Journal of Resources Development and Management
ISSN 2422-8397 An International Peer-reviewed Journal
Vol.10, 2015


# Factors Associated With Knowledge, Attitude And Practice Of Midwives On Active Management Of Third Stage Of Labour At Selected Health Centers Of Addis Ababa, Ethiopia

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**Abstract**
**Background:** The third stage of labour includes the separation and detachment of the placenta from the uterine wall, and ends with complete expulsion of the placenta and membrane. This period is the most hazardous stage for the birthing woman due to the risk of profuse hemorrhage. Severe bleeding is the most important cause of maternal deaths. Active management of third stage of labour effectively reduces the occurrence of hemorrhage.
**Objective:** The objective of this study was to assess factors associated with Knowledge, Attitude, and Practice of Midwifes on active management of third stage of labour at selected health centers of Addis Ababa.
**Methods:** Institution based cross sectional study was conducted among Midwives in health center of Addis Ababa. Convenience sampling was carried out to select 136 Midwives who were working in the 26 health center of Addis Ababa. The questionnaires contained closed ended questions which covered socio demographic information, knowledge, attitude and practice of midwives on active management of third stage of labour. These were prepared in English. After checking for completeness and consistency, data was coded and entered into Epi-info program and transported to SPSS version 17 for analysis. Logistic regression was used to determine factors associated with knowledge, attitude and practices. Data was presented by tables.
**Result**: In multivariate regression length of service and practice were significantly associated with level of knowledge. Those who have length of service greater than 11 years were 2.5 times more likely to be knowledgeable on Active Management of Third Stage of Labour than their counterparts (AOR= 2.49, 95% CI= 1.04, 5.95). Those who practice Active Management of Third Stage of Labour were almost 4 times more likely to be knowledgeable on Active Management of Third Stage of Labour than their counterparts (AOR = 3.57 (1.73, 7.39). Educational level of the midwives was significantly associated to attitude. Those who have high educational level (degree) were more likely to have positive attitude on Active Management of Third Stage of Labour than diploma holders (AOR= 0.67, 95% CI= 0.005, 0.89). Those who have additional on job training on Active Management of Third Stage of Labour were 3 times more likely to practice Active Management of Third Stage of Labour than their counterparts (AOR = 3.13, 95% CI= 1.0, 9.8). Those who have high educational level (degree) were nine times skillful than diploma holders (AOR= 8.51, 95% CI= 2.02, 35.92). Furthermore those who have good level of knowledge have four times higher odds to have better practice than their counterparts (AOR= 4.64, 95% CI= 1.96, 10.95).
**Conclusion**: Length of service was significantly associated with their knowledge towards AMTSL. Educational level was significantly associated with their attitude towards AMTSL. Educational level, on job training and level of knowledge were significantly associated with their practice on AMTSL. Therefore concerned bodies should give emphasis on education and training of midwives to improve knowledge attitude and practice of AMTSL.
**Keywords:** Oxytocin, active management, Third stage of labor, Postpartum Haemorrhage.

## 1. INTRODUCTION

Labour is a physiological process during which the products are expelled outside of the uterus. Labour is achieved with changes in the biochemical connective tissue and with gradual effacement and dilatation of the uterine cervix as a result of rhythmic uterine contractions of sufficient frequency, intensity, and duration (Yvonne, 2009).

Labour is divided into four stages. The first stage starts from the onset of true labour pains and ends with full dilatation of the cervix. The second stage starts from the full dilatation of cervix and ends with expulsion of the fetus from the birth canal. The third stage begins after the expulsion of fetus and ends with expulsion of the placenta and membranes. The fourth stage is the stage of early recover; it begins after the expulsion of placenta and membranes and lasts for one hour (Diaa, 2009).

The third stage of labour usually lasts between five and 15 minutes, but any duration up to one hour may be within normal limits (McDonald, 2004). This period is considered to be the most hazardous stage for the birthing woman due to the risk of profuse hemorrhage (Jangsten, 2009).

The major complication associated with this stage is postpartum hemorrhage (PPH). PPH is generally defined as blood loss greater than or equal to 500 ml within 24 hours after birth, while in severe condition blood

loss is greater than or equal to 1000 ml within 24 hours (Tan, 2008). PPH is a major cause of maternal mortality and morbidity, particularly in developing countries, where most pregnancy-related deaths are associated with hemorrhage (ICM, IFGO, 2003).

