

**KNOWLEDGE AND PRACTICE OF MIDWIVES ON ACTIVE  
MANAGEMENT OF THIRD STAGE OF LABOR IN  
DAR ES SALAAM, TANZANIA**

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**MSc in Nursing (Critical Care and Trauma) Dissertation  
Muhimbili University of Health and Allied Sciences  
October, 2015**

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MANAGEMENT OF THIRD STAGE OF LABOR IN  
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**By**

**Haule Melania Lembuka**

**A Dissertation Submitted in (Partial) Fulfillment of the Requirement for the Degree  
of Master of Science in Nursing (Critical Care and Trauma) of  
Muhimbili University of Health and Allied Sciences**

**Muhimbili University of Health and Allied Sciences**

**October, 2015**

## CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled *Knowledge and practice of Midwives on active management of third stage of labor in Dar es Salaam, Tanzania* in (Partial) Fulfillment of the Requirement for the Degree of Master of Science in Nursing - Critical Care and Trauma of Muhimbili University of Health and Allied Sciences

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I, **Melania Haule Lembuka**, Declare that this **dissertation** is my own work and that it has not been and will not be presented to any other University for a similar or any other degree award.

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## **DEDICATION**

This dissertation is dedicated to the memory of my late parents; my father Dr Menrad H. Lembuka and mother Ms Amina Mohamedi whom their innermost belief in the importance of education has made me the way I am, this had laid an excellent foundation in my life, may almighty God rest their souls in peace, amen.

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## **ABSTRACT**

**Background:** Postpartum Hemorrhage (PPH) is the major cause of maternal morbidity and mortality worldwide with the highest incidence in developing countries. In Tanzania Maternal mortality ratio (MMR) stands at 410 /100,000 live births where PPH alone accounts for 25-28% of all maternal deaths (8). Few studies done on this topic showed limited knowledge and practice on PPH prevention and management using AMTSL among midwives. There is no enough information on the current level of knowledge and practice of AMTSL among midwives in Tanzania.

**Objective:** This study sought to know the knowledge and practice level of midwives on AMTSL in public hospitals namely Temeke, Amana and Mwananyamala in Dar es Salaam region.

**Methods:** A descriptive cross- sectional study using quantitative research method was used in the assessment of knowledge and practice. Data was collected from April through May 2014. Additional data was collected in February 2015.

A convenience sampling technique was used and a total of 105 midwives were recruited into the study. Knowledge among the 105 practicing registered midwives working in maternity wards was tested by using questionnaire with 15 questions. Practice was assessed only in the 35 midwives working in labor wards using an observational checklist with 19 items. Out of 122 total number of midwives who worked in maternity wards, 17 of them did not participate in this study as they were either on their annual leave, seminar or were not willing to participate. Knowledge and practice were expressed as percentages of correct responses obtained by the participants and categorized as adequate or inadequate respectively. Data were coded and entered into SPSS version 20 for descriptive and inferential statistics.

**Results:** Of 105, midwives assessed, majority were female (90.5%); mean age was 33.8±6.9 (range 21-49 yrs); some (46.7%) of them were in the age group 31-40 yrs. In

terms of professional training in midwifery, about half (49.9%) of them had attained a diploma level with work experience of mainly 1-5 yrs (56.2%).

Generally knowledge and skills on prevention and management of PPH using AMTSL among midwives assessed was observed to be inadequate. A majority 94.3% of midwives demonstrated inadequate knowledge and 71.4% had inadequate skills on AMTSL. However, when considering the performance of participants on individual items of knowledge and skills, there were variable responses with some items getting better scores while others getting poor scores. Of the knowledge items, the proportional of participants who responded correctly were lowest in steps of managing a patient with PPH (8.6%) and harmful practices when performing AMTSL (36.2%) while among the skills items that were poorly done included not waiting for the gush of blood before performing CCT (45.7%), and need to reassess uterine contraction after every 15 minutes after delivery and then two hourly (45.7%). Regarding the three components of AMTSL according to FIGO/ICM most (more than 50%) participants got correct responses. The proportions of participants who had correct responses (in skills checklist) were; Oxytocin administration (85.7%), CCT (94.3%) and uterine massage (71.4%).

**Conclusion:** Knowledge and skills of AMTSL among midwives in Dar es Salaam public hospitals were inadequate

**Recommendation:**

These findings indicate that there is a need for Policy makers to arrange periodic review of pre-service midwifery training curricula to assess whether its contents provide midwives with skills relevant to the obstetric care.



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**LIST OF ABBREVIATIONS**

AMTSL	Active Management of the Third Stage of Labor
CEMACH	Confidential Enquiry into Maternal and Child Health
CMACE	Confidential Enquiries into Maternal Deaths
EMTSL	Expectant Management of the Third Stage of Labour
GDP	Gross Domestic Product
ICM	International Council of Midwives
JHIPIEGO	Johns Hopkins Program for International Education in Gynecology and Obstetrics
MDGs	Millennium Development Goals
MMR	Maternal Mortality Rate
MoHSW	Ministry of Health and social welfare
MUHAS	Muhimbili University of Health and Allied Sciences
MUHAS	Muhimbili National Hospital
PPH	Post Partum Haemorrhage
SPSS	Statistical Package for Social Science
TDHS	Tanzania Demographic and Health Survey
UNICEF	United Nations Children's Fund
USA	United State of America
WHO	World Health Organization

## OPERATIONAL DEFINITIONS

In this study the following terms are defined as follows:

### **Midwives:**

According to International Council of Midwives (ICM) midwives are the registered professionals who provide primary care to women and their babies during pregnancy, labor, birth and the postpartum period. As primary care providers, midwives may be the first point of entry to maternity services, and are fully responsible for clinical decisions and the management of care within scope of practice. The same definitions will be employed in this study.

### **Postpartum Hemorrhage (PPH):**

Vaginal bleeding after delivery that exceeds or equal to 500 ml, or that is less than 500 ml and causes symptoms. Severe PPH is vaginal bleeding greater than 1,000 ml. bleeding immediately after delivery, within the first 24 hours, is called primary PPH and bleeding after 24 hours is called secondary PPH.

### **Maternal death:**

This was defined according to the International Classification of Diseases and related health conditions 10<sup>th</sup> revision (ICD 10), in which maternal death is defined as death of a woman while pregnant or within 42 days of the termination of pregnancy irrespective of the duration and the site of pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

### **Active management of third stage of labor (AMTSL):**

Two definitions of AMTSL were used:

The FIGO/ICM definition which involves administration of 10 IU of oxytocin within 1 minute following the delivery of the fetus, CCT, and immediate uterine massage following delivery of the placenta, in cases where oxytocin is not available 0.5 mg of ergometrine IM is recommended.

This follows the same criteria as definition 1 but relaxes the time requirement for oxytocin administration from 1 to 3 minutes. This is also referred as "adequate" use of the uterotonic drug

**Uterotonic:**

A drug that stimulates uterine contractions. Drugs such as oxytocin, ergometrine and misoprostol have strong uterotonic properties and have long been used to prevent and treat uterine atony and reduce the amount of blood lost during and after childbirth. The use of an uterotonic drug immediately after the delivery of the newborn (i.e., in the third stage of labor) is one of the most important interventions used to prevent postpartum hemorrhage (PPH).

**Controlled Cord Traction:**

A two-handed delivery of the placenta, involving gentle, firm and steady tension downward cord traction with one hand and upwards and backwards uterine counter-pressure with the other hand supporting the uterus above the pubis, performed only on a contracted uterus.

**Uterine Massage:**

Immediately after the delivery of the placenta, the skilled birth attendant massages the uterine fundus until the uterus is firmly contracted.

**Skilled Attendant:**

Refers to an accredited health professional such as midwife, doctor or nurse who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management or referral of complications in women and newborns.

**Skills**

The ability to do something well, expertise or dexterity

**Practice**

The practice of a profession or a way of doing something



## CHAPTER ONE

### 1.0 INTRODUCTION

#### 1.1 Background

The third stage of labour is considered to be the most critical part of child birth due to the risk of post partum haemorrhage (PPH) (1). PPH is one among the major pregnancy related complication and is the main cause of maternal death in their reproductive age globally and in Tanzania (2). According to the World Health Organization(WHO), 800 women die each day from complication of pregnancy and one of the primary causes is PPH which is responsible for at least one quarter of all maternal deaths worldwide and nearly 60% of all maternal mortality in developing countries (3).

PPH is defined as the loss of greater than 500ml of blood following vaginal delivery or 1000ml of blood following cesarean section (3). The formal definition of post-partum hemorrhage is blood loss of 500 ml or more within 24 hours after delivery and/or within 42 weeks following delivery, only blood loss of 1000 ml or more is being considered , because it has greater clinical significance (severe anemia) (4).

Many efforts are focused on reducing maternal mortality due to PPH. Research has demonstrated the effectiveness of active management of the third stage of labor (AMTSL) as a feasible and low-cost intervention that prevents postpartum hemorrhage as it is associated with a significant decrease in postpartum hemorrhage. It is estimated that AMTSL can eliminate at least half of postpartum hemorrhage cases saving thousands of women's lives (5),(6)

Studies show that 18% of women would experience PPH if the placenta were delivered on its own, 2.7 % if Oxytocin were used, and 3.6 % if misoprostol were used. Oral misoprostol was associated with about 50 percent reduction (from 12.0 percent to 6.4 percent) in the rate of acute postpartum hemorrhage and mean blood loss (7).

An incidence of severe postpartum hemorrhage globally is around 10.5% of live births. Clearly, the incidence is lower in developed country settings where most women deliver in a hospital and where AMTSL is the norm, compared to developing areas where large proportions of women deliver at home. Based on the global average, it is estimated that each year nearly 14 million women suffer severe blood loss during childbirth or the post-partum period and around 140,000 women die as a result, a case fatality rate of 1%. A further 12% survive but with severe anemia, meaning that each year, some 1.6 million women of reproductive age suffer from long-lasting and debilitating consequences of anemia due to pregnancy-related complications (4).

Additionally, the problem is worse in developing countries especial African countries. As reported by WHO (3) maternal mortality is high in African where the risk of dying from postpartum haemorrhage is 1 in 16, compared with 1 in 2400 in developed countries. Recent reports estimated total maternal deaths and maternal mortality ratio (MMR) in Tanzania are 7,900 and 410 per 100,000 live births respectively where by PPH alone accounts for 25% – 28% of all maternal deaths in Tanzania (8),(9),(10),(11). In a survey carried results showed that the Tanzania coast area is estimated to have maternal mortality for the PPH at 14.3 per 1000 live births (10). However, historically, when countries Gross Domestic Product (GDP) per capita has increased, the numbers of maternal deaths is reduced (12),(13).

Even though the GDP per capita in Tanzania has increased since the year 2000, the maternal mortality has remained high and even increased (13). One nationwide study performed in Kenya demonstrated that the rate of PPH in East Africa increased by 27.5% from 1995 to 2004, primarily due to an increase in the incidence of uterine atony (14). The same trend holds true for Tanzania public hospitals where the number of women with blood loss >1000 mls after vaginal birth increased from 3.4% to 6.7% between 2000 and 2006 (15).

Improving maternal health is one of the eight Millennium Development Goals (MDGs) adopted by the international community at the United Nations Millennium Summit in

year 2000, and the target is to reduce maternal mortality rate (MMR) by 75% from 1990 to 2015 (16),(21).

Although Tanzania reduced MMR from 910 per 100,000 live births in 1990 to a recent data of 410 per 100,000 live births, and the overall health trend is positive, there is no indication of any improvement in maternal mortality since the early 1990's. It has been reported that every year more than 500 women die during delivery from several causes such as severe bleeding and a majority of all these causes are preventable, this implies that reaching the MDG 5 target by 2015 seems to be unmanageable (15),(8).

This information shows that without proper management, PPH may continue to threaten hundreds of lives of pregnant women all over the world.

UNICEF 2000 report directed that reducing maternal mortality is not just an issue of development, but an issue of human rights, as preventable maternal mortality often represents a violation of a woman's right to life (17),(13).

Almost all maternal deaths are preventable as the medical remedies to avoid fatalities are well known (17). In the literature, improving access to skilled birth attendant during delivery and in particular to emergency postpartum care is the key solution to reducing maternal mortality. Many studies have reported that in developing countries, access to skilled midwifery and emergency postpartum cares are limited by the existence of multiple barriers such as quality of service given by workers assisting in delivery following limited knowledge and skills (18).

Evidence based information from Tanzania and other studies concerning maternal mortality show that continued rising rates of Maternal Mortality Ratio (MMR) are linked to failure of health system to respond with the right care, at the right time, in the right ways (4).

The shortage of human resource in the domain of perinatal care is being identified as a great barrier which is associated with poor performance and outcomes in Dare s Salaam health institutions (19).

The majority of women in Tanzania are unable to access the health services available to them for various reasons among them being: distance from a health facility, distrust of

the level of care received from a facility, lack of financial means and social norms which promote the use of traditional birth attendants (TBAs) i.e. birth assistants who have not undergone certified medical training (20).

Several progress have been made in Tanzania regarding prevention and management of PPH with the aim of achieving care needed for safe motherhood and the 2015 MDG no.5 which includes; improving maternal health through the Active Management of the Third Stage of Labor (AMTSL), Expectant Management of the Third Stage of Labour (EMTSL), the introduction of The Tanzania Standard Treatment Guidelines (STGs) and the 1997 Essential Drug List (EDL) list which registered two types of uterotonic drugs; Oxytocin and ergometrine and it was recommended that Oxytocin should be the first drug of choice for AMTSL followed by ergometrine and thirdly misoprostol (22),(23).

Currently there has been a joint effort in the country by MoHSW, JHPIEGO, WHO and other health care stakeholders in conducting pre-service and in-service training on AMTSL and its components, curriculum review for nursing and midwifery training etc. MoHSW has been striving to make sure uterotonics are available for prevention of PPH at all levels of health facilities. It also assist in capacity building by training health provider, including curriculum in pre-service teaching concerning the use of uterotonics in the AMTSL for all births and ensure the stock of these medicines in Medical Stores Department (MSD) (22).

Report shows that before the official circular of guidelines on AMTSL use in clinical settings the disseminated practice of AMTSL in the tertiary hospitals of Tanzania Mainland was only 7 % (9).

In developed countries clinical trials showed that the use of AMTSL in contrast to physiological management of third stage of labor, significantly reduce PPH and it was recommended that AMTSL must be offered to all women delivering in hospital and anticipating the vaginal birth of a single baby. Following these findings ICM and FIGO, issued a joint statement in Canada in November 2003 (also known as the Ottawa

statement), that every woman should be offered AMTSL as a means of reducing the incidence of PPH due to uterine atony (10).

The safe motherhood initiative In Nairobi Kenya in 2007 stated that maternal mortality is an issue of health infrastructure and AMTSL is measurable, evidence based, and life saving aspect of health infrastructure. In 2008 the MoHSW/WHO published the guideline for use of uterotonics in AMTSL and started to conduct training to pre-service and in-service for AMTSL (3).

## **1.2 Statement of the Problem**

Women die from a wide range of complications in pregnancy; one of the major killers world-wide is severe bleeding/PPH. The report by WHO (3) also affirmed that PPH is the leading cause of maternal death in the world.

