Assessment of the Knowledge Attitude and Practice (KAP) amongst Staff Nurses (SN)/ Female Health Workers (FHW) who have been trained for Active Management of Third Stage of Labour (AMTSL)

Internship Training
at
National Health Mission,
Commissionerate of Health, Gujarat

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Under the guidance of
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TO WHOMSOEVER MAY CONCERN

This is to certify that ***Dr. Ashish Kumar Tiwari*** *student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management Research, Jaipur, batch 17th (2012-2014) has undergone internship training at Commissionerate of Health, Gandhinagar, Government of Gujarat, from* ***01st February, 2014 to 30th April, 2014*** *and has done project on* ***"Assessment of the Knowledge Attitude and Practice (KAP) amongst Staff Nurses (SN)/ Female Health Workers (FHW) who have been trained for Active Management of Third Stage of Labour (AMTSL)"***

The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.

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He is a hard working, sincere and committed student and we wish him very best for all his future endeavours.

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This is to certify that the dissertation titled ***"Assessment of the Knowledge Attitude and Practice (KAP) amongst Staff Nurses (SN)/ Female Health Workers (FHW) who have been trained for Active Management of Third Stage of Labour (AMTSL)"*** *and submitted by* ***Dr. Ashish Kumar Tiwari*** *Enrollment Number* ***IIHMR/PGDHM/2012-14/17-1300*** *under the supervision of* ***Dr. Monika Choudhary****, Associate Professor for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from* ***01st February, 2014 to 30th April, 2014*** *embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.*

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Executive Summary

Postpartum haemorrhage is one of the world's leading causes of maternal mortality. Active management of the third stage of labour (AMTSL) is a feasible and inexpensive intervention that can help save thousands of women's lives. AMTSL involves three basic procedures: the use of a uterotonic agent (preferably oxytocin) within one minute following the delivery of the baby, delivery of the placenta with controlled cord traction, and massage of the uterus after delivery of the placenta. Based on conclusive evidence from clinical trials, the International Confederation of Midwives (ICM) and the International Federation of Gynaecology and Obstetrics (FIGO) issued a joint statement in 2003 stating that every woman should be offered AMTSL as a means of reducing the incidence of postpartum haemorrhage. The World Health Organization (WHO) is making Pregnancy Safer Technical Update on Prevention of Postpartum Haemorrhage by AMTSL recommends that "AMTSL should be practiced by all skilled attendants at every birth to prevent postpartum haemorrhage."

Currently, very little is known about the actual practice of AMTSL, therefore we did an assessment on AMTSL practices to identify major barriers to its use in GUJARAT. Observation of AMTSL practices was carried out in hospitals. The hospital observation was supplemented with procedure observation.

Specifically, the study asks:

1. In what proportion is AMTSL used?

2. Are the standards of practise followed?

3. What practices are in place that does not confirm to ICM/FIGO definition of AMTSL?

To answer these questions, a representative sample of staff nurses and Female Health Workers were interviewed and observed. They were interviewed to assess their knowledge on AMTSL, its procedure, storage of uterotonic drugs and steps of process. The method and place of uterotonic drug storage were observed to assess how well they store the drugs.

The results of the study show that oxytocin was used by staff nurses during the third stage of labour in 59 percent of cases. Use of AMTSL according to the ICM/FIGO definition was observed in 61 percent of responses, whereas using the Normal Delivery Care course definition (use of oxytocin within one minute of birth), correct AMTSL was observed in 69 percent of cases. If the definition of AMTSL is relaxed to allow for administration of the uterotonic drug within five minutes of delivery of the foetus, the proportion receiving AMTSL increases to 90 percent. Our data suggest that about two in five staff nurses and three in five were acquainted with the benefits and usage of correct AMTSL practices and contra indications of AMTSL respectively, but its use seems somewhat random with many staff nurses still preferring methergine to oxytocin. The AMTSL component with the least compliance in the time for administration of uterotonic drugs; about one-fifth of the staff nurses gave the oxytocin injection in three to five minutes after delivery of the foetus.

The standard checklist for the steps of AMTSL suggested time for administration of the uterotonic drug is two minutes or less as well as follow of standard protocol. The situation regarding storage of drugs and supplies was found to be satisfactory in most of the responses of staff nurses. However, in some cases availability of oxytocin was of great concern.

Selected key recommendations resulting from this study are summarized below:

1. Timely and correct stock of availability of drug at all the functional delivery points in order to implement the AMTSL at all levels.