Most such deaths occur because of insufficient uterine contraction soon after birth. In most of the cases morbidity and mortality due to PPH occur in the first 24 hours following delivery and these are regarded as primary whereas any abnormal or excessive bleeding from the birth canal occurring between 24 hours and 12 weeks postnatal is regarded as secondary PPH. It may result from failure of the uterus to contract adequately (atony), Uterine atony is the most common cause and consequently the leading cause of maternal mortality worldwide (ICM, IFGO, 2004).

The two management packages for the third stage of labour are commonly used, known as active management and expectant management. In active management, several prophylactic interventions are applied in combination. WHO (World Health Organization) recommends administration of Oxytocin soon after delivery of the baby, controlled cord traction, and uterine massage after placental delivery. In expectant management, the interventions included in active management are withheld unless needed (Rabe, 2004).

Active management of third stage of labour (AMTSL) is a simple and practical intervention to reduce the incidence of PPH has been identified, globally endorsed, and widely promoted for more than a decade as part of programs to reduce maternal mortality (WHO, 2007).

The third stage of labor can be seen as a period of great potential hazard, or it can be viewed as a normal physiologic process with some risks (Tina, 2005).

The risk of death from childbirth represents one of the greatest inequities in global health. Globally, at least 585, 000 women die each year by complications of pregnancy and child birth (WHO, 2005). The majority of maternal deaths (61%) occur in the postpartum period, and more than half of these take place within a day of delivery. Approximately 30% (in some countries, over 50%) of direct maternal deaths worldwide are due to hemorrhage. Despite our knowledge of the risk factors, we can't predict which birth will be complicated by PPH.

Postpartum Haemorrhage (PPH) is the leading cause of maternal deaths (WHO, 2005). Active management reduces the relative risk of postpartum haemorrhage by around 60%, compared with physiological care (Prendville, 2003).

In Ethiopia maternal deaths account for 21.6 percent of all deaths among women aged 15-49. This shows that women of reproductive age face a very high risk of maternal death in the population, regardless of the level (CSA, 2006).

Most maternal deaths due to PPH occur in low income countries in settings (both hospital and community) where there are no birth attendants or where birth attendants lack the necessary skills or equipment to prevent and manage PPH and shock (ICM, IFGO, 2003). Therefore, PPH remains one of the top five causes of maternal mortality and as such active management of the third stage of labor should be given full consideration in an effort to reduce maternal mortality. Overall, the risk of PPH was more than 60% lower with active management than with expectant management. Active management of the third stage of labour consists of interventions designed to facilitate the delivery of the placenta by increasing uterine contractions and to prevent PPH by averting uterine atony. Every attendant at birth needs to have the knowledge, skills, and critical judgment to carry out active management of the third stage of labour, as well as access to required supplies and equipment (ICM, IFGO, 2004). AMTSL is a feasible and inexpensive intervention that can help to prevent primary PPH and save millions of women's lives (POPPHI, 2006).

Therefore, this study was conducted to determine factors associated with knowledge, attitude and practice of midwives on active management of third stage of labour working at health centers in Addis Ababa, Ethiopia. This study used to analyse data from the study conducted in Midwives of Addis Ababa health centers to assess their knowledge, attitude and practice towards AMTSL (Yaekob, 2015).

The study is important for different stakeholders addressing the issues related to maternal morbidity and mortality. Findings from the study provide information for the policy makers to develop strategies and guidelines or standards for scaling up the use of active management of third stage of labour as an important tool to prevent maternal morbidity and mortality and improve maternal health.

## 4. Methods

### *4.1. Study Area and period*

Addis Ababa is the capital city of Ethiopia and the seat for the African Union. Addis Ababa has a population size of over 3 million with annual growth rate of 2.1 (data obtained from central statistical agency of Ethiopia). The City has classified in to two administrative layers such as the sub-city top layers, followed by Woredas. Based on current classification, Addis Ababa has ten sub-cities and 116 Woredas.

The city has thirteen public hospitals, of which, 5 are under Addis Ababa Regional Health Bureau and 5 are specialized referral (central) Hospitals. Two are military referral hospitals and one hospital is under army force. The city has 40 health centers ruled by the Addis Ababa health bureau and 5 newly opened health centers

from these 26 health centers provide obstetric care services.

The potential health coverage is about 100%. Antenatal coverage estimated to be 82.11%, institutional delivery 39.89%, postnatal coverage 19.47%, and family planning 23.27% and total fertility rate is about 1.5%. Total number of midwifes in Addis Ababa are about 421 in governmental health institution from which about 143 are working in health centers. This study was conducted in public health centers of Addis Ababa which have been providing obstetric care services from January 2014 to March 2014.