It is important for midwives to recognize the clinical symptoms of various degrees of hypovolemia to the mother and rapidly identify the cause of PPH. In order to reduce maternal mortality, the rate of PPH must be dramatically reduced. Accordingly, knowledge and skills for birth attendant assisting in delivery (with accurate equipment and a working referral system) are of the greatest importance on reducing maternal deaths due to PPH (24). Midwives are at the forefront of caring for pregnant mothers and inadequate care will not only affect the mother, but it has the capacity to adversely affect the midwifery profession (25).

### **1.2.1 Tanzania National standard treatment guidelines**

Tanzania Standard Treatment Guidelines (STG) and the 1997 Essential Drug List (EDL) through the Ministry of Health and Social Welfare (MoHSW) list registered two types of uterotonic drugs: Oxytocin and ergometrine. The list indicates that Oxytocin (5 IU) should be administered intravenously (IV) for induction and augmentation of labor and intramuscularly (IM) for stimulation of uterus after delivery of fetus. The dose of ergometrine recommended by STG and EDL for prevention of PPH is 0.5 mg/IM.

However, AMTSL is minimally mentioned in the revised (1997) STG, and the practice undefined. Oxytocin, unlike ergometrine, is limited to hospital use and used when prescribed by a physician (10).

### **1.2.2 Current level of knowledge and practice of AMTSL**

Few studies done on this topic showed limited knowledge and practice on PPH management and prevention among nurse midwives. There is no enough information on the current level of knowledge and practice of AMTSL among midwives in Tanzania. (7),(9),(23),(50).

AMTSL is being recommended by WHO, FIGO and ICM to be used as it is an affective and cost effective measure on PPH prevention and management however this measure has been introduced only few years back and both accurate knowledge on this measure and its correct use remain low in developing countries including Tanzania (27).

Because midwives are the first point of contact for most women in labor and PPH is the direct leading cause of maternal death in public hospitals (28), it is therefore important to conduct a study in order to assess their level of knowledge and practice on prevention and management of PPH by utilizing AMTSL and possibly to identify the knowledge and practice gap which may needs to be filled in our setting, particularly in Dar es Salaam region which is a highly populated city saving approximately three million people in obstetric and neonatal care (27).

### **1.3 Rationale of the Study**

Postpartum Hemorrhage is still ranked among one of the major causes of maternal death worldwide and Tanzania in particular. To facilitate safe and healthy outcomes for the mothers and their babies, knowledge and skill, diligence, and expertise of the midwives are crucial factors.

This study investigated the current level of knowledge and skills in prevention and management of PPH among midwives in Dar es Salaam city.

The study findings are expected to inform midwives of Dar es Salaam city (other health services provider and health stakeholders) about the gaps in their knowledge and practices on prevention and management of PPH using AMTSL hence areas that need to be strengthened.

It may provide insight on learning needs to the midwifery education programs and to recommend appropriate interventions to improve, support and advocate for evidence based knowledge and practice among midwives on prevention and management of PPH and hence improve the quality of care given to mothers in public hospitals in Dar es Salaam.

## **1.4 Study objectives**

### **1.4.1 Broad Objective**

Assess the current level of knowledge and practice on prevention and management of PPH using AMTSL among midwives in Dar es Salaam public hospitals.

### **1.4.2 Specific objective**

- i. Determine midwives' level of knowledge on prevention and management of PPH using AMTSL in Dar es Salaam public hospitals
- ii. Assess midwives' level of skills on prevention and management of PPH using AMTSL in Dar es Salaam public hospitals.
- iii. Identify the association between midwives' level of knowledge on prevention and management of PPH using AMTSL in Dar es Salaam public hospitals and their demographic characteristics
- iv. Establish the association between midwives' level of skills on prevention and management of PPH using AMTSL in Dar es Salaam public hospitals and their demographic characteristics

## **1.5 Research questions**

Specifically this study was guided with the following questions:

- i. What is the level of midwives' knowledge and practice on prevention of PPH using AMTSL in Dar es Salaam public hospitals?
- ii. What is the level of midwives' knowledge and practice on management of PPH using AMTSL in Dar es Salaam public hospitals?
- iii. Is there any association between knowledge and demographic characteristics?
- iv. Is there any association between skills and demographic characteristics?



### **1.6 Variables used/measured in this study were**

The dependent variable: these measured the cognitive understanding (knowledge) and actual practice (skills) of AMTSL by midwives during delivery and immediately postpartum.

The independent variables : Are those factors assumed to cause or at least influence the level of quality of care, these were; age, sex working experience and midwifery qualification

### **1.7 Theoretical Framework**

Midwives in Dar es Salaam public hospitals may have either no enough knowledge or poor practical skills on AMTSL. This study was conducted to investigate their level of knowledge and skills in AMTSL

The organizing framework for this study was adopted from Family Care International and the Safe Motherhood Inter-Agency Group (29). It serves as a pathway through which effective care can be given by midwives to “fast track” and sustain the reduction of maternal mortality and morbidity toward the achievement of the Millennium Development Goal no 5.

One of the core functions of a skilled birth attendant is the AMTSL. A presence of skilled attendant during childbirth and the immediate postpartum period is a key player in saving women’s lives.

In order to be effective, a skilled attendant requires an enabling environment that includes access to a referral system, communication and transport, drugs and supplies, and equipment. Furthermore, the enabling environment (a well functioning health system) requires adequate human resources and management systems, which ensure that there are: sufficient skilled attendants with all the necessary skills deployed where they are needed; satisfactory pay scales and career advancement opportunities; continuing education opportunities to maintain and upgrade skills; supportive supervision mechanisms; and possibilities for skilled attendants to refer women (and newborns) directly to higher-level care if necessary.

## The Enabling Environment



Fig 1: The Enabling Environment

*Source:* Family Care International and the Safe Motherhood Inter-Agency Group, 2002.

Skilled care therefore includes care for women with life-threatening complications, but is not limited to that care. The skilled care approach is based on the premise that all women are entitled to good quality care during childbirth. It assumes that such care can prevent some complications (e.g., active management of the third stage of labor); increase the likelihood of immediate, appropriate treatment when complications do develop; and encourage prompt, timely referral as necessary.

## CHAPTER TWO

### 2.0 LITERATURE REVIEW

Among the identified public priorities is postpartum hemorrhage (PPH). Approximately 30%, in some countries over 50% of direct causes of maternal deaths is due to hemorrhage mostly in postpartum period. Most maternal deaths due to PPH occurs in low-income countries where there are no birth attendants or where birth attendants lack the necessary skills or equipment to prevent and manage PPH (30),(31). The rate of death due to PPH varies widely in the world. The proportions range from less than 10% in developed countries to nearly 60% in some third world countries (25),(32).

The four main causes of PPH are uterine atony (70%), trauma (20%), retained tissue (10%), and coagulopathy (1%). 75-90% of primary PPH is due to uterine atony and is the leading cause of immediate PPH (5).

Known risk factors associated with major PPH are distended uterus, prolonged labor, previous PPH and multiparty (21),(30). Nulliparity has also been identified as a high-risk factor, as have hypertension, Oxytocin augmentation, vacuum extraction and high birth weight(30). Pre-pregnancy high maternal body mass index (BMI) has been reported to increase the risk of PPH. A significant proportion of women without any identified risk factors may develop complications during labor that cause severe PPH (33).

As individual risk factors are poor predictors of PPH, interest has increasingly focused on care processes, supposing that variations in maternal morbidity and mortality due to PPH may be associated with variations in clinical practice. Confidential Enquiries into Maternal Deaths(CMACE) report recommended that all units should have protocols in place for the identification and management of PPH and that all clinicians responsible for the care of pregnant women, antenatally, intrapartum and postinately, should carry out regular skills training for the identification and management of PPH (10). Majority of maternal deaths occur during labor, childbirth and immediately postpartum, 60% of

maternal deaths occur in the first 48 hours following birth; therefore it is vital that care around this time is optimal (2).

Active Management of Third Stage of Labor (AMTSL) has been demonstrated to decrease blood loss in women undergoing vaginal childbirth. Currently, WHO, the International Council of Midwives (ICM) and the International Federation of Gynecology and Obstetrics (FIGO) recommend that AMTSL should be implemented in all women undergoing vaginal delivery in hospital (15).

Critical care practices constitute an essential component of PPH management and are likely to influence maternal outcome, especially in the most severe cases as its practices are independent of the cause of PPH through resuscitation with hemodynamic control by volume replacement and vasopressors if necessary, restoration of oxygen supply to the tissues, correction of haemostatic disorders, timely clinical and laboratory monitoring of the patient, and appropriate sedation and analgesia (2).

In order to improve the quality of the entire health care system health care providers have to be trained to ensure they have the adequate knowledge and skills (6). Internal the Laedal Global Health with JHPIEGO has designed training series entitled “Helping mothers survive”(HMS), WHO/ UNICEF in 2004 explained that the presence of skilled attendant during child birth can lead to reduced maternal morbidity and mortality rate which is one of the indicators to assess millennium development goal of improving maternal health and Centre for maternal and children enquires (CEMACH) on 27th May 2005 mentioned that poor quality care provided by health workers contributed to the increase in maternal mortality and morbidity rates (32),(25).

In Tanzania health care facilities, AMTSL is the recommended standard practice for all births to prevent PPH and according to the policy; oxytocin is the drug of choice for AMTSL, followed by ergometrine and thirdly misoprostol (22).

## **2.1 The third stage of labor**

The third stage of labor starts immediately after the baby is born, includes detachment of the placenta from the uterine wall and ends with the complete expulsion of the placenta and membranes. It usually lasts 5–15 minutes but any period of up to one hour may be

within normal limits (22). The contractions during the third stage of labor are generated by higher levels of Oxytocin than before delivery, levels that remain significantly increased up to 45 minutes after delivery, coinciding with the expulsion of placenta (33).

The detachment of the placenta occurs in two different ways; in the majority of cases separation starts in the centre of the placenta which descends foremost. The fetal surface emerges initially, with the membranes following, and there is very little or no visible bleeding. Less common is separation starting at the lower edge of the placenta that slips down sideways, the maternal surface visible first in the vagina. The latter is a slower separation and hemorrhage is also likely to be more abundant (21).

Prolonged third stage of labor, requiring manual placenta removal as it increases the risk of PPH more than three-fold and is more common in preterm labor, augmented labor and nulliparity (21). Retained placenta is a major cause of PPH, although the definition of prolonged third stage remains controversial. Some authors suggest that if the placenta is not delivered within 30-60 minutes, as in 2-3% of all deliveries, the third stage is prolonged (21). If a Placenta is not expelled within 30 minutes after the delivery of a baby, the woman should be diagnosed as having a retained placenta, the suggests is that in the absence of hemorrhage, the woman should be observed for a further 30 minutes after the initial 30 minutes, before the manual removal of the placenta is attempted (3). Although visual estimation of blood loss in the third stage of labor is inaccurate and inconsistent, it is the easiest way to judge the quantity of bleeding (15).

Evidence show that AMTSL is a feasible and low-cost intervention that prevents PPH as it can eliminate at least half of PPH cases potentially saving thousands of women lives and availability of trained personnel is critical to the widespread use of AMTSL into the safe motherhood, and therefore it has to be incorporated into safe motherhood in-service training (28). AMTSL shortens the third stage of labor that enables the midwife to attend to other needs of the mother and newborn more quickly. It involves three main

components; the use of uterotonic agents within one minute following the birth of the baby, delivery of the placenta with Controlled Cord Traction (CCT) and massage of the uterus after delivery of the placenta (22).

## **2.2 WHO recommendation for the prevention and management of PPH (3)**

### **2.2.1 Uterotonics**

The use of uterotonics for the prevention of PPH during the third stage of labor is strongly recommended for all births. Oxytocin (10 IU, IV/IM) is the recommended uterotonic drug for the prevention of PPH. In settings where Oxytocin is unavailable, the use of other injectable uterotonics (e.g. ergometrine/ methylergometrine or the fixed drug combination of oxytocin and ergometrine) or oral misoprostol (600 µg) is recommended. In settings where skilled birth attendants are not present and Oxytocin is unavailable, the administration of misoprostol (600 µg PO) by community health care workers and lay health workers is recommended for the prevention of PPH.

For the treatment of PPH intravenous Oxytocin is the recommended uterotonic drug. If intravenous Oxytocin is unavailable, or if the bleeding does not respond to Oxytocin, the use of intravenous ergometrine, Oxytocin-ergometrine fixed dose, or a prostaglandin drug (including sublingual misoprostol, 800 µg) is recommended.

### **2.2.2 Cord management and uterine massage**

In settings where skilled birth attendants are unavailable, CCT is not recommended.

Delayed cord clamping (performed approximately 1 to 3 minutes after birth) is strongly recommended for all births while initiating simultaneous essential newborn care, this reduce the rate of infant anemia.

Postpartum abdominal uterine tonus assessment for early identification of uterine atony is recommended for all women and uterine massage is recommended following the birth of the baby as the treatment of PPH. If bleeding does not stop in spite of treatment using uterotonics and other available conservative interventions (e.g. uterine massage, balloon tamponade), the use of surgical interventions is recommended i.e. hysterectomy.

### **2.2.3 In caesarean section**

For the prevention of PPH in caesarean section Oxytocin (IV or IM) is uterotonic drug of choice and cord traction is the method recommended for the removal of the placenta.

Along with, the use of isotonic crystalloids is strongly recommended for the intravenous fluid resuscitation as a treatment of choice for women with PPH.

The availability of trained personnel is critical to the widespread use of AMTSL. However, to reduce mortality from PPH, AMTSL must be available for every woman, regardless of where she gives birth. There should be training and supervision of maternal health providers at all levels, periodic updates will also be needed as well as AMTSL be integrated into pre-service programs. Drugs for AMTSL should be available in all health facilities from National and Referral Hospitals to dispensaries where deliveries take place (5),(22).

There are number of researches, surveys and studies conducted on the issues relating to PPH in connection with nurse midwives' knowledge and practice on PPH on one hand and PPH as a global health problem on the other.

Previous reported showed only 9.1% of providers had knowledge on the three AMTSL components as they managed to make correct statements regarding use of the uterotonic drug, controlled cord traction, and uterine massage, 36% and 46% of providers mentioned one and two components, respectively and 9% of providers made no correct statements regarding the definition of AMTS and recommended that the MOHSW should update STG guidelines and incorporate them into both pre-service and in-service training materials, and provide refresher courses for MOH staff managing deliveries in Tanzania. Due to the very low knowledge and practice of AMTSL, the authors suggested a need for updating the STGs, curricula and training of health providers on AMTSL and monitoring its practice in Tanzania (10).

On assessing midwives' competence on implementation of AMTSL in Tanzania report showed that only 10% of participated midwives had knowledge and skills on AMTSL.

Lack of on job training and shortage of staff and supplies were major barriers among most midwives for successful AMTSL implementation (7).

In study Facility-Based Management of the Third Stage of Labor and Community Perceptions and Actions on Postpartum Hemorrhage: Findings from a National Study in Tanzania observed only 7% of deliveries to have received correct provision of AMTSL(9) and another study on Quality of Care for Prevention and Management of Common Maternal and Newborn Complications found 33% of deliveries had received correct provision of AMTSL(23).

In Angola, a study was done on blood loss and pain in the university hospital of Luanda, the capital of Angola. During the study midwives participated in a group discussion concerning the experiences of the management of third stage labor. This study supported the AMTSL to be appropriate for women giving birth vaginally in hospital setting in Angola (15).