2. Update the Standard Treatment Guidelines to comply with the ICM/FIGO recommendations for AMTSL regarding the timing of the administration of the uterotonic drug.

3. Provide refresher training on AMTSL to staff nurses who have received training four years ago, especially in timing of uterotonic administration.

4. Provide AMTSL training workshop for others staff nurses who do not have training for AMTSL.

5. Improve knowledge and practices on practice, usage of AMTSL and storage of uterotonic drugs.

6. Incorporate AMTSL monitoring through maternal death review.

7. Implement clinical audits focused on AMTSL.

In summary, AMTSL is being practiced by staff nurses, between 65 and 75 percent of births benefiting from this practice. Yet, there is substantial room for improvement. Given that there are numerous staff nurses implementing this practice correctly, these providers constitute an important resource that can be used to expand the practice to additional providers and to facilities in regions where AMTSL is not the norm.

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PREFACE

Reducing Maternal Mortality Ratio is one of the most important goals of NATIONAL HEALTH MISSION. Huge and strategic investments have being made by Government of Gujarat to achieve the goal.

In this regards it is encouraging to find a report on **"Assessment of the Knowledge Attitude and Practice (KAP) amongst Staff nurses (SN)/ Female Health Workers (FHW) who have been trained for Active Management of Third Stage of Labour (AMTSL)."** This report gives an opportunity to understand the knowledge and situation at the grass route level. This document gives an idea about knowledge, attitude and practice level amongst Staff Nurses and Female Health Workers with due emphasis on Active Management of Third Stage of Labour.

The report will help to find out the area of concern and thereby support in the improvement of the approach of providing better healthcare services. I am hopeful that it will help to evolve further and maximize the gains achieved so far.

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I am also highly thankful to my guide **Dr. Monika Chaudhary**, IHMR Jaipur for the guidance, support, blessings and help provided to me, without which the dissertation would have never been possible.

Last but not the least I am extremely grateful to almighty God and my parents who gave me courage and strength to perform my duties efficiently.

I thank everybody again.

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LIST OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

AMTSL	Active management of the third stage of labour
ANC	Anti Natal Care
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
BEmOC	Basic Emergency Obstetric Care
CBMDR	Community Based Maternal Death Review
CDHO	Chief District Health Officer
CCT	Controlled cord traction
CEmOC	Comprehensive Emergency Obstetric Care
CHC	Community Health Centres
DH	District Hospital
DPC	District Program Coordinator
EDA	Epidural analgesia
EMTSL	Expectant management of the third stage of labour
FBMDR	Facility Based Maternal Death Review
FIGO	International Federation of Gynaecology and Obstetrics
FHW	Female Health Worker
FRU	Functional Delivery Points
GOG	Government of Gujarat
GOI	Government of India
ICDS	Integrated Child Development Scheme
ICM	International Confederation of Midwives
IFA	Iron Folic Acid
IMR	Infant Mortality Rate
JSSK	Janani Sishu Suraksha Karyakram
JSY	Janani Suraksha Yojna
KAP	Knowledge Attitude Practice
LSAS	Life Saving Anaesthetic Skills
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MDR	Maternal Death Review
MMR	Maternal Mortality Ratio

MTP	Medical Termination of Pregnancy
NRHM	National Rural Health Mission
PHC	Primary Health Centre
PNC	Post Natal Care
PPH	Post partum haemorrhage
RCH	Reproductive Child Health
RKS	Rogi Kalyan Samiti
RTI	Reproductive Tract Infection
SC	Sub Centre
SDH	Sub Divisional Hospital
SBA	Skilled Birth Attendant
SN	Staff Nurse
STI	Sexually Transmitted Infection
WHO	World Health Organisation

SECTION A

NATIONAL HEALTH MISSION

STATE HEALTH SOCIETY- GUJARAT

State Health Society, Gujarat came into existence after NRHM was launched. It is the head body in the state for NRHM functioning in Gujarat. It is headed by Mission Director who reports to the Principal Secretary Health-cum-Commissioner of Health, Government of Gujarat. This body is meant for providing the needed health care benefits to the people of Gujarat by guiding its functionaries towards receiving, managing, disseminating and account for the funds and the state specific programmes and instruction as per guidance from the Ministry of Health & Family Welfare, Government of India.

As per decision of GoG the state health society functions as resource centre in making any policies, developing operational guidelines, collaboration with developing partners, NGO's, Public private partnership, district wise fund disbursement, Human resource recruitment, infrastructure development, procurements of drugs and instrument.