### *4.2. Study Designs*

An institution based cross - sectional study was conducted by using self-administered questionnaire to determine factors associated with Knowledge Attitude and Practice of midwives towards active management of third stage of labour.

### *4.3. Sampling and Sample size*

The study was conducted among 143 midwives in the selected health centers (all midwives working in the health center during study period)

The total number of Health Centers in Addis Ababa was 40 of which **5** were newly opened health centers. From these institutions 26 health centers provide obstetric care services. All 26 health centers were selected purposively because they provide obstetric care services.

### *4.4. Data collection*

Self-administered structured questionnaire was employed. The questionnaires contain closed ended questions which covers socio demographic information, knowledge, attitude and practice of midwives on active management of third stage of labour. These were prepared in English.

### *4.5. Data quality Issues*

To keep the quality of the data, standard questionnaire was adapted. Then, the questionnaires were tested for their accuracy and consistency prior to the collection of data on Midwifes outside the study subjects. Data collectors were selected appropriately and trained. The data collectors were midwives who have experience and working in respective health institutions. Adequate information was given on how to fill the questionnaire. During the data collection process each questionnaire was checked daily by the supervisors and principal investigators for its completeness and accuracy.

### *4.6. Data entry and analysis*

The collected data was cleaned, coded, and entered to Epi-info version 3.5.1 and transported to SPSS (statistical package for social sciences) version 17 for analysis. Frequency distribution tables were used to describe the findings. A logistic regression was used to control confounding variables and identify major determinants for Knowledge Attitude and Practice of Midwives on AMTSL. Odds ratios with their respective 95% confidence interval (CI) were calculated. P-value of less than 0.05 was considered significant.

### *4.7. Operational definitions*

Attitude: the opinion of the midwives about active management of third stage of labour.
Positive attitude: if the participant responds 3 questions.
Negative attitude: if the participant responds less than 3 questions.
Knowledge: Refers to the level of awareness and understanding of midwives regarding active management of third stage of labour. It can be measured by how much the participants respond correctly about its parts.
Good knowledge: if the participant responds 8 and above questions of the questioner.
Poor knowledge: if the participant responds less than 8 questions of the questioner.
Practice: Refers to the ability of midwives to carry out the management of third stage of labour.
Good: Step performed correctly in proper sequence
Poor: Step performed in proper sequence but lacks precision and step not performed by participant during observation

### *4.8. Ethical Considerations*

Ethical clearance was obtained from the institutional review board (IRB) of the School of Allied Health Sciences, department of Nursing and Midwifery, Addis Ababa University and Addis Ababa Regional Health Bureau and permission was obtained from the health centers before the data collection process started. The study participants were informed about the purpose of the study and the importance of their participation in the study. Then after assuring the confidential nature of responses and obtaining informed consent from the study subject data collection was conducted.

## 5. Result

### *5.1. Socio-demographic Characteristics of Midwives*

Among 26 governmental Health centers total of 136 Midwives were included in the study, making a response rate of 95.1%. Regarding the age of the study subjects, majority 96 (70.6%) were between 19-29 years old. Most, 84 (61.8%) of the respondents were females. Majority, 90 (66.2%) of the respondents were followers of the Orthodox Christianity followed by protestant which accounted for 29 (21.3%). Eighty two (60.3%) of the respondents were single and 51 (37.5%) were married. With regard to their length of service, 83 (61%) of the respondents had 0-4 years experiences and about, 20(14.7%) had 10-14 years experiences. Majority, 115 (84.6%) were diploma holder and 21 (15.4%) were degree holder (Table 1).

**Table 1: - Socio-demographic characteristics of Midwives at Addis Ababa Health Center, May 2014.**

| Variable | Frequency | Percent |
|---|---|---|
| **Age** | | |
| 19-29 | 96 | 70.6 |
| 30-39 | 31 | 22.8 |
| 40-49 | 8 | 5.9 |
| >50 | 1 | 0.7 |
| **Sex** | | |
| Male | 52 | 38.2 |
| Female | 84 | 61.8 |
| **Religion** | | |
| Orthodox | 90 | 66.2 |
| Muslim | 14 | 10.3 |
| Catholic | 1 | 0.7 |
| Protestant | 29 | 21.3 |
| Other | 2 | 1.5 |
| **Marital status** | | |
| Single | 82 | 60.3 |
| Married | 51 | 37.5 |
| Divorced | 2 | 1.5 |
| Widowed | 1 | 0.7 |
| **Length of service** | | |
| 0-4 | 83 | 61 |
| 5-9 | 19 | 14 |
| 10-14 | 20 | 14.7 |
| >15 | 14 | 10.3 |
| **Educational level** | | |
| Diploma | 115 | 84.6 |
| Degree | 21 | 15.4 |