Assessment was done on reduction of postpartum hemorrhage while accessing role of active management in Vietnam. The study found out that AMTSL was an excellent measure in reducing the rate of PPH and recommended the implementation of the AMTSL in national policies and guidelines for all births attended by skilled attendants, incorporate training in AMTSL into midwifery courses and into refresher sessions so that all midwives attending women at delivery they have the necessary knowledge and skills to provide this life-saving preventive measure (34).

A study on Active management of Third Stage of Labor: A survey of providers' knowledge in Southwest Nigeria to assess the level and determinant(s) of accurate knowledge of obstetric providers regarding AMTSL, results showed AMTSL was familiar to them (90.6%) but poorly understood intervention (28.3%) among obstetric care providers in this region. Furthermore the authors suggested a need for more educational intervention to enable providers to act on acquired knowledge and skills (35).



In Madagascar only 13% of health providers including midwives knew the steps on AMTSL, 56% were able to assess the signs of PPH, 39% knew how to assess for atonic uterus, and 36% knew the steps in managing retained placenta, the author recommended sustained training and regular supervision of care providers (36).

A study on the quality of care provided by midwives in Soroti district in Uganda, with the aim of identifying training need and gaps in knowledge and other barriers to accessibility of emergency obstetric care (EmOC), findings showed that midwives were providing care of poor quality for both antenatal and delivery care and this was due to their inability to identify and manage risk of pregnancy complications which was caused by inadequate pre-service and in-service training, lack of technique support, supervision and absence of standard treatment guidelines (37).

On assessing quality of care on prevention and management of common maternal and newborn complications in Kenya, study found out that the knowledge and practice of providers on signs of PPH was less than adequate (43%) and less than 1% of the health workers knew all the correct steps on managing PPH. He recommended that a concerted countrywide effort is needed to overhaul and strengthen the basic pre-service education programs for all cadres dealing with pregnancy, labor and delivery and in-service training program offered for both medical and paramedical staff in clinical care and service management to strengthen health workers' knowledge and skills which are the foundation of quality in the provision of health care (14).

In contrast, the study to evaluation the quality of care midwives provide during the postpartum period showed that 9% of clinic midwives had poor knowledge in management of post delivery severe anemia. The study concluded that most of the nurses had good knowledge but poor practice on the same area and also many of them provided quality care during immediate postpartum period but not all (26).

### **2.3 Current state on AMTSL knowledge and practice**

The Safe Motherhood Initiative in 1987 stated that AMTSL is a highly measurable, evidence-based, and life saving aspect of the health infrastructure (38).

A National survey was conducted in 15 out of 21 regions of Tanzania Mainland on Health facility-based AMTSL. Results showed that only 9% out of 106 health care providers including nurse midwives made correct statements regarding the all 3 components of AMTSL and made a conclusion that knowledge and practice of AMTSL was very low and Standard Treatment Guidelines (STGs) are not updated on correct AMTSL practice(9). These finding indicates that there is a need for updating the curricula and training of health providers in AMTSL.

Oxytocin is recommended by ICM/FIGO to be used in AMTSL. However, the present curricula for both medical and nurse midwife students do not mention AMTSL. Curricula recommend the use of Oxytocin (5 IU/IM) or ergometrine (0.5 mg/IM) after the delivery of the baby's anterior shoulder, followed by umbilical cord clamping immediately after delivery of the placenta by controlled cord traction and uterine massage was mentioned in the curricula for the treatment of PPH. Following this results the authors suggested a need for updating the STGs, curricula and training of health providers on AMTSL and monitoring its practice in Tanzania (9).

AMTSL is being recommended by WHO, FIGO and ICM to be used as it is an effective and cost effective measure on PPH prevention and management but this measure has been introduced only few years back and most reviewed literatures show that it is not well understood intervention (35). Currently there has been a joint effort by MoHSW, JHPIEGO, WHO and other health care stakeholders on pre-service and in-service training, curriculum review for nursing and midwifery training etc on AMTSL application to any woman in labor to see that MMR caused by PPH is reduced.

This study therefore, will highlight the current level of knowledge and practice among nurse midwives concerning AMTSL in public hospitals, Dare es Salaam Tanzania

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 Study Design**

This was a quantitative descriptive cross-sectional study that was done between April and May 2014. Each subject was assessed at a single time in the study period.

#### **3.2 Study setting**

The study was conducted in Dar es Salaam city. Dar-es-Salaam city is divided into three Municipals, each with one public hospital which provides obstetrical and gynecological services, the hospitals are Mwananyamala, Amana and Temeke. Women with pregnancies or having delivered pregnancies of 28 weeks or more are admitted in the maternity wards which are located in maternity blocks. Maternity blocks includes antenatal wards, postnatal wards, labor wards and gynecological wards which admit women with pregnancies of less than 28 weeks of gestation who have developed complications together with non pregnant women with gynecological condition

This setting was selected because of its feasibility for conducting the study, availability of the samples and familiarity of the researcher with the setting as the researcher live and work in Dar es Salaam. Mwananyamala, Amana and Temeke hospitals were selected because they have a reasonable number of midwives and also they are the catering for all cases within the region therefore considered to be more representative. Maternity wards were selected because it is where nurses who meet criteria for this study are found.

Dar es Salaam is the highly populated city in Tanzania serving approximately three million people in obstetric and neonatal care where more than 80 babies in the country have been registered here each year (27). MMR in Dar ea salaam has been reduced from 135/100,000 live births in 2005 to 99/100,000 live births in 2012 (8).

However according to obtained data from HIMS (Health Information Management System) and maternity wards of respective hospitals, Temeke, Amana and Mwananyamala hospitals altogether have an annual average number of 64238 maternity

admissions, 55671 live births, 102 of maternal mortality and 21 of maternal mortality due to PPH since 2010-2014 and hence MMR of 183 per 100,000 live births.

### **3.3 Study Population**

The study problem required investigative assessment of the knowledge and practice on prevention and management of PPH among midwives in public hospitals in Dar es Salaam. Therefore the study targeted all registered and enrolled midwives in public hospitals. They were selected because 51% of pregnant mothers pass through their hands before delivery, during labor and after delivery (10). The total number of midwives working in maternity wards from the three hospitals was 122.

### **3.4 Sampling techniques**

A non-probability convenience sampling technique was used to select the representative public hospitals including midwives who were on duty during the interview days in all three hospitals i.e. Mwananyamala, Amana and Temeke.

This technique was preferred due to financial constraints. Duty rosters were used during the time of data collection i.e. morning, evening and night shifts. All midwives who were working at respective wards during the study period and eligible, if agreed were invited to participate into the study and therefore they were asked to sign the consent form and complete the questionnaire. To avoid sampling bias in this study, participants were chosen as registered midwives who were currently working at health facilities in maternity wards and were involved in provision of maternal services. Their names were not considered.

Probability sampling techniques could not be employed because the study population in the selected hospitals was small therefore I had to conveniently study all midwives working in the maternity wards and who were available during the data collection period. Participants in observation study were conveniently obtained from labor wards only as it is where deliveries take place.

A total of 105 out of 110 midwives (who were available during the study period) in maternity wards; Mwananyamala (33), Amana (46) and Temeke (31) were included into this study as 5 of them were not willing to participate. Those who were not willing to participate in this study were not forced to participate (under ethical grounds) therefore no data were corrected from them.

### 3.5 Sample size estimation

As a rule calculation of sample size was necessary to reflect the actual number obtained from the studied population (according to a lecturer at MUHAS department of Nursing)

Therefore the estimated sample size N was computed using the formula below (39).

$$N = \frac{Z^2 P (1-P)}{C^2}$$

Where;

N = Estimated Sample Size

Z = is the standard normal deviation, which turns out to be 1.96 on using the 95% confidence interval.

P = Prevalence of midwives knowledge and practice of AMTSL= 7%(9).

Q = (1-P) = proportion

C= margin of error (set at 0.05)/ degree of accuracy of the results

$$\text{Therefore } N = \frac{(1.96)^2 \times 0.07 (1 - 0.07)}{(0.05)^2}$$

$$N = 103$$

Adjusting for non response, 10% of the estimated sample size was added

$$103 \times 0.1 = 10.3$$

103+10= 113. Therefore N= 113 midwives. The researcher managed to recruit 105

### 3.6 Target population

All midwives in Dar es Salaam Region working in three public hospitals in Dar es Salaam city.

### **3.7 Accessible population**

This study had an accessible population of 122 midwives (Temeke n=40, Amana n=43, Mwananyamala n=39). The researcher managed to recruit 105 midwives due to the fact that some were on annual leave, off duties and others attending trainings /seminars and some were not willing to participate in the study.

### **3.8. Inclusion Criteria**

1. Trained midwives of any age, registered by Tanzania Nurses and Midwives council working in the labor wards for more than three months and who voluntarily provided their consent to participate in the study
2. Midwives who worked in labor wards for more than three months then transferred to other maternity wards

### **3.9 Exclusion Criteria**

1. Midwives who were not willing to participate in the study.
2. Midwives who were not at the site of study during data collection.
3. Nurses who were not working in maternity wards.

### **3.10 Data collection tools**

This study was seeking to determine what midwives actually know and practice concerning AMTSL during each delivery. Structured interviews using questionnaire forms with closed-ended questions and some open-ended questions were used to collect data on knowledge and non participatory observation method were used to collect data on practical skills using a self-prepared checklist. 15 questions were used to measure knowledge. Seven questions were adopted from WHO, 2012(WHO recommendations for the prevention and treatment of postpartum hemorrhage) and eight questions were developed by a researcher guided by the same WHO, 2012 (3). Standard tool developed by Ministry of Health and Social Welfare of Tanzania (MoHSW) in collaboration with Johns Hopkins Program for International Education in Gynecology and Obstetrics(JHIPIEGO) (38) was used to observe vaginal deliveries. One had to score

85%+ on knowledge questionnaires and 90%+ in skills to be considered as having adequate knowledge and skills.

There were three sections. Section one was used for gathering data on socio demographic characteristics, section two gathered data on knowledge concerning PPH prevention and management among midwives using and Section three gathered data on practical skills on PPH prevention and management among midwives using AMTSL. Among 105 midwives who were assessed for knowledge, 35 of them were also observed. The design of the questionnaire and the observation checklist was guided by the objectives of the study.

To assess knowledge of midwives on AMTSL, each item under section two was given a score. An informant was considered having adequate knowledge if he/she gave a standard answer to each question in multiple choice questions and, give two or more standard/correct answers to each question which had more than one response, those who score less than two for each questions which had more than one response were rated poor (refer to appendix 1). Participants who gave their consents to participate in the study received elaborated explanation on the purpose of the study and the type of questions and how to answer by facilitators. Questionnaires were filled during working hours and they were collected by research assistants together with the consent form on daily basis.

Observation of skills for AMTSL was done during delivery. The main aim was to assess how midwives could apply AMTSL to prevent and/ treat PPH and thereafter to identify specific areas that need improvement. Participants to be observed were conveniently selected in labor ward only (as it is where delivery is conducted) and they were aware that they were being observed. Those who refused to be observed were not involved in observation part.

In assessment of skills, each skill to be observed had two Columns, Column one was “YES” and Colum two was “NO”. Each correct performance was marked Y and incorrect performance was marked N. Total score was obtained by adding total items mark score and percentages calculated accordingly.

### **3.10.1 Non-participant observation**

This method involved actual watching of respondents at their places of work as they attend to mothers. The aim was to observe how midwives deliver care to mothers during delivery and after delivery in natural environment without interfering with so as to identify differences in practice, if any; however the respondents (and the mothers) were informed well in advance about the activity so as to abide with the respondent's ethical rights.

Questions for knowledge assessment were developed in English and later translated into Swahili, to facilitate understanding of the questions to study participants.

### **3.11 Data Management, Entry and Analysis**

All data obtained were stored by the researcher in a secure environment. Data entry, data cleaning and data analysis were done subsequently. SPSS version 20 was used for data entry; data cleaning and data analysis. Descriptive statistics was used to interpret the demographic data. All numerical data are expressed in numbers (n) or percentages (%). Categorical variables were compared using chi square test and P value of 0.05 was considered statistically significant. There were 15 questions assessing knowledge on AMTSL and a checklist with 19 questions for observing skills. All questions in knowledge and observational checklist were given equal weight but thereafter a sub-analysis of the three key components of AMTSL namely; administration of 10 IU of Oxytocin within 1 minute following the delivery of the fetus, CCT and immediate uterine massage following delivery of the placenta was done. This allowed comparison with other studies which used only those three components of AMTSL (40), (9). Each correct response of specific knowledge question on AMTSL weighed 1 mark out of 15 score while each incorrect response weighed zero mark.

All items on the observational checklist were weighted by 0 and 1. Weight 1 represented adherence to application of AMTSL practice employed to prevent PPH and 0 represented non adherence to application of AMTSL practice employed to prevent PPH.



Level of knowledge was expressed as percentage of correct responses out of 15 knowledge questions. Practice was expressed as percentage of correct responses out of 19 practice items in the observation checklist. The observational checklist to measure the skills was used in a single delivery. All forms were reviewed carefully and all uncompleted questionnaires were removed before data analysis.

Both knowledge and skills were categorized into two categories as seen in the table below:

**Table 1a: Classification of levels of knowledge**

85+%	Adequate knowledge
Below 85%	Inadequate knowledge

**Table 1b: Classification of levels of skills**

90+%	Adequate skills
Below 90%	Inadequate skills

Source: MoHSW, JHPIEGO (2011)

All multiple responses concerning AMTSL knowledge were merged into themes then coded before data entry to quantify its analysis. Data were coded, entered and finally analyzed in the computer using SPSS for windows version 20. Frequency for each variable was run to check and clean for missing data and outliers.

A chi-square was used to analyze categorical variables for the differences

Statisticians were consulted before and after data collection for analysis. Data cleaning were done simultaneously during and after data entry. Analysis was done to answer the study objectives. The results are presented in tables, pie charts and bar charts in relation to the research objectives and variables.

### **3.12 Research Team**

The research team included the author of the study and 6 research assistants; these were two midwives from each hospital i.e. Mwananyamala, Amana and Temeke. This number of research assistant was selected so as to assist in fastening the data collection activity.

### **3.13 Training of Research Team**

Research assistant were trained midwives and they were aware of AMTSL practice therefore the researcher only gave the orientation training. The training covered research ethics, obtaining consent from study subjects, familiarization with data collecting tools, data collection methods particular for this study and carry out the actual study. It involved discussion about research questionnaires, a thorough review of records for missing or inconsistent answers before submission of questionnaires forms, and time was provided for research assistants to ask questions concerning questionnaires for clarification before field work. Filled questionnaires were handled to the author on daily basis. Training started from 12<sup>th</sup> through 14<sup>th</sup> April 2014 and lasted for 3 days, one day in each study area i.e. two hours each day and field work began on 15<sup>th</sup> April 2014 and ended in 14<sup>th</sup> May 2014. Additional data was collected in February 2015 and this was concerning statistics at respective study areas.

