Frequencies, proportion and summary statistics were used to describe the study population. Binary logistic regression was carried out to identify variables that are significantly associated with practice of active management of third stage labour. The variables with p-value less than 0.25 ($p<0.25$) on bivariate analysis were candidate for multivariate logistic regression. Finally, variables with p-value less than 0.05 in multivariable logistic regression were declared as significantly associated factors with active management of third stage labour.

Operational definitions

Active Management of Third Stage Labour (AMTSL): Is administration of oxytocin within 1 min of delivery of the baby, clumping and cutting of the cord within 2-3 min of delivery of baby, assisted delivery of the placenta through controlled cord traction and massaging of the uterus immediately after delivery and subsequent massage every 15 min for the first 1-2 h

Controlled cord traction: The application of gentle traction of the umbilical cord with upward manual support of uterus as a means of delivery of the placenta.

Practice: Refers to the ability of obstetric care providers to carryout active management of third stage of labour correctly.

Third stage of labour: Refers to the stage of labour starts at the birth of the baby and finished with the expulsion of the placenta and membranes

Good practice: A care giver who performed at least all of the following during observation: Administered right dose of oxytocin within one minute of child birth, deliver the placenta using controlled cord traction, massage the uterus immediately and massage uterus every 15 min for the first 1-2 h after delivery were said to have good practice on AMTSL otherwise poor practice.

Obstetric care provider: Is a person who is trained, qualified professional and have been giving obstetric care in the health facilities.

Ethical consideration

Ethical approval was obtained from the Haramaya University, College of Health and Medical Sciences Institutional Health Research Ethics Review Committee. Letter of support was obtained from Kembata Tembaro Zone, health Bureau. The informed consent from the labouring mother was obtained.

Results

Socio-demographic characteristics

The mean age of the study population was 30.6 (SD ± 4.95) years. The response rate was 95% (Table 1).

Practice of active management of third stage of labour

From all of the respondents, 51(29.8%) of obstetric care providers had good practice in active management of third stage of labour (Table 2).

Among the four components of active management of third stage of labour outlined by FIGO/ICM standard's documents, controlled cord traction was the most correctly practiced component which accounted 81.3% of the obstetric care providers (Figure 1).

Factors associated with the practice of active management of third stage of labour

On multivariate logistic regression analysis, practice of active management of third stage of labour was significantly associated with health care providers' pre-service or in-service training (AOR=4.76, 95%CI: 1.89-11.97), year of work experience (AOR=2.5, 95%CI: 1.07-5.9) and knowledge of health care providers on active management of third stage of labour (AOR=4.88, 95%CI: 2.1-11.34).

The obstetric care providers who had been trained on active management of third stage of labour were 5 times more likely to practice good as compare to those who didn't' have training. Obstetric care providers with year of work experience 6-10 years were 2.5 more likely to practice good active management of third stage of labour than those with ≤ 5 years of work experience. Regarding to the obstetric care providers knowledge on active management of third stage of labour, those who had good knowledge were five times more likely to practice good management of third stage of labour as compared to that of those who had poor knowledge (Table 3).

Variables	Category	Frequency	Percent
Sex	Male	56	32.7
	Female	115	67.3
Age in years	20-30	87	50.9
	31-40	71	41.5
	≥ 41	13	7.6
Religion	Protestant	119	69.6
	Orthodox	34	19.9
	Muslim	18	10.5
Ethnicity	Kembata	110	64.3
	Hadiya	21	12.3
	Tembaro	25	15.7
	Other*	15	6.7
Profession	Midwife	126	73.7
	Nurse	28	16.4
	Health officer	17	9.9
Educational level	Diploma	115	67.3
	Degree	56	32.7
Work place	Health center	115	67.3
	Primary hospital	43	25.1
	General hospital	13	7.6

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Table 1: Socio-demographic characteristics of respondents at health facilities in Kembata-Tembaro Zone, Southern Ethiopia 2018.

Variables		Frequency	Percentage (%)
Rule out the presence of second baby	Yes	109	63.7
	No	62	36.3
Uterotonic drug given within first one minute after baby delivered	Yes	125	73.1
	No	46	26.9
Controlled cord traction applied	Yes	139	81.3
	No	32	18.7
Placenta supported by two hands	Yes	147	86
	No	24	14
Membrane extracted gently with later movement	Yes	132	77.2
	No	39	22.8
Uterine massage immediately after delivery of placenta	Yes	116	67.8
	No	55	32.8
Subsequent massage within 15 min for the first hour	Yes	69	40.4
	No	102	59.6
Practice on active third stage of labour	Good practice	51	29.8
	Poor practice	120	70.2

Table 2: Respondents' practice of active third stage of labour at health facilities in Kembata-Tembaro Zone, Southern 2018.

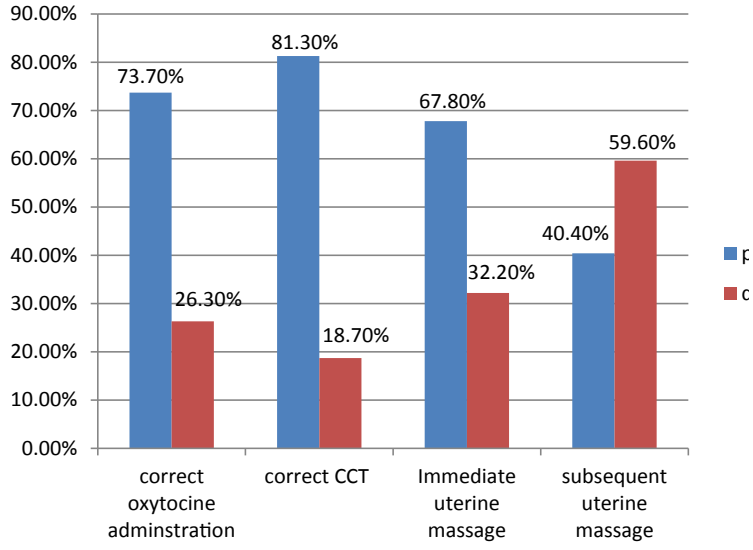

Figure 1: Practice of respondents on individual components of active management of third stage of labour at health facilities in Kembata-Tembaro Zone, Southern Ethiopia 2018.