### *5.2. Determinant factors to knowledge of midwives on AMTSL*

Regression analysis was run in order to identify variables that have significant association with level of midwives' knowledge on AMTSL. In bivariate regression length of service and practice were significantly associated to level of knowledge. Those who have length of service greater than 11 years were 3 times more likely to be knowledgeable on AMTSL than their counterparts (COR= 2.9, 95% CI= 1.27, 6.7). Those who practice AMTSL were almost 4 times more likely to be knowledgeable on AMTSL than their counterparts (COR = 3.89 (1.91, 7.95). In multivariate regression length of service and practice were also significantly associated with level of knowledge. Those who have length of service greater than 11 years were 3 times more likely to be knowledgeable on AMTSL than their counterparts (AOR= 2.49, 95% CI= 1.04, 5.95). Those who practice AMTSL were almost 4 times more likely knowledgeable on AMTSL than their counterparts (AOR = 3.57 (1.73, 7.39) (Table 2).

**Table 2: Determinant factors to knowledge of midwives on AMTSL at Addis Ababa health center, 2014.**

| Variable | Knowledge | | Crude OR (95% CI) | Adjusted OR (95% CI) |
|---|---|---|---|---|
| | **Good** | **Poor** | | |
| **Length of service** | | | | |
| 0-10 | 46 (45%) | 56(54.9%) | 1.00 | 1.00 |
| ≥11 | 24 (70.6%) | 10(29.4%) | **2.92 (1.27,6.73)*** | **2.64 (1.08, 6.43)*** |
| **Educational level** | | | | |
| Diploma | 57 (49.6%) | 58(50.4%) | 1.00 | 1.00 |
| Degree | 13 (61.9%) | 8(38.1%) | 0.61 (0.23, 1.57) | 0.76 (0.25, 2.34) |
| **Training** | | | | |
| Yes | 17 (56.7%) | 13(43.3%) | 1.00 | 1.00 |
| No | 53 (50%) | 53(50%) | 0.77 (0.34, 1.73) | 0.84 (0.33, 2.12) |
| **Practice** | | | | |
| Good | 44 (68.8%) | 20(31.2%) | 1.00 | 1.00 |
| Poor | 26 (36.1%) | 46(63.9%) | 3.89 (1.91, 7.95)* | 3.93 (1.80, 8.55)* |
| **Attitude** | | | | |
| Positive | 67 (50.8%) | 65(49.2%) | 1.00 | 1.00 |
| Negative | 3 (75%) | 1(25%) | 0.34 (0.04, 3.39) | 3.93 (0.32, 48.37) |

* Remained statistically significant in both crude and adjusted odds ratio in the table.

### *5.3. Determinant factors to attitude of midwives on AMTSL*

Regression analysis was run in order to identify variables that have significant association with level of midwives' attitude on AMTSL. In bivariate regression educational level of the midwives were significantly associated to attitude. Those who have high educational level (degree) were 12 times more likely to have positive attitude on AMTSL than their counterparts (COR= 12, 95% CI= 1.04, 138.9). In multivariate regression educational level of the midwives were also significantly associated to attitude. Those who have high educational level (degree) were more likely to have positive attitude on AMTSL than their counterparts (AOR= 0.67, 95% CI= 0.005, 0.89) (Table 3)