### **3.14 Ethical Consideration**

Ethical clearance was sought and obtained from Research and publications ethical committee of the Muhimbili University of Health and Allied Sciences (MUHAS), Permission to conduct the study was sought and obtained from the research coordinators at Mwananyamala, Amana and Temeke municipal authorities and then from medical officers in charges of the respective health facilities. Individual subjects were well informed and were given a consent forms to sign as an agreement to participate into the study prior answering the questionnaire. It was well explained to them at hand that there would be no any financial benefit but the results obtained thereafter will benefit the nursing professional as well as the national at large. Participation in the study was voluntary and no harm was expected during participation. For confidentiality no names

were used in questionnaire papers and written information was kept confidential and restricted to the researcher only.

### **3.15 Pre-testing**

Questionnaires were pre-tested at MNH maternity wards a week before the actual study. Permission to conduct the pre-test was obtained from the hospital administration authority. Ten midwives were selected randomly from MNH maternity wards and they were given questionnaires to fill. The findings were used to revise the tool, estimate the time which was to be taken to respond to the questionnaires and to find out unclear/ambiguous questions. Ambiguous questions were worked on /removed.

### **3.16 Validity**

The data collection tool of this study was adopted from WHO, 2012 and the standard observation guide that was validated by MoHSW, 2011 in collaboration with JHIPIEGO.

The contents validity of the developed questionnaires was assessed by two midwives with advanced diploma in midwifery and who have worked at MNH maternity wards for more than 10 years. Together they checked to see if the tool had all the necessary contents to meet the stated objectives and questions and whether the questions asked in the tool were clear, modifications were made whenever necessary prior to actual data collection.. Relevance of all items were assessed by scoring the items on a scale of 1 to 3: 1 = not relevant; 2 = relevant, but not necessary; 3 = absolutely necessary. To evaluate the level of difficulty of the questionnaire midwives were asked to answer the questionnaire and they were also assessed. The questionnaires were in English and Swahili language to increase midwives understanding. However professional words were used whenever necessary to facilitate understanding of the questions.

### **3.17 Reliability**

Internal consistency was used to measure the reliability of the data collection tool. To check the reliability of the instrument, the formulated questions had simple and clear instructions. There were a pre-test of the tool for 10 nurse's midwives at MNH maternity wards and thereafter the necessary modifications were made accordingly. Results were used to correct any inconsistencies in the instrument before the actual study. In the actual study the same questions and observation were used. Both interview and observation of participants during practice were employed in order to strengthen reliability. Reliability was maintained by ensuring consistency and accurate record of data. Observation was done only by the researcher so as to ensure consistency in scoring the observed practice and avoid bias. MNH maternity wards were selected because it offers similar services and midwives who works there have the same characteristics as those at the study areas.

### **3.18 Dissemination of the results**

The result findings will be submitted to the Directorate of postgraduate studies as a dissertation for the award of Masters Degree in Critical Care and Trauma in Nursing, to Temeke, Amana and Mwananyamala municipal council, to the respective hospitals and to Muhimbili University Library with the purpose of spreading the knowledge obtained. The findings are also expected to be published in the nursing/midwifery journals and be presented in scientific workshops and conferences.

## CHAPTER FOUR

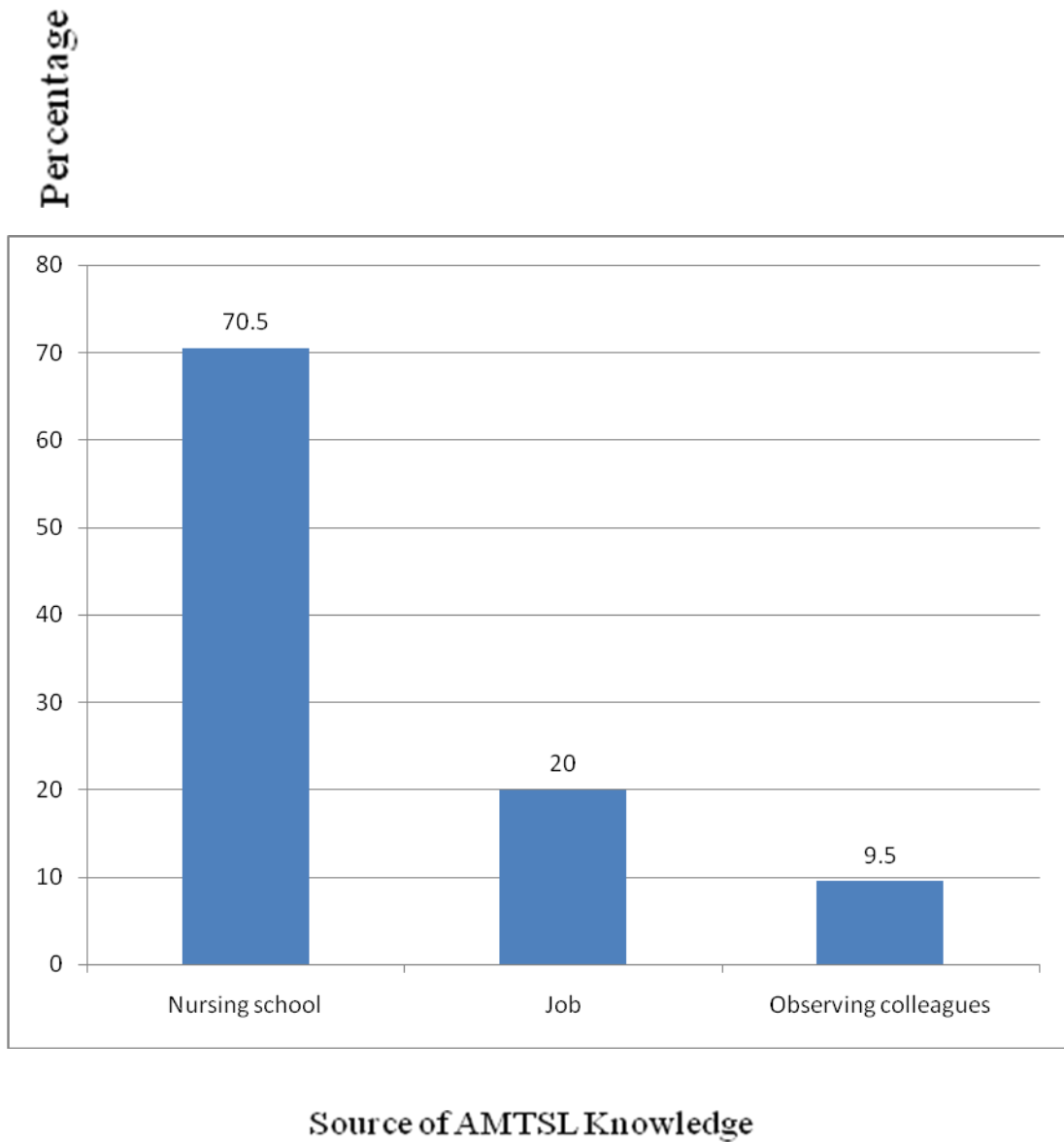
### 4.0 RESULTS

Table 2 shows demographic characteristic of the study subjects. A total of 110 midwives in three public hospitals in Dar es Salaam (46 Amana; 33 Mwananyamala; and 31 Temeke) were approached to participate in the study. Five of them were not willing to do so as they were too busy with their routine work. Therefore 105 (90.5% females) were enrolled into the study. The mean age was  $33.8 \pm 6.9$  (range 21-49 yrs); some of them (46.7%) were in the age group 31-40 yrs. In terms of professional training in midwifery, a proportional percentage of them had attained a diploma level (49.9%) with work experience of mainly 1-5 yrs (56.2%).

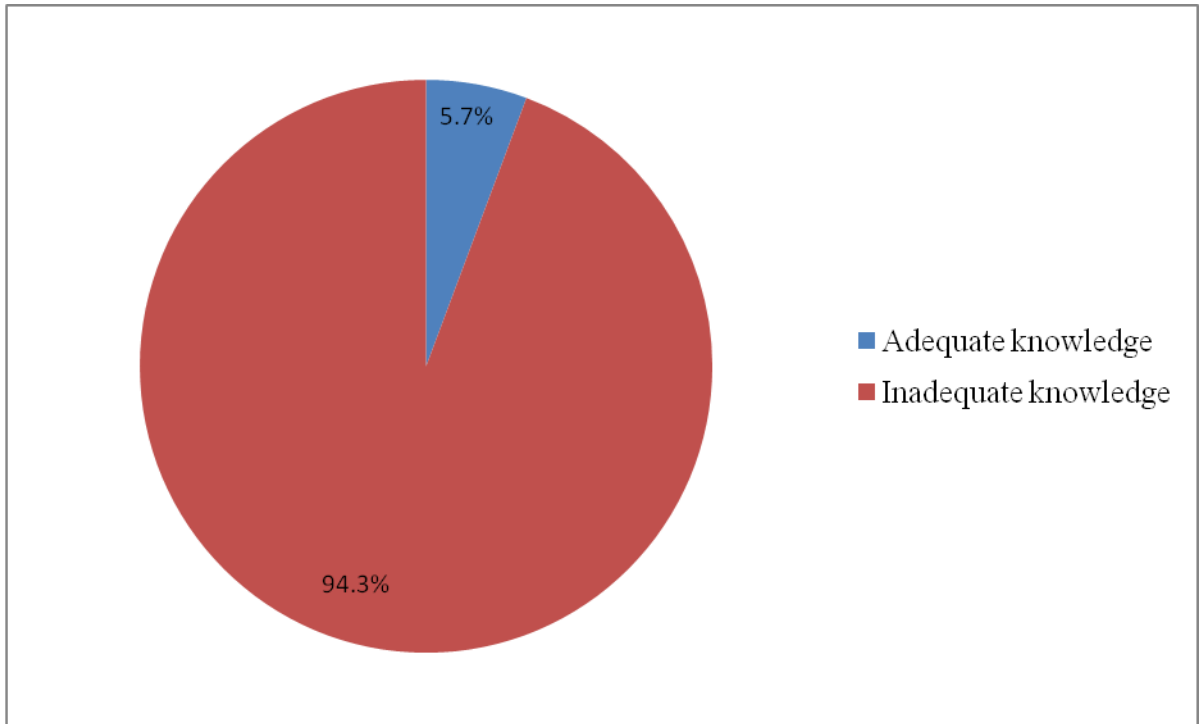
Figure 2 below indicates that knowledge on AMTSL was obtained during training in midwifery schools in most of the participants (70.5%). This emphasizes that much has been done to make AMTSL training a core component of midwifery profession training programs.

**Table 2: Demographic characteristics of the study subjects (N=105)**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
Mean age	33.8±6.9	
Age groups(years)		
18-30	40	38.1
31-40	49	46.7
41-50	16	15.2
Sex		
Male	10	9.5
Female	95	90.5
Midwifery education level		
Certificate	36	34.3
Diploma	52	49.5
Advanced diploma	7	6.7
Degree	10	9.5
Duration of midwifery practice		
1-5yrs	59	56.2
6-10 yrs	37	35.2
11+ yrs	9	8.6
Distribution of midwives by hospital		
Amana	46	43.8
Mwananyamala	30	28.6
Temeke	29	27.6



**Figure 2: Source of AMTSL knowledge among midwives practising in Public hospitals in Dar es Salaam. (N=105)**



**Figure 3: Overall level of midwives' knowledge on prevention and management of postpartum hemorrhage using AMTSL in public hospitals in Dar es Salaam, Tanzania (N=105)**

In figure 3 above majority of midwives (94.3%) fell in the category of 'inadequate knowledge' on prevention and management of postpartum hemorrhage by using AMTSL. This means out of 15 knowledge questions, they got right fewer than 13 questions i.e. less than 85%.



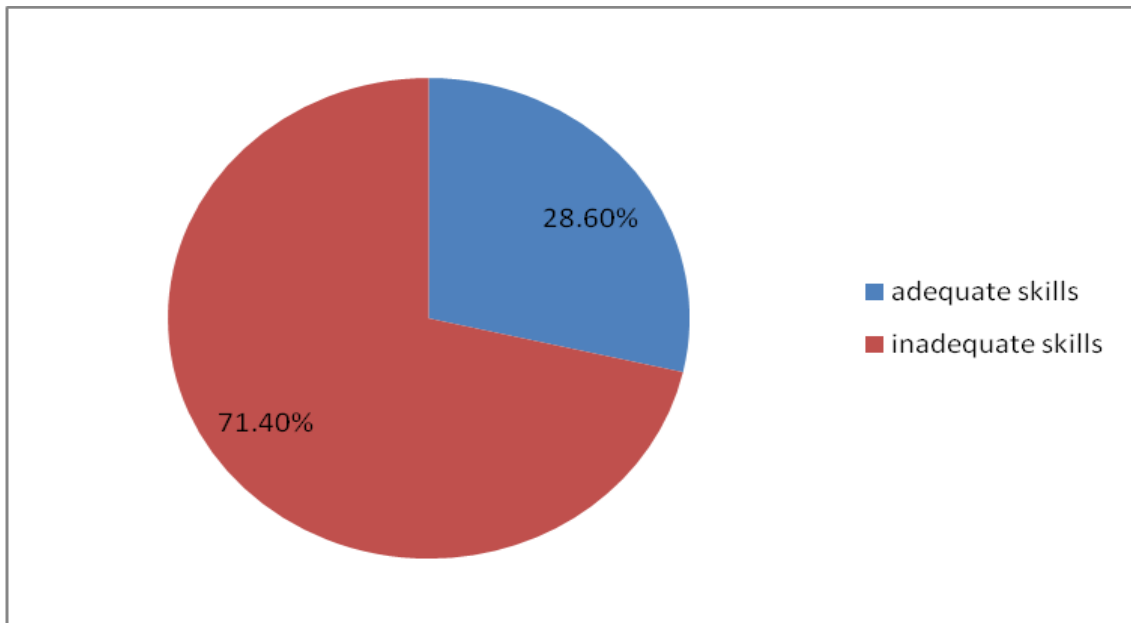
**Table 3: Level of midwives' knowledge on prevention and management of postpartum hemorrhage using AMTSL on individual variables (N = 105)**

<b>Variable</b>	<b>Correct response</b>	<b>Incorrect response</b>
Harmful practices when performing AMTSL	38 (36.2)	67 (63.8)
Clinical diagnosis of PPH	44 (41.9)	61 (58.1)
Whether or not AMTSL is practiced in the absence of skilled birth attendant	51(48.6)	54 (51.4)
Whether or not Oxytocin and CCT be used in caesarian section post delivery	52 (50)	52 (50)
The most effective protocol of managing PPH	100 (95.2)	4 (3.8)
The most recommended drug to prevent PPH	98 (93.3)	7 (6.7)
The recommended minimum dose of Oxytocin	94 (89.5)	11 (10.5)
The route of administration of Oxytocin	95 (90.5)	10 (9.5)
The common route of administration of Misoprostol to prevent PPH	23 (21.9)	89 (78.1)
Duration of time to complete AMTSL	56 (53.3)	49 (46.7)
Clinical indicators of PPH	44 (41.9)	61 (58.1)
Steps of managing a patient with PPH	9 (8.6)	96 (91.4)
Stage during AMTSL in which uterine massage is recommended	42 (40.0)	63 (60.0)
Reasons for performing abdominal uterine tonus assessment postpartum	48 (45.7)	57 (54.3)
Treatment option for PPH when uterotonics and other conservative interventions fail	31(29.5)	74 (70.5)

In table 3, the individual 15 variables used to assess the overall level of knowledge among midwives on AMTSL, were analyzed each separately.