State health society have different department for proper functioning of programmes headed by State Programme Officers, the department includes– Reproductive and Child Health, Planning, Monitoring and Evaluation, Infrastructure and Accreditation, Disease control and Surveillance, Training and Institutional Strengthening , Finance, Procurement, Administration, Additionalties.

It organizes training, meeting, conferences, policy review studies / surveys, workshops and inter-state exchange visits for deriving inputs for improving the implementation of NRHM in the Gujarat.

State health society is committed towards promoting the right of every citizen to enjoy a healthy life. Society is targeting to make health care accessible to the public by meeting the unmet demands of target population and assuring equal and responsive quality services.

NATIONAL RURAL HEALTH MISSION

The idea of Health programs in India was initiated in 1940 when the British Government in India set up " Bhore Committee" (also known as Health Survey & Planning Committee) headed by Sir Joseph Bhore. The committee submitted its recommendations in 1946 with elaborate planning for health services delivery in India to find out the ways to improve the health of people. This was followed by number of other committee & programs like Balwant Rai Mehta Committee, Community Development program, Basic Need program etc. These attempts were only partially successful in changing health scenario in country, and then government started understanding reasons for previous programs failures & then come up with NRHM to change the health condition in the country.

The National Rural Health Mission (NRHM) was launched by Hon'able Prime Minister of India on 12th April 2005, to provide **accessible, affordable & accountable** quality health services to rural population throughout the country. The mission aims to expedite achievements of policy goals by facilitating enhanced access and utilization of quality health services, with an emphasis on addressing equity and gender dimension. The National Rural Health Mission seeks to provide effective healthcare to rural population throughout the country with special focus on 18 states, which have weak public health indicators and/or weak infrastructure. These 18 States are Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand, Jammu & Kashmir, Manipur, Mizoram, Meghalaya, Madhya Pradesh, Nagaland, Orissa, Rajasthan, Sikkim, Tripura, Uttaranchal and Uttar Pradesh. The Mission is an articulation of the commitment of the Government to rise public spending on Health from 0.9% of GDP to 2-3% of GDP.

It aims to undertake architectural correction of the health system to enable it to effectively handle increased allocations as promised under the National Common Minimum Program and promote policies that strengthen public health management and service delivery in the country. It has as its key components provision of a female health activist in each village; a village health plan prepared through a local team headed by the Health & Sanitation Committee of the Panchayat; strengthening of the rural hospital for effective curative care and made measurable and accountable to the community through Indian Public Health Standards (IPHS); and integration of vertical Health & Family Welfare Program and Funds for optimal utilization of funds and infrastructure and strengthening delivery of primary health care.

Health Issues in Gujarat:

- High Maternal Mortality ratio, High Infant Mortality Rate & High fertility rate.
- Deteriorated Sex ratio, Low coverage of Immunization.
- High level of malnutrition among children of age 0-6 years, High levels of Anemia among children, adolescent girls and pregnant women, Very low coverage for Vitamin A and salt Iodisation (15 ppm & above).
- Substantial gaps in essential requirements in terms of manpower, equipment, drugs and
- Consumables in the primary health care institutions.
- Substantial gaps in health facility at sub- centre, primary health centre, community health centre & other health facilities also.

At the same time NRHM is facing some current challenges & issues as: Monitoring of programme, Capacity Building, Human resources, Waste Management, Infrastructure management, Inter sectoral-Convergence. As there are huge need & challenges to make improvement in health status of Bihar so NRHM plays an important role. ASHA Program, VHSND and District Health Planning have been undertaken by the State in a focused manner. This encourages decentralization and community participation, convergence and improved accountability of health systems at the grass root levels. In order to improve the status of health some of key interventions planned under NRHM are as follows:

A. Maternal Health & Child Health :

- ✓ Maternal Health (ANC, JSY, MCH Centres, FRU Operationalisation)
- ✓ Janani Shishu Suraksha Karyakaram (JSSK)
- ✓ Family Planning services
- ✓ Maternal Death Audit (MDR)
- ✓ Child Health (IMNCI, HBNC, FBNC)
- ✓ Nutrition Rehabilitation Centre (NRC)
- ✓ RBSK
- ✓ Routine Immunisation & Pulse Polio

B. Few Others Areas :

- ✓ ASHA
- ✓ Village Health Sanitation & Nutrition Day (VHSND)
- ✓ Village Health Sanitation & Nutrition Committee (VHSNC).
- ✓ District Health Action Plan
- ✓ Referral Transport & MMU
- ✓ GMSCL
- ✓ HMIS, DHS2, HRIS & MCTS
- ✓ Promotion of PPP initiatives with NRHM.