**Table 3: Determinant factors of midwives' attitudes on AMTSL at Addis Ababa health center, 2014.**

| Variable | Attitude | | Crude OR (95% CI) | Adjusted OR (95% CI) |
|---|---|---|---|---|
| | **Positive** | **Negative** | | |
| **Educational level** | | | | |
| Diploma | 114(99.1%) | 1(0.9%) | 1.00 | 1.00 |
| Degree | 18(85.7%) | 3(14.3%) | **12 (1.04,138.9)*** | **0.67(0.005,0.89)*** |
| **Experience** | | | | |
| 0-10 | 99(97.1%) | 3(2.9%) | 1.00 | 1.00 |
| ≥11 | 33(97.1%) | 1(2.9%) | 3.89 (1.91, 7.95) | 0.98 (0..57,16.85) |
| **Training** | | | | |
| Yes | 29(96.7%) | 1(3.3%) | 1.00 | 1.00 |
| No | 103(97.2%) | 3(2.8%) | 0.56 (0.49, 4.93) | 1.19(0.08,17.49) |
| **Practice** | | | | |
| Good | 62(96.9%) | 2(3.1%) | 1.00 | 1.00 |
| Poor | 70(97.2%) | 2(2.8%) | 0.44 (0.39, 4.93) | 1.72 (0.11, 26.5) |

* Remained statistically significant in both crude and adjusted odds ratio in the table.

### *5.4. Determinant factors to practice of midwives on AMTSL*

Regression analysis was run in order to identify variables that have significant association with level of midwives' practice on AMTSL. In bivariate regression on job training, educational level and level of knowledge were significantly associated to level of practice. Those who have additional on job training on AMTSL were 3 times more likely to practice AMTSL than their counterparts ((COR =2.82 (1.20, 6.01)). Those who have high educational level (degree) were significantly higher than their counterparts (COR= 0.16, 95% CI= 0.05, 0.51) to practice AMTSL. And those who have good level of knowledge have four times higher than their counterparts (COR= 3.89, 95% CI= 1.90, 7.95) to practice AMTSL. In multivariate regression on job training, educational level and knowledge was also significantly associated to level of practice. Those who have additional on job training on AMTSL were 3 times more likely to practice AMTSL than their counterparts (AOR = 3.13, 95% CI= 1.0, 9.8). Those who have high educational level (degree) were nine times skillful than their counterparts (AOR= 8.51, 95% CI= 2.02, 35.92). Furthermore those who have good level of knowledge have four times higher to

have better practice than their counterparts (AOR= 4.64, 95% CI= 1.96, 10.95) (Table 4).

**Table 4: Determinant factors of midwives' practice on AMTSL at Addis Ababa health center,, 2014.**

| Variables | Practice | | Crude OR (95% CI) | Adjusted OR (95% CI) |
|---|---|---|---|---|
| | Good | Poor | | |
| **Training** | | | | |
| No | 44(41.5%) | 62(58.5%) | 1.00 | 1.00 |
| Yes | 20(66.7%) | 10(33.3%) | **2.82 (1.20,6.01)*** | **3.13 (1.0, 9.8)*** |
| **Educational level** | | | | |
| Diploma | 47(40.9%) | 68(59.1%) | 1.00 | 1.00 |
| Degree | 17(81%) | 4(19%) | **0.16 (0.05, 0.51)*** | **8.51(2.02,35.92)*** |
| **Level of knowledge** | | | | |
| Poor | 20(30.3%) | 46(69.7%) | 1.00 | 1.00 |
| Good | 44(62.9%) | 26(37.1%) | **3.89 (1.90, 7.95)*** | **4.64(1.96,10.95)*** |
| **Attitude** | | | | |
| Negative | 2(50%) | 2(50%) | 1.00 | 1.00 |
| Positive | 62(47%) | 70(53%) | 1.13 (0.15, 8.26) | 0.25 (0.85, 5.83) |
| **Length of service** | | | | |
| 0-10 | 43(42.2%) | 59(57.8%) | 1.00 | 1.00 |
| ≥11 | 21(61.8%) | 13(38.2%) | **2.22 (1.0, 4.91)** | 1.31 (0.53, 3.26) |

* Remained statistically significant in both crude and adjusted odds ratio

## 5. Discussion

This paper is continuation of research already published on assessment of knowledge, attitude and practice of midwives on AMTSL (Yaekob, 2015). FIGO/ICM recommended the importance of using AMTSL in prevention maternal mortality and morbidity. AMTSL is a simple and practical intervention to reduce the incidence of PPH (WHO, 2007). The findings of this study have provided insight information on factors associated with Midwives' knowledge, attitude and practice on active management of third stage of labour in the study area. In this study about, 112 (82.4%) of midwives stated the definition of postpartum hemorrhage. This finding shows that most of the midwives easily identify PPH and manage before the occurrence of the problem. Eighty six (63.2%) of midwives mentioned the three important components of AMSTL, which was higher than the finding in southwest Nigeria 28.3 % (Olufeni, 2009).