Majority of midwives were aware of pharmacological management of PPH with Oxytocin both in spontaneous and caesarian deliveries as well as on the expected duration to complete AMTSL. Knowledge on other key components of AMTSL was not as impressive with overall scores of 50% (CCT) and 40% (uterine massage)

In addition, there were gross deficits in knowledge on AMTSL in various issues including harmful practices when performing AMTSL, Treatment option for PPH when uterotonics and other conservative interventions fail, the common route of administration of misoprostol to prevent PPH and steps of managing a patient with PPH with the proportions of those who were knowledgeable being 29.5%, 36.2%, 21.9% and 8.6% respectively.



**Figure 4: Overall assessment of skills among midwives on prevention and management of postpartum hemorrhage using AMTSL in Dar es Salaam public hospitals (N = 35)**

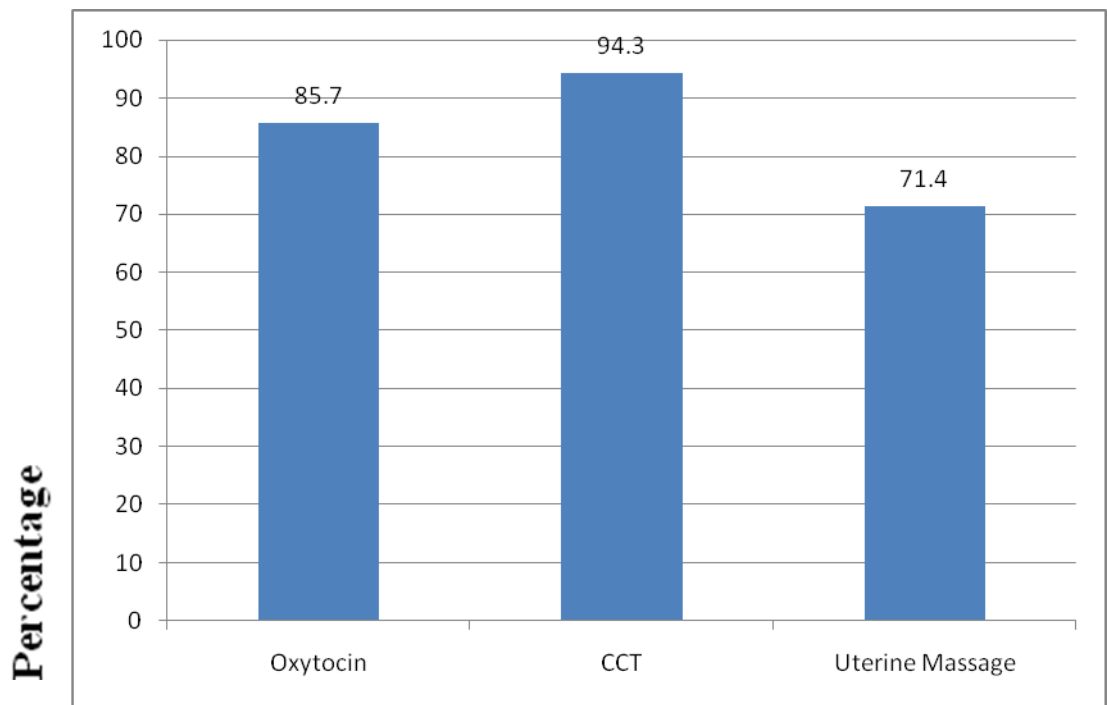
Figure 4 above shows that most midwives (71.4%) demonstrated inadequate skills on AMTSL. Although a relatively improved proportion on the aspect of skills compared to knowledge assessment, there is still much to do to improve the performance of AMTSL.

**Table 4: Assessment of skills among midwives on prevention and management of postpartum hemorrhage using AMTSL on individual variables**

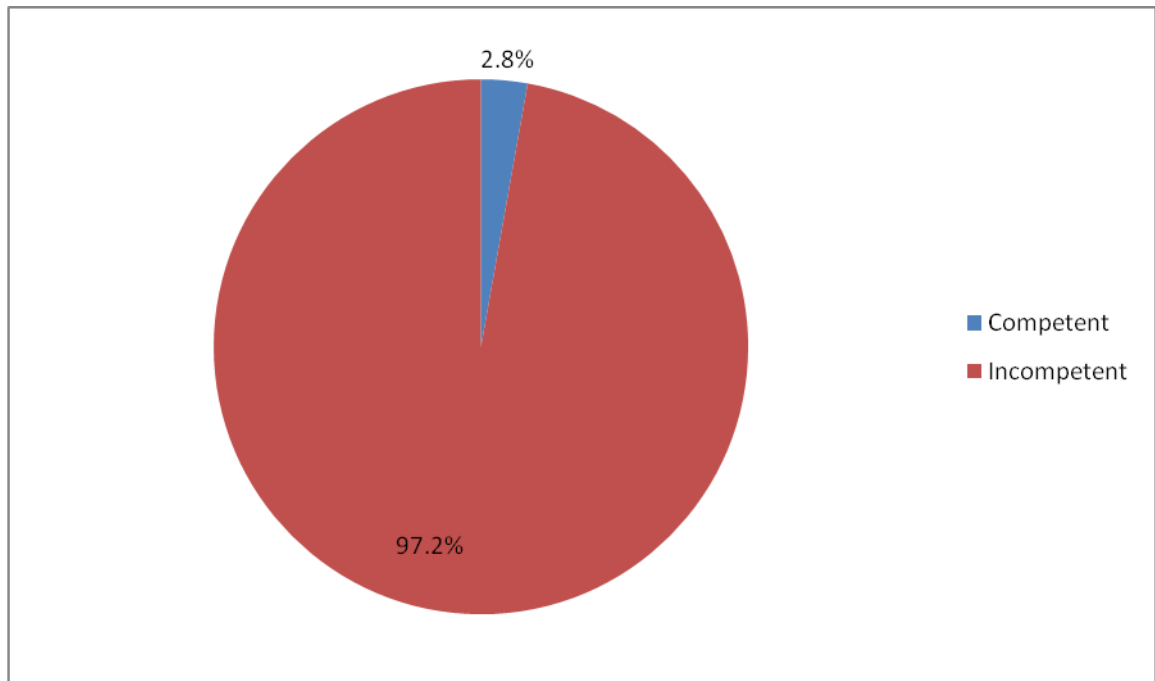
<b>Variable</b>	<b>Performed correctly</b>	<b>Performed incorrectly</b>
Palpation of the abdomen for the second twin after delivery of the first baby before giving Oxytocin injection	34 (97.1)	1 (2.9)
Administration of uterotonics appropriately	30 (85.7)	5 (14.3)
Administration of uterotonics within 1 minute of delivery of a baby	26 (74.3)	9 (25.7)
Clamping the cord close to the perineum	21(60.0)	14 (40.0)
Clamping the cord 1-3 minutes following child birth or clamping the cord before 1 minute of child birth (depending on clinical circumstances)	23 (65.7)	12 (34.3)
Use of spongy or artery holding forceps in clumping the cord	27 (77.1)	8 (22.9)
Placing the other hand just above the woman's pubic bone to stabilize the uterus for CCT	33 (94.3)	2 (5.7)
Waiting for strong uterine contraction (2-3 minutes)	21 (60.0)	14 (40.0)
Does not wait for a gush of blood	16 (45.7)	19 (54.3)
Applies controlled traction (CCT) during contraction to the cord so as to avoid uterine inversion	33 (94.3)	2 (5.3)
Pulls the cord gently, firmly, and uniformly downward to deliver the placenta	32 (91.4)	3 (8.6)
Supports the placenta with both hands	32 (91.4)	3 (8.6)
Extracting membranes gently with lateral movements	32 (91.4)	3 (8.6)
Immediately massaging of the uterine fundus to aid its contraction	25 (71.4)	10 (28.6)
Check to see if uterus contracted after uterine massage	33 (94.3)	2 (5.7)
Examine the tissue to see if complete expelled	28 (80.0)	7 (20.0)
Examine the placenta to see if whole expelled and intact	26 (74.3)	9 (25.7)
Examines woman for cervical or vaginal tears or episiotomy to be repaired	31 (88.6)	4 (21.4)
Reports that she will assess uterine contraction 15 minutes in the first hour, then twice hourly in the next hour	16 (45.7)	19 (64.3)

On individual variable assessment concerning skills among midwives on prevention and management of postpartum hemorrhage using AMTSL (table 4) majority of midwives demonstrated good skills in several items including the 3 key AMTSL components with 85.7%, 94.3% and 71.4% performing correctly the administration of Oxytocin, CCT and uterine massage respectively (see also figure 5). However, certain skills were poorly performed namely assessment of uterine contraction and not waiting for a gush of blood before performing CCT.

### Three components of AMTSL



**Figure 5: Proportions of midwives who performed correctly the three key components of AMTSL. (N=35)**



**Figure 6: AMTSL competence level among midwives in public hospitals at Dar es Salaam (N=35).**

Figure 6 shows that a very small proportion of midwives (2.8%) were competent in preventing and managing PPH using AMTSL, where knowledge was measured against skills. (In order to be competent one has to have adequate knowledge and adequate skills as defined above)

**Table 5: Association between level of knowledge and demographic characteristics using chi-square Test (N=105)**

	<b>Adequate Knowledge</b>	<b>Inadequate Knowledge</b>	<b>P-Value</b>
Sex (%)			
Male	1(10.0)	9(90.0)	0.539
Female	5(5.3)	90(94.3)	
Age in years (%)			
18-30	3(7.5)	37(92.5)	0.784
31-40	2(4.1)	47(95.9)	
41-50	1(6.2)	15(93.8)	
Work experience in years (%)			
1-5	4(6.8)	55(93.2)	0.713
6-10	2(5.2)	35(94.6)	
11+	0(0.0)	9(100.0)	
Midwifery qualification (%)			
Certificate	1(2.8)	35(97.2)	0.006
Diploma	2(3.8)	50(96.2)	
Advanced Diploma	0(0.0)	7(100.0)	
Degree	3(30.0)	7(70.0)	

The differences observed in level of education among the different categories of midwifery qualification are statically significant, p-value (0.006). Therefore it appears that the higher the level of midwifery education the higher the level of knowledge on prevention and management of PPH using AMTSL. This means the tendency was that those with degree in midwifery were more likely to have better knowledge than those with certificate, diploma and advanced diploma.

Sex, age and work experience did not significantly affect the level of knowledge on prevention and management of PPH using AMTSL among nurse midwives studied as P-values were more than 0.05

**Table 6: Association between skills and demographic characteristics using chi square (n=35)**

	<b>Adequate Skills</b>	<b>Inadequate Skills</b>	<b>P-Value</b>
Sex (%)			0.857
Male	1(100.0)	0(0.0)	
Female	9(26.5)	25(73.5)	
Age In Years (%)			0.050
18-30	6(54.5)	5(45.5)	
31-40	2(11.8)	15(88.2)	
41-50	2(28.6)	5(71.4)	
Work Experience In Years (%)			0.255
1-5	7(38.9)	11(61.1)	
6-10	3(23.1)	10(76.9)	
11+	0(0.0)	4(100)	
Midwifery Qualification			0.675
Certificate	5(41.7)	7(58.3)	
Diploma	4(23.5)	13(76.5)	
Advanced Diploma	0(0.0)	3(100.0)	
Degree	1(33.3)	2(66.7)	

In table 6, age seems to have an effect on the level of skills among midwives studied if compared to other demographic factors (P- value 0.05). Results show that just more than 50% of midwives aged eighteen to thirty years performed well on AMTSL if compared to other age groups. Thus age is a determining demographic factor for good skills i.e. the higher the age the lower the performance level. The differences in other variables i.e. sex, work experience and midwifery qualification were not statistically significant.

## CHAPTER FIVE

### 5.0 DISCUSSION, CONCLUSION AND RECOMMENDATION

#### 5.1 Discussion

This study has shown that most midwives working in public hospitals in Dar es Salaam (94.3%) have demonstrated inadequate knowledge on prevention and management of PPH by AMTSL (using the cutoff points of 85% according to accepted standards).

Findings observed in the current study are in line with the findings from other studies done to assess the same issue. These studies revealed poor knowledge on prevention and management of PPH using AMTSL among the midwives assessed where the knowledge level stood at (39%) (10%) and (49%) (41),(7),(42) respectively basing on the same methodology. This indicates a need for improved training.

These findings are in contrary with the Nigerian study (5) in which majority of the study participants (85.0%) had high level of knowledge on strategies used in the prevention and control of PPH using AMTSL.

The difference in results could be due to different methodology used (sampling method used, different tool, and different cut off points for measuring knowledge or even knowledge level of study participants concerned).

Concerning the individual components on knowledge questionnaires, there was generally poor performance by the participants on most items including knowledge on CCT and uterine massage which according to the literature (apart from oxytocin injection) are the key components of AMTSL (3),(23) (ref.table 3). Similar results were found in other studies to assess the same issue among midwives (9),(7).

For a midwife to carry out AMTSL effectively they need to know exactly all the three components of AMTSL as AMTSL has become a central component of the PPH reduction strategies of governments around the world. Although administration of uterotonics remains central to the implementation of AMTSL, the performance of CCT and immediate fundal massage are the optional components (43),(44).



Of the assessed midwives, 78.1% did not know the common route for misoprostol administration for PPH prevention. This finding shows that in the absence of Oxytocin the midwives may fail to prevent PPH by using alternative uterotonics like misoprostol. Furthermore, 58.1% of midwives did not know the clinical indicators of PPH. This is a dangerous scenario since failure to detect early indicators of PPH could lead to delayed diagnosis and catastrophic outcome on the mother.

Regarding knowledge on the main three sequential steps of AMTSL used to manage a woman once PPH has been identified; majority (91.5%) failed to mention these steps although there were clinical protocols for PPH management in all three study areas.

This study also revealed that most (60.0%) of the midwives did not know the stage in AMTSL in which uterine massage is recommended and most of them (54.3%) failed to know as to why abdominal uterine tonus is assessed during the postpartum period. When asked whether or not AMTSL can be practiced in the absence of skilled birth attendant, 48.6% of the midwives did not know that CCT is not allowed to be done by unskilled personnel. The findings in this study are supported by findings from a study done in Uganda where midwives were providing care of poor quality due to their inability to identify and manage risk of pregnancy and delivery complications which was caused by inadequate pre-service and in-service training (26) implying that inadequate quality of health services is provided by the health care system.

Literatures show that women who received uterine massage had lesser amount of bleeding and required no additional uterotonics agents (2). Systematic review has shown that uterine massage, one of the key components of AMTSL, is effective in preventing PPH by assisting in myometrial contraction (45),(46). Uterine atony which is the commonest cause of PPH and is best prevented by ensuring immediate homeostasis is achieved by effective myometrial contraction as vessels supplying the placental bed pass through myometrium (47),(46).

Time during delivery and following birth is critical to a mother and therefore need a knowledgeable health professional who can make early detection of problems, give appropriate treatment and refer before complications occur.

The proportion of midwives studied may be representing other midwives, therefore their knowledge is paramount important when woman's life is to be saved. AMTSL needs prior training and also periodic refreshers courses so that it can be practiced safely and correctly.