As Gujarat is a state with not very effective indicators, hence understanding the health scenario & its challenges, GoG launched NRHM with varieties of programs to improve the health status and to reduce morbidity and mortality rates. These programs broadly cover the whole health aspect and some of the programs are: JBSY, JSSK, RBSK, Anemia Control Program, Blindness Control Program, Vitamin – A Supplementation Program, Routine Immunization, NCD etc.

MATERNAL HEALTH

Maternal Health is vital component of health systems and refers to the health of women during pregnancy, childbirth and the postpartum period. Motherhood is often a positive and fulfilling experience, whereas for too many women it is associated with suffering, ill-health and even death. Maternal Health is important to communities, families and the nation due to its profound effects on the health of women, immediate survival of the newborn and long term well-being of children, particularly girls and the well-being of families.

Fifth Indicator of Millennium Development Goal (MDG) is reduction of Maternal Mortality Ratio. Reducing maternal mortality has arrived at the top of health and development agenda. To achieve the Millennium Development Goal of 75% reduction in the Maternal Mortality Ratio between 1990 and 2015, countries throughout the world are investing huge amount of energy and resources in providing equitable, adequate maternal health services. This requires a focused attention, as current MMR for the year 2010-12 (SRS) is 122 per 100000 live births. Therefore, focused interventions within ongoing maternal health program through sustenance of the strategies have been suggested for ensuring the progress towards the goal.

Though National Rural Health Mission has led to substantial investment and attention in revitalizing public health systems with strengthening of community process, increase in deployment of skilled human resource and improved management and decentralized planning. More work is being undertaken to provide quality services to the person coming to the healthcare facility with the main ideology of customer satisfaction with improvement in service delivery standards. The challenge for the State in Maternal Health is to sustain and improve the acceleration in maternal health indicators, reduction in Maternal Mortality Ratio, improvement of service delivery and other deliverables which are essential for the improvement of everything about maternal health especially the Maternal Mortality Ratio in the years to come.

Maternal Health Objectives:

1. To reduce Maternal Mortality Ratio by 60 by the year 2017.
2. To increase the Early ANC registration to 80% by 2013.
3. To increase the Full ANC coverage to 55% by 2013.
4. To increase the 3 ANC visits to 80% by 2013.
5. To increase institutional deliveries to 95% by 2013.
6. To increase coverage of post partum care to 95 % by 2013.
7. To increase access to Emergency Obstetric Care for complicated deliveries through strengthening of FRUs.
8. To increase access to early and safe abortion services
9. To ensure the Maternal Death audit of all Maternal Deaths.
10. To ensure JSSK entitlements in all Govt. institutions deliveries.

Table 1- MATERNAL HEALTH IN GUJARAT: A SNAPSHOT

Indicators (in %)	DLHS-III	CES(2009)	HMIS(2012-13)	HMIS (2013-14) upto December, 2013
Any ANC	71.5	94.8	1410872	1845610
3+ANC	54.9	83.2	1053927	1338698
Registration within 12 weeks	52.4	73.4	1028637	1274283
Full ANC	19.9	45.7		
Total Inst. Delivery out of estimated delivery	56.5	78.1	1116019(95.11%)	1328662(96.51%)
Inst. Delivery out of Reported Delivery				
At Public	56.5	78.1	433895	564872
At Private			682124	763790
Safe Delivery	62.1	85.2	18348	23439
Home Delivery	42.2	21.9	39089	24605
% of C-sections out of total reported institutional deliveries	NA	NA	6.62	9.2
At Public	NA	NA	37.06	47.39
At Private	NA	NA	62.94	52.61
% of anemic women out of total registered pregnancies	NA	NA	46.55	46.36
% of severely anemic women out of total anemic pregnant women	NA	NA	2.35	1.21

A. Outcome Indicators:

	Current status as on latest available data	Cumulative Target for next five Year	2012-13	2013-14	2014-15	2015-16	2016-17
Maternal Mortality Ratio(MMR)*	122	60	120	118	100	80	60

*Targets are as per GoI guidelines but achievement can vary depending on inputs.