Variable	Category	Good practice	Poor practice	OR (95% CI)	
				Crude	Adjusted
Profession	Midwifery	41 (32.6%)	85 (67.4%)	1.688 (.762-3.740)	1.707 (0.604,4.821)
	Other*	10 (22.2%)	35 (77.8%)	Ref	
Educational level	Degree	20 (35.7%)	36 (64.3%)	1.505 (.759-2.985)	2.211 (0.886,5.518)
	Diploma	31 (26.9%)	84 (73.1%)	Ref	
Work Experience	0-5 years	16 (19.7%)	65 (80.3%)	Ref	
	6-10 years	28 (36.4%)	49 (63.6%)	2.321 (1.13-4.7)	2.514 (1.067,5.927)
	Above 10	7 (53.8%)	6 (46.2%)	4.740 (1.39-16.0)	3.575 (0.861,14.840)
Training	Trained	42 (44.2%)	53 (55.8%)	5.899 (2.64-13.19)	4.760 (1.89, 11.96)
	Untrained	9 (11.8%)	67 (88.2%)	Ref	
Knowledge on AMTSL	Good	39 (48.1%)	42 (51.9%)	6.036 (2.8-12.7)	4.882 (2.103,11.336)
	Poor	12 (13.3%)	78 (86.7%)	Ref	

*Nurses, health officers.

Table 3: Factors associated with practice of active management of third stage of labour among respondents' at health facilities in Kembata-Tembaro Zone, Southern Ethiopia 2018.

Discussion

In this study, 29.8% of obstetric care providers had good practice on active management of third stage of labour. This finding is in line with the finding of studies done on practice on active management third stage of labour among obstetric care providers at Nigeria (31.5%) and Ethiopia (29%) respectively [16,17]. But the finding of this study is higher than studies done in Tanzania (15.7%) and Ethiopia (7%) and lower than the study conducted in Nigeria (41.7%) [13,18,19]. This finding inconsistency might be due to difference in time of research studied, study population and variation of tools and parameters used to determine good practice of active management of third stage of labour. Totally, the result of all studied had shown that there are huge gap of good practice of active management of third stage of labour among obstetric care providers that needs serious attention to improve quality care and client satisfaction in delivery care service.

Administration of oxytocin within one minute of delivery of the baby through intramuscular injection (73.7%) and controlled cord traction (81.3%) were the most correctly practiced components of active management of third stage of labour among obstetric care providers.

Good practice of active management of third stage of labour was significantly associated with having of pre-service or in-service training by obstetric care providers. This study finding is consistent with findings of studies conducted in Ethiopia, Kenya and Tanzania [13,16,20]. This might be due to the fact that providing training for obstetric care providers towards active management of third stage of labour help them to practice it while working their routine activities as per the standards. Moreover, training might update knowledge of obstetric care providers regarding the components of active management of third stage of labour.

Obstetric care providers' knowledge on active management of third stage of labour significantly associated with good practice on AMTSL. Also previous studies suggested that there was strong association between level of obstetric care provider's knowledge and practice active management of third stage of labour. This finding is similar with previous studies findings in Addis Ababa, Kenya, Tanzania and Nigeria [15,16,20,21]. This implies that obstetric care providers' knowledge on definition of AMTSL and its components was found to be vitally important to have good practice on active management of third stage of labour.

In this study, obstetric care providers' years of work experience was significantly associated with the good practice of active management of third stage of labour. The level of good practice among obstetric care providers with length of work experience (≥ 6 years) was higher than those with <6 years of work experience. This study finding was in line with the study conducted in Addis Ababa but contradicts with the study conducted in Nigeria in which the birth attendants with less experience found to be good in practice than those with high experience [16,21]. This finding discrepancy might be due difference in study population, study time and sample size.

Conclusions and Recommendations

Good practice of active management of third stage labour among obstetric care providers was low (29.8%) in Kembata-Tembaro Zone, Southern Ethiopia. The factors significantly associated were pre-service or in-service training, years of work experience and care providers' knowledge on AMTSL.

Updating obstetric care provider's knowledge through consistent and sustainable trainings, advancing practice of graduates on active management of third stage of labour via organizing objective structure competency evaluation session and proper monitoring of obstetric care providers in their practice to establish compliance with standards is necessarily important to have good active management of third stage of labour.

Study Limitation

As cross-sectional study, the response biases are the potential limitation of this study and it was not appropriate to determine causality.

Declarations

Competing interests: All authors declare that they have no competing interests.

Author's contributions: All authors equally contributed for this research work.

Ethics approval and consent to participate: Ethical approval was gotten from Haramaya University, research ethical committee which was dedicated to evaluating ethical consideration of researchers and informed written consent was obtained from study participants during data collections.

Consent for Publish: Not applicable.

Availability of data and materials: All data necessary will be availed on request.

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