Health professionals need to possess higher knowledge so that they can be able to early detect a health problem(s) to a woman before it occur by taking necessary steps. Inadequate knowledge would lead to poor clinical decision making as a result this will contribute to an ever increase in maternal mortality and morbidity rates in our country. Additionally, when midwives with inadequate knowledge face challenges during the time of providing care they may not easily think of plan B to solve the problems which might pose danger to the mother.

More than 80% of maternal deaths can be prevented if pregnant women access essential maternity care and assured of skilled attendance at childbirth as well as emergency obstetric care (43).

Generally the level of knowledge observed in the current study (2.7%) is not acceptable according to set standards. In fact it would be best if midwives had even higher than the observed level of knowledge as the higher the knowledge the lesser the chance of making mistakes and more likelihood of providing good quality care, hence prevention of maternal deaths from PPH. Midwives are required to provide health services of high quality in order to considerably reduce maternal deaths and the number of disability, this is only possible when they have adequate necessary knowledge. Some of recommended strategies for this requirement include strengthening the health system to provide skilled attendance during child birth (48),(44) and working within enabling environment (23).

Weak areas observed in this study show the gaps in basic knowledge. Knowledge with higher scores (with ref. to ICM/WHO) in all assessed knowledge variables would be desirable for every nurse midwife working with women during labor, delivery and postpartum to reduce the risk of doing mistakes during care.

Overall, majority of midwives (71.4%) demonstrated inadequate skills on AMTSL in this study, meaning only 28.6% had adequate skills on prevention and managing PPH (using the cutoff points of 90% according to accepted standards). The results from this study are similar to result obtained from another study which showed low levels of skills of AMTSL which ranged from 7-9% and 29% (9),(41),(49),(50),(51).

When individual skills items on the checklist were considered each separately to assess the performance of the midwives in this study most midwives' scores for skills were high (Ref table 9a, Fig. 4).

Previous studies on prevention and management of PPH using AMTSL found good skills in the three important components of AMTSL according to ICM/FIGO,2003, i.e.10 IU of Oxytocin (87.4%), CCT (92%) and uterine massage (72.4%) (7), 54%, 78%, 63% (23) with oxytocin use reaching 75% (23) and approximately 100% (41).

This implies that the practice level of the midwives in the three components of AMTSL is high regardless of the other activities in AMTSL therefore it is encouraging to see that performance of AMTSL components appears to be improving.

The study findings however are not in line with the result from another study where only 29% of women received the full components of (AMTSL) (44),(41).

Generally knowledge and skills scores for prevention and management of PPH were low; this is a serious cause for concern because postpartum hemorrhage is the most frequent cause of maternal deaths

Observed failure to give Oxytocin within 1 minute as per guideline (3),(52) could have contributed to inadequate skills level observed in this study. The study had observed some midwives asking for another midwife to help in giving oxytocin injection after delivering the mother so that they will continue with CCT and care to a newborn (which may contribute on delay in giving oxytocin injection). Observed asking for assistance by midwives could be explained with the reason that taking care to a mother, a new born and at the same time giving Oxytocin by a single midwife is problematic and could take more than recommended 1 minute unless two midwives were there to conduct a single delivery. Nevertheless the study observed that it is possible for single midwife to

administer uterotonics within recommended 1 minute as per FIGO/ICM when a midwife has the necessary skills.

Evidence from recent studies showed that uterotonics use within one minute of birth is considered the single key component in reducing PPH even in the absence of other components of AMTSL i.e. CCT and uterine massage (23),(32). The study also revealed that the used uterotonics in the management of PPH was oxytocin (as per recommendation that oxytocin 10IU as a first drug of choice in prevention and management of PPH (or misoprostol 400-600 mcg orally be given by a health worker trained in its use to prevent PPH ) (3).

Although this study has identified a gap in knowledge and skills, it is of utmost importance to recognize midwives' knowledge and skills that already exist and ensure that it is promoted. Although the present study revealed that most participants obtained the knowledge on AMTSL during their midwifery training (ref. fig 2). Regular refreshers courses to update midwives knowledge would be recommended to every practicing midwife.

It is generally assumed that by preventing and treating PPH, most PPH-associated deaths could be avoided. The prevention and treatment of PPH are therefore vital steps towards improving the health care of women during childbirth and the achievement of the MDG no. 5. To reach these objectives, birth attendants should continue to be given an access to appropriate medications and be more trained in procedures relevant to the management of PPH.

The study examined variables to check if there was association between knowledge and demographic characteristics.

The differences observed in level of education among the different categories of midwifery qualification are statically significant, p-value 0.006 (although result contradicts each other, ref table 5). The contradiction could probably be due to the small power of the study due to small samples, bigger sample would have had a better association.

Generally it appears that the higher the level of midwifery education the higher the level of knowledge. The tendency was that those with degree in midwifery were more likely to have better knowledge than those with lower level implying that all the midwives may benefit from advanced training/refreshers courses in midwifery care. The results from this study are not in line with the results in another study done in Nigeria where there were no significant association between the professional qualification of midwives and their levels of knowledge of strategies used in the prevention and management of PPH (5). The differences in results could be due to the different sampling techniques used in the two studies

Sex, age and work experience did not significantly affect the level of knowledge on prevention and management of PPH using AMTSL among nurse midwives studied as P-values were more than 0.05. Midwives can be able to give quality care regardless of sex, age and work experience provided that they have the necessary knowledge although as pointed out earlier bigger sample would have had a better association.

Age appeared to affect skill; midwives on age 18-30 performed well AMTSL than those with higher age. This shows that the respondents are in their prime age and may still have recent skills obtained from midwifery schools or they may still be receiving training in form of seminar, workshop, in-service training etc or maybe they are still motivated to work and they are energetic. The results from this study are similar to result obtained from another study which showed that majority of the respondents who demonstrated adequate skills on prevention and management of PPH were between the ages of 22-30 (5).

The differences in other variables i.e. sex, work experience and midwifery qualification were not statistically significant meaning midwives can practice well provided that they have the necessary skills regardless of these variables.

Generally despite a number of efforts maternal mortality due to PPH is still unacceptably high and still very far from reaching the millennium development goal. Therefore there should be more efforts to strengthen the strategies to reduce the number of maternal

mortality which included increased skilled delivery care, provision of re-fresher courses on Safe Motherhood for midwives involved in obstetric care in order to improve their knowledge and skills in identified weak areas and community participation and empowerment of women to take role of their own health and the family at large (43).

With in-service training and support, there is scope for improvement.

### **5.1.1 Implications for midwifery practice**

Birth process is risky, and crises can arise rapidly and unexpectedly therefore requires close attention and obtaining and providing good information by midwives (50).

Low scores of knowledge and skills for prevention and management of PPH implies that a significant number of women in labor and immediately postpartum are receiving substandard midwifery care while in public health facilities. Substandard care and lack of skills are common reasons for PPH mismanagement and this is a serious cause for concern because PPH is the most frequent cause of maternal deaths in Tanzania contributing to 25-28% to MMR (9),(53),(31).

For example in the year 2011 MNH (Muhimbili National Hospital) which is a referral hospital in Dar es Salaam receiving maternal cases mostly from the Municipal hospitals and the districts of the Coast region had 10057 live birth and 155 maternal deaths, PPH alone contributed 14.9% (among the 69.5% direct causes of maternal deaths) (50). The present study found that in the same year (2011) Temeke, Amana and Mwananyamala hospitals altogether had 56820 live births and 101 maternal deaths where PPH alone contributed 29 cases of maternal deaths making 29% of all maternal deaths

In year 2014 Amana, Temeke and Mwananyamala hospitals altogether had 278356 live birth and 102 maternal deaths, PPH alone contributed 26 cases of maternal deaths making 25% of all maternal deaths which is still unacceptable high.

Inadequate knowledge and skills observed by this study would lead to poor clinical decision making and as a result this may lead to an ever increase in morbidity and mortality rates in the country which will hinder the efforts towards achieving MDG 5 by

2015. More effort is needed to strengthen the already available policy, guidelines, standards and models for practice to address the issues and concern of deterioration of service and care.

### **5.1.2 Implication for midwifery education**

This study has indicated that midwives who have degree education have more knowledge and skills level compared to those with certificate. Both knowledge and skills can be achieved if midwives are given education. Therefore emphasis should be put in midwifery education especially during the time of midwifery qualification training and in-service training including periodic refreshers courses.

Implementation of training program me has been shown to reduce the incidence of substandard care. The practice of midwifery has strong links with midwifery education in terms of knowledge base and clinical skills therefore there should be mechanism to maintain midwives competences (46) .

Low-dose, high frequencies simulated practice has been associated with greater skills retention and transfer to performance. Training that occur in close proximity to the work site has been shown to result in greater retention of skills and change in performance (26),(32),(31),(47).

### **5.1.3 Midwifery research**

Midwives give their care through evidence based information. Findings from this study have revealed poor knowledge and skills in preventing and managing PPH using AMTSL.

On understanding the importance of research and teaching for improving health care, the midwifery profession will support, promote and participate in research. According to research evidence the gap between midwives practice and the consequences in terms of providing effective care has been a constant feature, which the midwifery profession needs to address (50),(26).

Research skills provide the midwives with a tool to question examine and evaluate issues more critically, scientifically and systematically. It also allows a midwife to generate new knowledge, which can be shared with others through publication (54). Midwives are expected not only to conduct research or participate in the research but also to be able to share research findings through publications.

This study could be a source of literature review for others who are intending to conduct studies related to AMTSL and findings could be distributed to other midwives so as to improve midwifery care.

#### **5.1.4 Midwifery administration**

Administrators are the backbone for providing facilities to improve knowledge and skills regarding prevention and management of PPH using AMTSL. There should be time for learning and practicing skills concerning prevention and management of PPH using AMTSL by midwives. Short-term management training to in charge of health facilities and other staff may impart knowledge and skills about supportive and participatory management. This will enhance the capacity of health facilities to put in place more participatory and communicative management systems and more flexible and interactive management hierarchies (50).



## **5.2 Conclusion**

This study has demonstrated that most midwives working in public hospitals in Dar es Salaam had inadequate knowledge and skills on prevention and management of PPH using AMTSL.

The gaps in the areas of knowledge and skills that were identified and need to be strengthened, included; common route of misoprostol to prevent PPH, steps of managing a patient with PPH using AMTSL (which includes the key components of AMTSL), stage during AMTSL in which uterine massage is recommended, treatment option for PPH when uterotonics and other conservatives interventions fail, harmful AMTSL practices and sequential steps in AMTSL, to mention a few.

When association between age, sex and work experience were measured against knowledge there were no statistically significant findings among these variables but there were statistically significant association between knowledge and midwifery qualification. There were also significant statistically association between skills and age but there were no any significant statistically association with other tested variables i.e. age, sex and work experience

### **5.2.1 Future research**

Analytical study can be carried out to identify factors contributing to inadequate knowledge and skills in prevention and management of PPH using AMTSL among midwives in stated settings.

## **5.3 Study Limitations**

1. The use of observations to collect data may influence the results and the external validity as the respondents may try to provide better service than they normally do as well as change their behavior. The main problem with this data collection tool is the so called Hawthorne effect i.e. the effect of the observer on the observed, however as per literature this change of behavior is usually temporary, where with time the observed become used to the presence of the observer and therefore continue to

practice naturally (55). Again midwives were very busy with work so there was no room for them to pay attention that they were being observed. Familiarization with the study participants and the situation of being busy could have minimized the Hawthorne effect; however the Hawthorn effect is generally difficult to control.

2. Convenience sampling may be subjected to bias as responses may be influenced by the selection of subjects. A biased sample may lead to dissipation of results (under or over estimation
3. Some midwives were not on duty either due to illness or had to be excluded due to other commitments. Those who were not on duty/not willing could have different aspects concerning knowledge and skills and this could have an effect on the present results
4. During the time of data collection staff was busy shifting patients to other wards to allow fumigation following Dengue disease epidemic, some of them were not willing to participate in filling questionnaires form as they were busy. For those who accepted to participate into this study, this situation could have interfered to their concentration on responding to questionnaires as well as practice and therefore effect the obtained results.
5. This study also had some limitations during the time data collection as there were incomplete documentation and some data were missing especially at Mwananyamala hospital where there were no data in HMIS office of which I had to use data from record books of labor ward. Lack of a standard way of maintaining medical records posed a challenge.

#### **5.4 Recommendation**

This study has raised some important issues related to knowledge and practice on prevention and management of PPH among midwives in public hospitals which need to be taken care: Recommendations involves practice, policy makers and research

1. The hospital administration should formulate operational team that will assess and ensure the adherence of checklist/guideline use on AMSTL; this will help in improving quality of care.
2. Policy makers are adviced arrange periodic review of pre-service midwifery training curricula to assess whether its contents provide midwives with skills relevant to the obstetric care according to changes in technology.
3. The government and development partners should be ready to support health research priorities in the context of maternal health so as to improve care.

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**APPENDICES**

**Appendix I: Self Administered Questionnaire**

Dear respondent, I am a master student at Muhimbili University of Health and Allied Sciences undertaking an academic study concerning Knowledge and Practice on prevention and management of PPH among midwives in Dar es Salaam public hospitals. Your responses will be treated confidential and used for only academic purpose. Thank you in advance for your valuable time.

Participants: Midwives

**SECTION ONE: Respondent profile**

**ID NO. -----**

Instruction: Please tick as appropriate

1. Age Please specify.....

18 – 30	31 – 40	41 – 50	50 and above

2. Sex

Male	Female

3. Highest level of midwifery Education

Certificate	Diploma	Advanced Diploma	Degree

Other (Please specify) .....

4. For how long have you been practicing Clinical midwifery? Please specify.....

1 – 5 years	6 -10 years	10 and above

**SECTION TWO:** Study Questions: These questionnaires will be used to assess knowledge on PPH prevention and management among midwives in public hospitals in Dar es Salaam

**Instruction:** Please tick as appropriate in the space left in a box in each given question

5. Do you practice Active Management of Third Stage of Labor (AMTSL) in your clinical setting?

(1)	Yes	
(2)	No	

6. Does your hospital have clinical protocols for postpartum hemorrhage prevention and treatment?

(1)	Yes	
(2)	No	

7. Where did you get knowledge on AMTSL?

(a) At midwifery/nursing school	
(b) At job training workshop	
(c) By observing my colleagues performing it on a woman	
(d) From job Aid references	

8. The following practices are believed to be harmful when performing AMTSL

(a) Massaging uterus before delivering the placenta	
(b) Applying Controlled Cord traction (CCT) without fundal support	
(c)Both	

9. Clinically the diagnosis of PPH is made when the blood loss is

500mls or more in 24hrs after birth	500mls-1000mls in 24 hrs	1000mls-1500mls in 24 hrs after birth

10. In settings where skilled birth attendants are unavailable, CCT is not recommended.

(1)	Yes	
(2)	No	

11. Should a woman delivered by caesarean section be given Oxytocin injection and CCT be done to prevent PPH?

(1)	Yes	
(2)	No	

12. The following is the best effective protocol of managing postpartum hemorrhage.

(a) Active management of third stage labor (AMTSL)	
(b) Expectant management of third stage labor (EMTSL)	

13. The most recommended drug for preventing postpartum hemorrhage is

Misoprostol	Oxytocin	Ergometrine	Syntometrine

14. The recommended minimum dose of the drug you (selected in question 10) is

2.5IU	10 IU	5 IU

15. The route for the above selected drug is

Im or Iv	Im or s/c	Iv or s/c

16. Please mention the route in which misoprostol is commonly administered to prevent PPH?

(1).....