ACTIVE MANAGEMENT OF THIRD STAGE OF LABOUR (AMTSL)

INTRODUCTION

The third stage of labour is considered to be the most critical part of childbirth due to the risk of post partum haemorrhage (PPH) (Rogers et al., 1998, El-Refaey and Rodeck, 2003). PPH is defined as excessive bleeding from the genital tract at any time from the baby's birth until six weeks after delivery. According to the World Health Organisation (WHO), normal blood loss during the third stage of labour should not exceed 500 ml (WHO, 2006). Although blood loss of up to 1000 ml may still be considered to be physiological and not life threatening in healthy women, blood loss of 500 ml can cause maternal death in a low-income country with a high prevalence of severe anaemia (Enkin,2000, McDonald, 2007).

Active management of the third stage of labour (AMTSL) has been demonstrated to decrease blood loss in women undergoing vaginal childbirth. Consequently, WHO, the International Council of Midwives (ICM) and the International Federation of Gynaecology and Obstetrics (FIGO) recommend that AMTSL should be implemented in all women undergoing vaginal deliveries in hospitals (Joint Statement, 2004, WHO, 2006). Childbirth can be considered to be a natural process and this recommendation and the need for AMTSL have thus been questioned by care providers who promote an intervention free birth process (Soltani, 2008, Hastie and Fahy, 2009).

This thesis aims at highlighting the importance of third stage of labour, effects of AMTSL on blood loss and women's experiences of after pains, as well as exploring staff nurses and female health workers experiences of managing this stage.

BACKGROUND

2.1 The third stage of labour

The third stage of labour 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. The contractions during the third stage of labour 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. 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 foetal 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 haemorrhage is also likely to be more abundant.

Prolonged third stage of labour, requiring manual placenta removal, increases the risk of PPH more than three-fold and is more common in preterm labour, augmented labour and nulliparity. 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.

2.2 Postpartum haemorrhage

PPH is one of the complications of childbirth, causing concern among healthcare providers because of the rapidity of its onset and the danger it can pose to women giving birth. As described earlier, PPH is defined as blood loss of more than or equal to 500 ml and severe PPH is defined as blood loss more than or equal to 1000 ml. Early PPH occurs within the first 24 hours post partum and late PPH from 24 hours to six weeks after childbirth. Field studies on the prevalence of PPH have demonstrated ranges of 10–20%, predominantly caused by uterine atony and retained placenta.

Known risk factors associated with major PPH are distended uterus, prolonged labour, previous PPH and multiparity. Nulliparity has also been identified as high-risk factors, as have hypertension, oxytocin augmentation, vacuum extraction and high birth weight. 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 labour that cause severe PPH. Causative factors for PPH can be summarised with the mnemonic of the four Ts: **tone** (uterine atony), **tissue**(retained placenta or placental tissues), **trauma** (perineal tears or episiotomy)and **thrombin** (coagulopathy).

It has been shown that there has been a trend toward increased frequency of PPH in high-income countries, such as Canada, Australia and the USA, between1991 and 2006. One nationwide study performed in the USA demonstrated that the rate of PPH increased by 27.5% from 1995 to2004, primarily due to an increase in the incidence of uterine atony. The same trend holds true for Sahlgrenska University Hospital in

Gothenburg, Sweden, where the number of women with blood loss more than 1000mlafter vaginal birth increased from 3.4% to 6.7% between 2000 and 2006. A recently published Norwegian study reports that the incidence of blood loss more than 1000 ml has increased over a 10–year period and that the frequency of obstetric interventions has also increased during the same period. Maternal blood volume increases during pregnancy and the average increase is about 40-45% at term. Some women nearly double their blood volume, whereas others only have a modest increase. This hypervolumea has several important functions, among which are safeguarding the mother against adverse effects of blood loss during the third stage of labour. Although the blood volume increase compensates for third-stage blood loss, action should be taken when a woman has lost more than one third of her estimated blood volume or 1000 ml, or when there is a change in vital signs. According to a literature review, it is important to recognise the clinical symptoms of various degrees of hypovolaemia and rapidly identify the cause of PPH.

2.3 Assessment of blood loss

It is well known that visual estimation of blood loss in the third stage of labour and post partum is inaccurate and inconsistent. However, it is the most rapid and easiest way to judge the quantity of bleeding. Several studies have reported that care providers underestimate blood loss by 30 – 50% and it has also been stated that the greater the loss, the greater the underestimation. It has been suggested that blood loss during the third stage should be assumed to be double the visual estimate if the later exceeds 500 ml.