Active management of the third stage of labour consists of interventions designed to facilitate the delivery of the placenta by increasing uterine contractions and to prevent PPH by averting uterine atony (ICM, IFGO, 2004). This study showed that only half, 69 (50.7%) of the study participant mentioned the goal of AMSTL as prevention of PPH which is lower than the finding in Tanzania 98.8% and Uganda 81.2% (Fatina, 2007, Naamala, 2012). This is might be due to inadequate pre- service and lack of in service training in the area.

Administration of intramuscular Oxytocin at the presentation of anterior shoulder of the fetus is recommended by FIGO/ICMI, 2003. This study showed that about 121 (89%) of midwives had awareness on Oxytocin intramuscular injection as the first line drug for management of PPH. This finding is lower than the finding in Tanzania 100 % (Fatina, 2007). This poor level of knowledge might be due to they had not attended any course or workshop on AMTSL at the work place. Fifty six (41.2%) of midwives knew how to examine the mother for vaginal blood flow within first hour after delivery. This finding shows that more than half of midwives didn't examine the mother for vaginal blood flow in the first hour after delivery.

In this study midwives attitudes towards AMSTL was positive, 133 (97.8%) stated that AMTSL should be used and advantageous to all laboring mothers to prevent PPH this finding is higher than the other studies done in Uganda 66.7% (Naamala, 2012).

This study identified that only 34 (25%) Midwives knew Oxytocin provision to the laboring women at the presentation of anterior shoulder and 54 (39.7%) of them knew early cord clamping before pulsation stops. This might be due to poor or absence of in service training regarding AMSTL. Only 8 (5.9%) of midwives had administered oxytocin after delivery of the placenta. This finding was lower than the finding in Egypt (65%) (Cherina, 2004).

However, standard AMTSL practice consists of about 18 steps that a midwife has to follow when conducting this intervention to a woman during third stage of labour. Seventy two (52.9%) of these steps were not completed by most of the midwives that made majority to score low in the skills. Compared to knowledge that most midwives achieve satisfactory scores, skills performance scores were mainly affected by incorrectly or incompletely done procedures with the reason of forgetting updates, and or procedures which were not done at

all during AMTSL intervention with major reason of forgetting the steps.

In this study active management of third stage was correctly done by 64 (47%) of midwives to be observed which was higher than the finding in Egypt 15 % (Olufeni, 2009). In this study administration of the Oxytocin was correctly done by 106 (77.9%) midwives immediately after the delivery of the baby with in the first minute. The possibility of second baby was not ruled out in 24 (17.7%) of midwives before the administration of Oxytocin 10 units of IM. Controlled cord traction was applied in 121 (89%) midwives, of this, 57 (41.9%) were applied without confirming strong uterine contractions. This finding was higher than the finding in Nepal (Meera, 2006).

Only 92 (67.6%) of midwives estimated blood loss after delivery and 101 (74.3%) of midwives ensured that the uterus did not relax after stopping uterine massage. To improve the standard of active management of third stage of labour still needed training.

Regarding the factors it was difficult to make comparison with other since there was no study conducted on this objective. This study revealed that Length of service was directly associated with knowledge of midwives towards to AMTSL. This indicates that through experience their knowledge improves.

Educational level was significantly associated with attitude of Midwives on AMTSL. This shows that as Midwives advances in education (e.g. from Diploma to Degree) they tend to have positive attitude towards AMLTS. Training, Educational level and level of knowledge were significantly associated with practice of Midwives towards to AMTSL. This indicates that practice of AMTSL needs additional training and higher educational level.

The World Health Organization recommends that maternity care providers receive refresher training or updates in midwifery every three to five years. Although training on AMTSL has evidenced to improve midwives awareness and practice but the observed AMTSL knowledge and skills level among the providers reflect weakness in training programs.

## 6. Conclusion

In this study midwives' length of service was significantly associated with their knowledge towards AMTSL. Midwives' educational level was significantly associated with their attitude towards AMTSL. Midwives' educational level, on job training and level of knowledge was significantly associated their practice on AMTSL. Therefore concerned bodies should give emphasis on education and training of midwives to improve knowledge, attitude and practice on AMTSL.

**Acknowledgement**

We would like to thank Addis Ababa University, College of Allied Health sciences, department of nursing and midwifery for funding the research.

**Authors' contributions**

AH, RY carried out the research from conception to the write up of the final draft of the article. All authors read and approved the final manuscript.

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**Competing interests**

The authors declare that they have no competing interests

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