17. AMTSL should be completed within the following time

(a) 1 minute or not more than within 3 minutes	
(b) 5 minutes	
(c) Between 5-10 minutes	
(d) There is no correct answer	

18. Please mention 3 indicators which will lead you to suspect that a woman has or is developing postpartum Hemorrhage

(1) .....

(2).....

(3) .....

19. Please give 3 steps in AMTSL on how to manage the patient once PPH is identified

(1).....

(2).....

(3).....

20. Please write the stage during AMTSL in which uterine massage is recommended

(1).....

21. Please give one reason as to why the abdominal uterine tonus is assessed postpartum

(1).....

22. The recommended management in managing PPH if bleeding does not stop in spite of treatment using uterotonics and other available conservative Interventions (e.g. uterine massage) is (1).....

**SECTION THREE:** Researcher's observation checklist for assessment of practical skills knowledge among nurse midwives in public hospitals in Dar es Salaam

**Gender:** Female/ Male. **ID no** -----**Start time of observations**-----

**End time of observations**-----

[Researcher to tick appropriate boxes]

ACTIVITY	YES	NO
24. After delivering the first baby palpates the abdomen to rule out the presence of another fetus before continuing with Oxytocin administration		
25. Administration of 10 IU of IM Oxytocin If Oxytocin is not available, administers 0.5 mg of Ergometrine within 3 minutes(Not in preeclampsia/ eclampsia or Prostaglandins (avoiding of IV use)		
26. Administration of drug is done within 1 minute of delivery of the baby		
27. Clamping the cord close to perineum		
28. clamp the cord between 1-3 minutes following child birth		
29. Use of sponge/artery holding forceps in clamping the cord		
30. Placing the other hand just above the woman's pubic bone to stabilize the uterus for CCT		
31. Waiting for strong uterine contraction (2-3 minutes)		
32. Does not wait for a gush of blood		



33.Applies controlled traction (CCT) during contraction to the cord so as to avoid uterine inversion		
34.Pulls the cord gently, firmly, and uniformly downward to deliver the placenta		
35.Supports the placenta with both hands		
36. Extracting membranes gently with lateral movements		
37. Immediately massaging of the uterine fundus to aid its contraction		
38.Check to see if uterus contracted after uterine massage		
39.Examine the tissue to see if complete expelled		
40. Examine the placenta to see if whole expelled and intact		
41. Examines woman for cervical or vaginal tears or episiotomy to be repaired		
42 Reports that she will assess uterine contraction 15 minutes in the first hour, then twice hourly in the next hour		
TOTAL SCORE/19		

Definition of scores: Yes=1, No=0

## **Appendix II: Informed Consent Form – English Version**

ID NO .....

AN INFORMED CONSENT TO PARTICIPATE IN THE STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE ON PREVENTION AND MANAGEMENT OF POST PARTUM HEMORRHAGE AMONG NURSE MIDWIVES IN PUBLIC HOSPITAL IN DAR ES SALAAM

Dear participant,

Greetings! My name is Melania Lembuka, a nurse-midwife undertaking studies in critical care and trauma at the University of Health and Allied Sciences, Muhimbili here in Dar es Salaam. I am doing a study on Knowledge and practice of nurse midwives on active management of third stage of labor in Public hospitals, Dar es salaam Tanzania as part of my studies. The only way to find out is to ask you, as you are providers of such services. It is my hope that you will be able to help me by answering the following questions. Your honest and correct answers are important as they will be used to make improvements in the quality of service we provide to the community at large. I promise that I shall neither reveal to anyone what you will tell me, nor in any way link to you.

Your responses will be analyzed and treated as group data.

Please complete and return the attached Consent Form before you complete the questionnaire.

Thank you in anticipation of your participation

### **Selection of participants**

If you agree to participate in this study, you will be needed to sign this consent form.

**What does participation involve?**

Those who agreed to participate will be given a consent form to sign and then fill the questionnaires and if you agree you will be observed during the time of conducting delivery.

**Confidentiality**

Confidentiality and anonymity will be maintained by ensuring that respondents' identity and names are not endorsed on the questionnaire forms.

**Risk**

I do not anticipate any major risk since the method of obtaining information do not involve any invasive procedure, only that your valuable time will be consumed.

**Benefits**

The study result will benefit both the patients and health workers in the improvement of health care.

**Rights to participate and withdraw**

Participation is voluntary and participant can discontinue participation any time they so wish.

**Who to contact**

If you have any questions regarding this study you should contact Melania Lembuka, Muhimbili University, P.o. Box 65001, Dar es Salaam; Phone no. 0713418715. In case you have questions regarding your rights as a participant, you should contact Prof. Mainen Moshi, chairperson of the University research and publication committee, P.O. Box 65001, Dar es Salaam, Tel 2150302

### Appendix III: Consent Form

I hereby give my consent by signing this form to participate in the study and to be interviewed and /observed by the researcher at my place of work. I understand that I will be part of the research study that focuses on the knowledge and practice on prevention and management of Post partum hemorrhage among midwives in Dar es Salaam.

I understand that I will be asked questions on the knowledge and/ observed during practice on prevention and management of PPH. I have been informed that participation is voluntary and that I can discontinue participation any time if I so wish. I understand that the study results will be shared and used as group data, will benefit both patients and health workers in the improvement of health care and there will be no any financial gain. The person to be contacted is LEMBUKA M, P.O. Box 65001, Phone no. 0713418715, Dar es Salaam. Email address: melaniahaule@gmail.com.

Agreement of participation

I'm willing to participate in the research topic-----  
-----

Identification number-----

Age-----

Respondent's Signature-----

Researcher's Signature-----

Date -----

Date -----

**SEHEMU YA I: Dodoso Kwa Wakunga****Utangulizi**

Mpendwa mshiriki, mimi ni mwanafunzi katika chuo kikuu cha Muhimbili katika fani ya ukunga. Nawasilisha kwako dodoso hili likuwa na lengo la kutaka kujuwa uelewa na **ufarisi** wa wakunga karika kuzuia na kutibu utokwaji wadamu kwa mama aliyejifungua (postpartum hemorrhage). Natanguliza shukurani kwa muda wako.

**SEHEMU YA KWANZA**

Wahusiska: Wakunga

Namba ya kitanulisho-----

Maelezo: Tafadhali weka alama ya tick panapohusika

1. Umri. Tafadhali taja umri kamili-----

18 – 30	31 – 40	41 – 50	50 na zaidi

2. Jinsia

Mume	Mke

3. Kiwango cha juu cha elimu ya ukunga

Cheti	Stashahada	Shahada	Astashahada

4. Ni kwa muda gani umekuwa ukitoa huduma za ukunga hospitalini. Tafadhali taja miaka kamili

Miaka1– 5	Miaka 6 -10	Zaidi ya miaka10

**SEHEMU YA PILI**

Maswali ya Utafiti: Maswali haya yatatumika kuangalia ufahamu na ufasiri miongoni mwa wakunga mkoani Dar es Salaam kuhusu kuzuia na kutibu utokwaji wa damu baada ya mama kujifungua

Maelekezo: Tafadhali weka alama ya tick panapohusika katika sehemu ya wazi katika kila swali.

5 .Je Active Management of Third Stage of Labor (AMTSL) inatunika katika hospital yako wakati wa hatua ya tatu ya kumzalisha mama?

(1)	Ndiyo	
(2)	Hapana	

6. Je, hospitali ina mwongozo wa namna ya kuzuia na kutibu utokwaji wa damu baada ya mama kujifungua?

(1)	Ndiyo	
(2)	Hapana	

7.Ni wapi ulipata ujuzi wa kutumia njia iliyoshauriwa siku hizi ya utoaji wa kondo la nyuma la uzazi kwa msaada wa dawa ya kuongeza uchungu wa uzazi wakati wa hatua ya tatu ya kumzalisha mama?

(a) Katika shule ya Ukunga/Uuuguzi	
(b) Washa ya kazini	
(c) Nilimuona mkunga mwenzangu akimuhudumia mama kwa njia hii.	
(d) Nilisoma kwenye vitabu vya miongozo ya kazi zangu	

8. Matendo yafuatayo yakitendwa wakati wa utoaji wa kondo la nyuma la uzazi wakati wa hatua ya tatu ya kumsaidia mama kujifungua, yanaaminika kuwa ni hatari kwa uhai wa mama anayejifungua.

(a) Kukandakanda eneo la tumbo la uzazi kabla hujatoa kondo la nyuma	
(b) Kuvuta taratiibu kondo la nyuma la uzazi kwa ustadi wa kulivuta kwa chini bila kuzuia kwa mkono juu ya sehemu ya tumbo la uzazi.	
(c) Yote hapo juu	

9. Kiasi kifuatacho cha damu baada ya mama kujifungua kitachukuliwa ndicho kiasi kikubwa

500mls au zaidi ndani ya saa 24 baada ya kujifungua	500mls-1000mls katika saa 24	1000mls -1500mls katika saa 24 baada ya kujifungua

10. Sehemu ambapo hakuna wakunga utoaji wa kondo la nyuma hauruhusiwi.

(1)	Ndiyo	
(2)	Hapana	

11. Mama aliyejifungua kwa njia ya upasuaji yapaswa apewe sindano ya oxytocin na kufuta taratibu kondo la nyuma la uzazi (CCT)

(1)	Ndiyo	
(2)	Hapana	

12. Ifuatayo ni njia madhubuti ya kuzuia utokaji wa damu baada ya mama kujifungua

(a)Active management of third stage labor (AMTSL)	(b)Expectant management of third stage labor (EMTSL)

13. Dawa ifuatayo ndiyo inayoshauriwa itumike zaidi katika kuzuia utokaji wa damu baada ya mama kujifungua

Misoprostol	Oxytocin	Egometrine	Syntometrine

14. Ni kiwango gani cha dawa kinachotakiwa apewa mama baada ya kujifunua (Dawa uliyotaja hapo juu 10) ni

2.5 IU	10 IU	5 IU

15. Dawa hii (uliyochagua hapo juu) hutolewa Kwa njia gani?

Im au iv	Im au s/c	Iv au s/c

16. Tafadhali taja njia itumikayo kutoa sindano ya misoprostol.

(1).....

17. Utoaji wa kondo la nyuma la uzazi kwa kutumia dawa ya kuongeza uchungu wa uzazi inatakiwa iwe imekamilika ndani ya muda ufuatao

(a) Ndani ya dakika moja au isizidi dakika tatu	
(b) Ndani ya dakika tano	
(c) Ndani ya dakika tano mpaka kumi	
(d) Majibu yote ni sawa	

18. Tafadhali taja viashiria 3 ambavyo vitamsadia mkunga atambue kuwa mama aliyejifungua ana PPH au anaweza kupata PPH

(1).....



(2).....

(3) .....

19. Tafadhali Taja hatua. 3 ni kwa jinsi gani utamhudumia mama aliyejifungua endapo atapata PPH kwa kutumia AMTSL

(1).....

(2).....

(3) .....

20. Tafadhali andika hatua katika AMTSL ambapo ukandaji wa tubo la mama (uterine massage) hufanyika (1).....

21. Tafadhali toa sababu kwa nini tumbo la mama huchunguzwa kama limekakamaa baada fa kujifungua.

(1).....

22. Tafadhali taja njia inayoshauriwa itumike kuzuia PPH kwa mama aliyejifungua baada ya dawa ya oxytocin na njia nyingine kama ukandaji wa tumbo kutosaidia kuzuia PPH. (1).....

**SEHEMU YA III: FOMU YA RIDHAA**

Namba ya utambulisho-----

**RIDHAA YA USHIRIKI KWENYE UTAFITI JUU YA UELEWA NA UFARISI  
MIONGONI MWA WAKUNGA KATIKA KUZUIA NA KUTIBU UTOKWAJI  
WA DAMU KWA MAMA ALIYEJIFUNGUA KATIKA HOSPITAL ZA UMMA  
MKOANI DAR ES SALAAM**

Wapendwa washiriki,

Salaam, jina langu ni Melania Lembka, mkunga muuguzi na mwanafunzi wa shahada ya udhamili katika chuo kikuu cha tiba na sayansi shirikishi Muhimbili hapa Dar es salaam. Ninafanya utafiti juu ya uelewa na ufarisi wa wakunga katika kuzuia na kutibu utokwaji wa damu kwa mama aliyejifungua kama sehemu ya mafunzo yangu. Njia pekee ya kujua haya ni kukuuliza wewe kama mto hiyo huduma. Ni matumaini kwamba utakuwa tayari kunisaidia kwa kujibu maswali yafuatayo. Uaminifu wako katika kujibu maswali ni muhimu kwani itasaidia katika kuboresha huduma zitolewazo kwa jamii zetu kwa ujumla

Naahidi sitatoa taarifa zozote utakazonipa kwa mtu yeyote kwa njia yoyote. Majibu yako pamoja na ya wengine yatatumika kama taarifa ya pamoja. Tafadhali jaza na rudisha fomu ya ridhaa ambayo nimeambatanisha kabla ya kujibu maswali. Asante kwa ushiriki wako.

**Usajili**

Unaombwa ruhusa kwa ajili ya usaili wako, ukikubali jaza form hii ya kukubali kushiriki.

**Ushiriki unahusu nini?**

Utakapokubali kushiriki utapewa fomu ya ridhaa usaini na baadae utaibu maswali

**Utunzaji wa siri**

Taarifa zote zitatunzwa kwa siri kwani vitambulisho na majina havitakuwapo kwenye fomu ya maswali

**Madhara na athari**

Hakuna athari zinazotegemewa kutokana na utafiti huu. Unaombwa kujitolea muda wako wa takribani (dakika thelasini) ili kujaza dodoso hili.

**Faida**

Utafiti huu utanufaisha wagonjwa na watoa huduma katika kuboresha huduma za afya

**Uhuru wa kushiriki na kujitoa**

Ni hiari kushiriki kwenye utafiti huu na pia unaweza kuamua kujitoa wakati wo wote ukipenda

**Taarifa**

Endapo utakuwa na maswali kuhusu utafiti huu tafadhali wasiliana na Melania Lembuka, Chuo kikuu Muhimbili, SLP 65001, simu no. 0713-41-87-15, Dar es saalam. Ukiwa na swali lolote kuhusu haki zako au kutoa taarifa ya madhara ambayo unahisi yametokana utafiti huu wasiliana na Prof. Mainen Moshi, mwenyekiti wa kamati ya utafiti na Machapisho ya Chuo, SLP 65001, Dar es Salaam. Namba ya simu: 2150302-6.