Direct measurement by collecting blood in buckets, sanitary pads and towels is the oldest method for attempting to determine the quantity; however, the amount of other, intermingled fluids cannot be distinguished, rendering the estimate uncertain. Schornet al reported that visual estimation was less accurate than estimation by placing a plastic drape under the mother’s buttocks immediately after the birth of the neonate.

Laboratory methods such as photometry yield a more precise measure of blood loss and have been used in the post partum period. Photometry involves different technologies, one of which is converting blood pigment to alkaline haematin. This method is the most precise one, although too difficult and expensive to use in clinical practice.

An estimate of blood loss can also be derived by multiplying the calculated pregnancy blood volume by percent of blood volume lost and comparing the visual estimated

blood loss with the calculated estimated blood loss and the pre- and post-delivery haematocrit (HCT).

Some authors have declared that the actual quantity of blood loss is less important and suggested that the classification of PPH should instead be related to whether the hemorrhage has physiological effects or threatens the woman's life.

2.4 Uterotonic drugs

Uterotonic's have been known for more than a century. In the early twentieth century, there was a breakthrough in research on the pituitary gland, leading to the isolation and synthesis of oxytocin, for which Du Vignaud was awarded the Nobel prize in 1953. Several studies have shown that administration of uterotonic drugs, especially as part of AMTSL, reduces the incidence of PPH. A meta-analysis of five RCT (four were of good quality) by the Cochrane Collaboration showed that AMTSL contributes to a reduction of prolonged third stage as well as reducing the incidence of PPH.

Different types of oxytocin drugs were used in the studies. Intramuscularly administered oxytocin was exclusively used in one of the included studies, Syntometrine (a combination of 5 IU oxytocin and 0, 5 mg of ergot alkaloids) was used in two studies and ergot alkaloids were administered in one study. Nausea, vomiting and high blood pressure were reported when ergot alkaloids were used; this medication was also associated with more after pains.

An earlier Cochrane review of the prophylactic use of oxytocic's in the third stage of labour identified reduced blood loss and reduced need for further uterotonic drugs as benefits. There was a non - significant trend towards more manual removal of the placenta as well as an association with more raised blood pressure when ergot alkaloids were used, compared with oxytocin. It has been emphasized that once an uterotonic has been administered, it is important to deliver the placenta quickly in order to prevent retention. While oxytocin appears to beneficial for prevention of PPH, there is not enough information about its side effects. A

Swedish study reported signs of myocardial ischemia within one minute after administration of an IV bolus of 10 IU oxytocin although this effect appears to be transient.

An Australian RCT compared AMTSL versions entailing intramuscular Syntometrine and 10 IU intramuscular oxytocin, finding that the PPH rate was similar in both groups but that the disadvantages of Syntometrine justify the use of oxytocin. Intramuscular carbetocin (a long-acting oxytocin agonist) was compared with10 IU intravenous

oxytocin in a double-blind RCT. There was no significant difference in PPH or the need for additional uterotonics between the two groups.

Mesoprostol (a prostaglandin E1 analogue), originally designed to treat gastriculcers, has been proven to be effective in medical abortions and induction of labour by initiating contractions. It has also been recognized as a safe and efficacious drug for controlling PPH, as well as having undergone extensive testing for prophylactic use in the third stage of labour.

Several RCT on AMTSL demonstrate a decrease in blood loss but this drug is significantly associated with shivering, pyrexia and diarrhoea and is not recommended for routine use. However, the advantages of Mesoprostol are greater than the risks. In low-income countries, where most births take place outside hospital settings, oral Mesoprostol has been shown to be inexpensive, stable in tropical climates and easily used by care providers, saving maternal lives.

2.6 Cord clamping

Early cord clamping, meaning clamping the umbilical cord immediately or within one minute after the birth of the baby, was first included in the AMTSL concept. Delayed cord clamping, is defined as waiting 2-3 minutes after birth or for the pulsations to cease, and has been reported as both harmful and beneficial to babies. Studies have demonstrated significantly lower ferritin levels at age six months after early cord clamp. Delayed cord clamping is preferred at less than 37weeks' gestation since it is associated with less intraventricular haemorrhage and less need for transfusion. Delayed cord clamping increases infants need of phototherapy for jaundice, which should be weighed against the benefit of higher haemoglobin and iron levels at up to six months of age, especially in areas with poor nutritional status. Recently, it has also been pointed out that cord blood contains stem cells that should be transferred to the newborn, a natural phenomenon after birth which may be beneficial for age-related diseases. An updated Cochrane meta-analysis of cord clamping indicates that there is no risk for increasing PPH if cord clamping is delayed by two to three minutes after birth.

2.7 Uterine massage and cord drainage

Routine uterine massage after expulsion of the placenta can be valuable in decreasing blood loss, particularly where uterotonics are not available. One study demonstrated a reduction in blood loss and less use of additional uterotonics after AMTSL combined with persistent uterine massage, compared to AMTSL without uterine massage. It has been suggested that the umbilical cord should be left unclamped after it is cut, allowing

the blood to drain out. However, study results show neither an associated decreased duration of the third stage nor a reduced risk of feto-maternal transfusion.

2.9 Promotion of the normal childbirth process

Staff nurses have been characterized as protectors of normal childbirth. This includes not disturbing the first contact between the mother and her new born or the physiological process. Recommending AMTSL for healthy women in high-income countries, at low risk of PPH, has been criticized.

Recent decades have brought a rapid expansion in the development and use of a range of practices designed to regulate or monitor the physiological process of labour, with the aim of improving out comes for mothers and babies. In high-income countries where rationalization and institutionalization of obstetric care is widespread, questions have been raised about the value and desirability of such a high prevalence of interventions. The attempt to normalize childbirth appears to be decreasing, due to increasing resistance to offering individualized care in large obstetrician–led units with a high-tech approach.

Talks with Staff nurses have shown that they feel their professional identity is becoming altered and constrained due to the increasing use of technology and written guidelines in modern obstetrics. Skills and techniques, taking many years to develop, are becoming less valued. In addition, doctors have gradually increased monitoring of women undergoing normal deliveries, giving them more of an assisting role.

A ‘natural’ third stage of labour promotes skin-to-skin contact which strengthens the loving bonds; reproductive hormones are released and the level of oxytocin increases as the mother feels and touches her newborn. The high level of oxytocin provokes uterine contractions which enable the placenta to detach from the uterine wall and yield sustained haemostasis. A woman is still in labour before the placenta is delivered and she should not be disturbed by voices, phone calls, activities like cleaning the room or anything that can interfere with her attention. Exogenous oxytocin can not cross the blood – brain barrier and interrupts the release of natural oxytocin. Disturbed, the woman may not benefit from brain-based oxytocin and its behavioural effects.

Although AMTSL decreases the risk of PPH, some women may prefer physiological. Therefore, it is the responsibility of staff nurses to be skilled in AMTSL technique.

2.10 Safe Motherhood

It is estimated that approximately 343,000 maternal deaths occurred around the world in 2008, a decline from half a million in 1980. PPH is one of the leading causes of

maternal mortality, underlying an estimated 25% of maternal deaths. Half a million women in the world, a majority of whom live in low-income countries, die every year related to pregnancy and childbirth.

For every 100,000 live births in Africa, it is estimated that there are about 1000 maternal deaths, compared to 10 in Europe. In addition, it is estimated that for each maternal death, approximately 30 women suffer from severe injuries. Pregnancy is a normal physiological process, not a disease, but it does carry increased risks. Lack of action to prevent maternal deaths constitutes discrimination and social injustice, as only women face the risk of maternal death. It has been demonstrated that the life expectancy of females is longer than that of males in many countries. However, in low-income countries the opposite is true, indicating that women are less valued than men.

Although socio-economic conditions are the prominent cause of maternal mortality, it is not reasonable to simply wait for poverty to disappear; in the meantime, health care improvements are important. Better health care can make a difference in reducing maternal deaths but resources alone are not enough. The Safe Motherhood Initiative was introduced at a conference in Nairobi in1987 when the global problem of maternal mortality was brought into focus, after attention having mainly been devoted to children's health and survival.

The recommendations included constructing maternity health care centers in rural areas, provision of equipment and drugs, recruitment of skilled birth attendants (SBA) and referral systems for women at high risk or with serious complications. The conference was an effective beginning; since then, the problem of safe motherhood has received global attention.

In September 2000, 189 members of the United Nations adopted the Millennium Declaration and Goals aimed at improving the health of the world's people by 2015. Goal number five is specially addressed at improving maternal health: 'Reduce the maternal mortality ratio (MMR) by three quarters before 2015' (Goal 5A). There are no simple ways to reduce maternal mortality. Until now, progress has been too slow and it is therefore predicted that this Millennium Goal will not be achieved. The estimated reduction in maternal mortality and the global MMR was 1.3% in 2011. To achieve a 75% decrease would require a 5.5% reduction in maternal deaths per year.