**SEHEMU YA III: RIDHAA YA USHIRIKI**

Nakubali kushiriki utafiti huu kwa kusaini fomu hii ya ridhaa na kuhojiwa/kuangaliwa na mtafiti katika sehemu yangu ya kazi. Nimeelewa kuwa nitakuwa sehemu ya utafiti unaohusu uelewa na ufarisi wa wakunga katika kuzuia na kutibu utokwaji wa damu kwa mama aliyejifungua katika hospital za umma mkoani Dar es Salaam

Nafahamu kuwa nitaulizwa maswali kuhusu ujuzi nilionao katika kuzuia na kutibu utokwaji wa damu baada ya mama kujifungua. Nafahamu kuwa ushiriki katika utafiti huu ni wa hiari na kuwa naweza kujitoa wakati wowote nikipenda. Nafahamu kuwa matokeo ya utafiti yatautumika kama taarifa ya pamoja na yatawanufaisha wagonjwa na watoa huduma katika kuboresha huduma za afya na kwamba hakuna malipo yoyote kutokana na ushiriki wangu. Nitawasiliana na Melania Lembuka, SLP 65001, namba ya simu 0713418715, Dar es salaam, Barua pepe [melaniahaule@gmail.com](mailto:melaniahaule@gmail.com). Kukubali ushiriki

Nakubali kushiriki kushiriki katika utafiti juu ya-----  
-----  
-----

Kitambulisho namba-----

Umri-----

Sahihi ya mshiriki-----

Sahihi ya mtafiti-----

Tarehe-----

Tarehe-----

## Appendix IV: Letter of Approval for Ethical Clearance from MUHAS

# MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

### Directorate of Postgraduate Studies

P.O. BOX 65001  
DAR ES SALAAM  
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Ref. No. MU/PGS/SAEC/Vol. XI/74

4<sup>th</sup> April, 2014

Ms. Melania H. Lembuka,  
MSc. Nursing Critical Care and Trauma,  
**MUHAS.**

**RE: APPROVAL OF ETHICAL CLEARANCE FOR A STUDY TITLED "KNOWLEDGE AND PRACTICE ON PREVENTION AND MANAGEMENT OF POST PARTUM HEMARRHAGE USING ACTIVE MANAGEMENT OF THIRD STAGE OF LABOR AMONG MIDWIVES IN MUNICIPAL HOSPITALS IN DAR ES SALAAM"**

Reference is made to the above heading.

I am pleased to inform you that, the Chairman has, on behalf of the Senate ,approved ethical clearance for the above-mentioned study. Hence you may proceed with the planned study.

The ethical clearance is valid for one year only, from 1st April, 2014 to 31<sup>st</sup> March, 2015. In case you do not complete data analysis and dissertation report writing by 31<sup>st</sup> March, 2015, you will have to apply for renewal of ethical clearance prior to the expiry date.

Please liaise with the Directorate of Finance to get your research funds.

Prof. O. Ngassapa  
**DIRECTOR, POSTGRADUATE STUDIES**

/emm

Cc: Director of Research and Publication  
cc: Dean, School of Nursing

**Appendix V: Introduction letter from MUHAS to Ilala Municipal Council****MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED  
SCIENCES***Directorate of Postgraduate Studies*

P.O. BOX 65001  
DAR ES SALAAM  
TANZANIA.

Website: <http://www.muhas.ac.tz>



Tel: +255-(0)22-2150302 Ext 207.  
Tel (Direct): +255-(0)22-2151378  
Telefax: 255-(0)22-2150465  
E-mail: [dpgs@muhas.ac.tz](mailto:dpgs@muhas.ac.tz)

Ref. No. HD/MUH/T.43/2012

8<sup>th</sup> April, 2014

District Medical Officer  
Ilala Municipal Council  
**DAR ES SALAAM.**

**Re: INTRODUCTION LETTER**

The bearer of this letter Ms. Melania H. Lembuka is a student at Muhimbili University of Health and Allied Sciences (MUHAS) pursuing in Nursing Critical Care and Trauma.

As part of her studies she intends to do a study titled: "***Knowledge and practice on prevention and management of post partum Hemorrhage using active Management of third stage of labor among Midwives in Muncipal Hospitals in Dar es Salaam .***"

The research has been aproved by the Chairman of MUHAS Research Ethics Committee.

Kindly provide her the necessary assistance for her to conduct the research.

We thank you for your cooperation.

A. Ndyekiza

**For: DIRECTOR, POSTGRADUATE STUDIES**

cc: Ms. Melania H. Lembuka  
cc: Dean, School of Nursing

## Appendix VI: Introduction letter from MUHAS to Temeke Municipal Council

# MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

## Directorate of Postgraduate Studies

P.O. BOX 65001  
DAR ES SALAAM  
TANZANIA.

Website: <http://www.muhas.ac.tz>



Tel: +255-(0)22-2150302 Ext 207.  
Tel (Direct): +255-(0)22-2151378  
Telefax: 255-(0)22-2150465  
E-mail: [dpgs@muhas.ac.tz](mailto:dpgs@muhas.ac.tz)

Ref. No. HD/MUH/T.43/2012

8<sup>th</sup> April, 2014

District Medical Officer  
Temeke Municipal Council  
**DAR ES SALAAM.**

**Re: INTRODUCTION LETTER**

The bearer of this letter Ms. Melania H. Lembuka is a student at Muhimbili University of Health and Allied Sciences (MUHAS) pursuing in Nursing Critical Care and Trauma.

As part of her studies she intends to do a study titled: "*Knowledge and practice on prevention and management of post partum Hemorrhage using active Management of third stage of labor among Midwives in Municipal Hospitals in Dar es Salaam .*"

The research has been approved by the Chairman of MUHAS Research Ethics Committee.

Kindly provide her the necessary assistance for her to conduct the research.

We thank you for your cooperation.

A. Ndyekiza

**For: DIRECTOR, POSTGRADUATE STUDIES**

cc: Ms. Melania H. Lembuka  
cc: Dean, School of Nursing

**Appendix VII: Introduction letter from MUHAS to Kinondoni Municipal Council**

**MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES**

*Directorate of Postgraduate Studies*

P.O. BOX 65001  
DAR ES SALAAM  
TANZANIA.



Tel: +255-(0)22-2150302 Ext 207.  
Tel (Direct): +255-(0)22-2151378  
Telefax: 255-(0)22-2150465  
E-mail: [dpgs@muhas.ac.tz](mailto:dpgs@muhas.ac.tz)

Website: <http://www.muhas.ac.tz>

Ref. No. HD/MUH/T.43/2012

8<sup>th</sup> April, 2014

District Medical Officer  
Kinondoni Municipal Council  
**DAR ES SALAAM.**

**Re: INTRODUCTION LETTER**

The bearer of this letter Ms. Melania H. Lembuka is a student at Muhimbili University of Health and Allied Sciences (MUHAS) pursuing in Nursing Critical Care and Trauma.

As part of her studies she intends to do a study titled: "***Knowledge and practice on prevention and management of post partum Hemorrhage using active Management of third stage of labor among Midwives in Muncipal Hospitals in Dar es Salaam .***"

The research has been aproved by the Chairman of MUHAS Research Ethics Committee.

Kindly provide her the necessary assistance for her to conduct the research.

We thank you for your cooperation.

A. Ndyekiza  
**For: DIRECTOR, POSTGRADUATE STUDIES**

cc: Ms. Melania H. Lembuka  
cc: Dean, School of Nursing



### Appendix VIII: Permission letter from Mwananyamala Municipal Hospital

Melania H. Lembuka  
MUHAS  
P.O.BOX 65000  
Dar es Salaam  
9<sup>th</sup> April, 2014.

DMO,  
Kinondoni Municipal,  
P, O Box 45232,  
Dar es Salaam.

Dear Sir/ Madam,

**Ref: Request for permission to conduct research at Mwananyamala Municipal hospital.**

Please refer the above heading.

I'm Melania H. Lembuka, a second year student, postgraduate in Critical care and Trauma in Nursing at Muhimbili University of Health and Allied Sciences.

I would like to request a permission to conduct a research in your hospital, aimed at **Knowledge and Practice on Prevention and Management of Post Partum Hemorrhage using Active Management of Third Stage of Labor among Nurse Midwives in municipal hospitals in Dar es Salaam**

The study is going to be a quantitative descriptive cross-sectional and all eligible study participants will duly sign the consent agreeing, voluntary to participate. The study is expected to take two months.

Kindly find the attached copy of approval for ethical clearance, copy of the proposal and introductory letter from the Director of post graduate studies at Muhimbili University of Health and Allied Sciences which shows that the study has been reviewed and recommended by the Chairman of the University Research Ethics.

It is my hope this request will be highly considered.

Sincerely,

  
.....

Melania H. Lembuka

## **Appendix IX: Request for permission to conduct research at Temeke Municipal Hospital**

Melania H. Lembuka  
MUHAS  
P.O.BOX 65000  
Dar es Salaam  
8<sup>th</sup> April, 2014.

DMO,  
Temeke Municipal,  
P, O Box 20950,  
Dar es Salaam.

U. S. f. Dean  
School of Nursing  
MUHAS

Dear Sir/ Madam,

**Ref: Request for permission to conduct research at Temeke Municipal hospital.**

Please refer the above heading.

I'm Melania H. Lembuka, a second year student, postgraduate in Critical care and Trauma in Nursing at Muhimbili University of Health and Allied Sciences.

I would like to request a permission to conduct a research in your hospital, aimed at **Knowledge and Practice on Prevention and Management of Post Partum Hemorrhage using Active Management of Third Stage of Labor among Nurse Midwives in municipal hospitals in Dar es Salaam**

The study is going to be a quantitative descriptive cross-sectional and all eligible study participants will duly sign the consent agreeing, voluntary to participate. The study is expected to take two months.

Kindly find the attached copy of approval for ethical clearance, copy of the proposal and introductory letter from the Director of post graduate studies at Muhimbili University of Health and Allied Sciences which shows that the study has been reviewed and recommended by the Chairman of the University Research Ethics.

It is my hope this request will be highly considered.

Sincerely,

.....

Melania H. Lembuka.

**Appendix X: Request for permission to conduct research at Amana Municipal Hospital**

Melania H. Lembuka  
MUHAS  
P.O.BOX 65000  
8<sup>th</sup> April, 2014.

DMO  
Ilala Municipal  
P, O Box 61665  
Dar es Salaam.

U. S. f. Dean  
School of Nursing  
MUHAS

Dear Sir/ Madam,

**Ref: Request for permission to conduct research at Amana Municipal hospital.**

Please refer the above heading.

I'm Melania H. Lembuka, a second year student, postgraduate in Critical care and Trauma in Nursing at Muhimbili University of Health and Allied Sciences.

I would like to request a permission to conduct a research in your hospital, aimed at **Knowledge and Practice on Prevention and Management of Post Partum Hemorrhage using Active Management of Third Stage of Labor among Nurse Midwives in municipal hospitals in Dar es Salaam**

The study is going to be a quantitative descriptive cross-sectional and all eligible study participants will duly sign the consent agreeing, voluntary to participate. The study is expected to take two months.

Kindly find the attached copy of approval for ethical clearance from director of post graduate, and copy of the proposal.

It is my hope this request will be highly considered.

Sincerely,

..........

Melania H. Lembuka.

**Appendix XI: Permission letter from Kinondoni Municipal Council**

**KINONDONI MUNICIPAL COUNCIL**

ALL CORRESPONDENCES TO BE ADDRESSED TO THE MUNICIPAL DIRECTOR

Tel : 2170173  
Fax: 2172606



MUNICIPAL MEDICAL OFFICER OF  
HEALTH,  
KINONDONI MUNICIPAL COUNCIL  
S. L. P. 61665,  
DAR ES SALAAM.

In reply please quote:

Ref. No. PF/K/14 Vol.VI/

Date: 16/04/2014

Health Facility I/C,  
MUJIBAHAMA HOSP  
Kinondoni Municipal.

REF: RESEARCH PERMIT

Refer to the above heading.

DMO office is pleased to inform your health facility that

MELANIA H. KEMBUKA

Has been given a permit to perform the research work in your facility.

KNOWLEDGE AND PRACTICE ON PREVENTION AND MANAGEMENT  
TITLED OF POST PARTUM HEMORRHAGE USING ACTIVE  
MANAGEMENT OF THIRD STAGE OF LABOR AMONG NURSE MIDWIVES  
IN MUNICIPAL HOSPITAL IN DAR-ES-SALAAM.

Kindly receive & provide the necessary assistance in order to enable the student to fulfill the activities comfortably.

Best wishes,

F. Lukosi

Research Coordinator,  
Kinondoni Municipal Council

Kny: MGANGA MKUU WA MANISPAA  
HALMASHAURI YA DAR-ES-SALAAM YA KINONDONI

**Appendix XII: Permission letter from Ilala Municipal Council to conduct research**

**ILALA MUNICIPAL COUNCIL**

ALL COMMUNICATIONS TO BE ADDRESSED TO THE MUNICIPAL DIRECTOR

**P.O. BOX** 20950

**PHONE NO:** 2128800

2128805

**FAX NO.** 2121486

Ref: IMC / MED / R.18 / 5VOL.X/146



**MUNICIPAL OFFICE  
ILALA**

**Date: 10/04/2014**

Medical Officer In charge  
Amana Hospital  
**ILALA MUNICIPALITY**

**RE: PERMISSION TO CONDUCT RESEARCH**

Please refer to the heading above.

**Melania Lembuka** is a student undertaking Master of Science in Nursing Critical care and Trauma at Muhimbili University College of Health and Allied Sciences.

She is currently planning to conduct a study titled: **“Knowledge and Practice on prevention and management of post partum hemorrhage using active management of third stage of labor among midwives in Ilala Municipal council”**. After going through her proposal, MMOH office has given her a permission to conduct study within the Municipal.

Kindly help her to fulfill the research objectives; research results will be disseminated to the MMOH and health facilities for improve patient management.

**Dr. Yusuph A. Nangeda**

**For:** MMOH - ILALA MUNICIPALITY  
**Copy:** Researcher  
MUNICIPAL MEDICAL OFFICER IN CHARGE  
ILALA MUNICIPALITY

**Appendix XIII: Permission letter from Temeke Municipal Council to conduct research**

**TEMEKE MUNICIPAL COUNCIL**

ALL COMMUNICATIONS TO BE ADDRESSED TO MUNICIPAL DIRECTOR

P.O.Box. 45232  
Tel: 2850142



TEMEKE MUNICIPAL MEDICAL OFFICE OF HEALTH  
DAR ES SALAAM  
TANZANIA.

Date 08/04/2014

*The Medical Officer*  
*Temeke Regional Referral Hosp*

**REF; INTRODUCTION LETTER & PERMISSION TO CONDUCT HEALTH ACTIVITES AND RELATED ISSUES IN TEMEKE MUNICIPALITY.**

Please refer to the above heading.

I am here by introducing you Melania Lombika from MUHAS  
Tel. ....

The applicant has submitted a written request/application to the MMOH Office from the above mentioned recognised government/ private Institution as a pre - condition prior to authorisation.

During the stay he/she would preferably like to conduct health activities and related activities at Knowledge and Practice on prevention and management of prepartum Haemorrhage using Active Management of Third Stage of Labour among midwives at Temeke Hospital

The applicant has been instructed and agreed to work under the respective ward authorities throughout the stay in Temeke Municipal Council.

Starting date 18 April 2014 Finishing date 31 May 2014

Permission is hereby granted to the applicants for the applied period.

I am kindly requesting you to give him/her necessary assistance so as to accomplish his/her the intended task productively.

Yours Sincerely,

*[Signature]*  
Dr. M. Mashombo

For; Temeke Municipal Medical Officer of Health

OF HEALTH  
DAR ES SALAAM

Appendix XIV: Dar es Salaam Map City Council showing Municipalities

CITY PROFILE for Dar Es Salaam, United Republic of Tanzania (November, 2004)

Figure 1: Map of Dar Es Salaam City Council Showing Municipalities