SECTION B

DISSERTATION WORK

1. TOPIC-

Assessment of the Knowledge Attitude and Practice (KAP) amongst Staff nurses (SN)/ Female Health Workers (FHW) who have been trained for Active Management of Third Stage of Labour (AMTSL).

2. INTRODUCTION-

Repeated time over and again it has been proved that one of the main causes of Maternal Mortality is Post-Partum Haemorrhage (PPH). It therefore demands prioritization of implementation of key essential interventions such as AMTSL, infection prevention, screening and detection of pre-eclampsia. These represent highly cost-effective interventions whose importance has been repeatedly confirmed.

AMTSL is a familiar but poorly understood intervention amongst obstetric care providers. Improvement in healthcare quality and practitioner's adherence to recommended guidelines on AMTSL urgently requires educational interventions that target those who provide routine delivery care services and organization of the health care delivery system in such a way that enables providers to act on acquired knowledge. AMTSL has been demonstrated to decrease blood loss in women undergoing vaginal childbirth. Consequently, World Health Organization (WHO) and the International Federation of Gynaecology and Obstetrics (FIGO) recommend that AMTSL should be implemented in all women undergoing vaginal deliveries in Institutions/ hospitals (Joint Statement, 2004, WHO, 2006). Childbirth is considered to be a natural process and this recommendation and the need for AMTSL have thus been questioned by several care providers who promote an intervention free birth process (Soltani, 2008, Hastie and Fahy, 2009).

3. REVIEW OF LITERATURE-

Deborah Armbruster of POPPHI project of PATH concluded in her short paper that "AMTSL must be considered a required skill for all skilled birth attendants, and the drugs (preferably oxytocin) and supplies needed to implement the use of uterotonics effectively in AMSTL must be made available for routine use during childbirth wherever it occurs. Organizations working to save and improve the lives of women

must focus on addressing the major barriers to optimal practice of AMTSL around the world"

In the research article "The Key Challenges to Progress in Achieving MDG-5 in North Central Nigeria" by *Dalyop D. Nyango, Josiah T. Mutihir, Emmanuel P. Laabes, Joseph H. Kigbu, Mariam Buba of* Department of Obstetrics & Gynecology, Reproductive Health Unit, Jos University Teaching Hospital, Jos, Nigeria, it has been clearly mentioned that Post partum haemorrhage (PPH), is defined as blood loss in excess of 500 ml or more following childbirth, accounts for around 30% of maternal deaths globally. Majority of deaths are a consequence of events in the third stage of labour. Routine active management of the third stage of labor (AMTSL) to prevent PPH is an evidence-based, feasible, low-cost intervention that can effectively prevent 60 percent of uterine atony, but erratically practiced in many developing countries.

Festin MR, Lumbiganon P, Tolosa JE, Finney KA, Ba-Thike K, Chipato T et al (2003) in a study conducted has shown that there has been a decline in trend towards frequency of PPH in high-income countries, such as Canada, Australia and the USA, between 1991 and 2006 after the use of AMTSL.

Winter C, Macfarlane A, Deneux-Tharaux C, Zhang WH, Alexander S, Brocklehurst P, Bouvier-Colle MH, Prendiville W, Cararach V, van Roosmalen J, Berbik I, Klein M, Ayres-de-Campos D, Erkkola R, Chiechi LM, Langhoff-Roos J, Stray-Pedersen B, Troeger C (2007) in his study in European survey of policies for management of the third stage of labour in 14 countries demonstrated that between 72% and 100% of all maternity units used uterotonics as prophylaxis; administration of oxytocin, unaccompanied by other medications, was common, thereby reducing PPH with usage of AMTSL.

4. RATIONALE-

Active management of the third stage of labour (AMTSL) can make a significant contribution to the reduction of Maternal Mortality. The components of AMTSL, as outlined in the November 2003 Joint Statement of the International Confederation of Midwives (ICM) and the

The aim of study is to highlight the knowledge and practice of AMTSL in managing third stage of labour, by seeing the knowledge level of staff nurses/FHW and also seeing the attitude for using AMTSL. The basic practise method used, the way of storage of drug and finally the problems faced in implementing it.

5. RESEARCH QUESTION-

What is the level of knowledge, attitude and practice regarding AMTSL amongst SN/FHW who have been trained in AMTSL?

6. OBJECTIVES-

General-

To assess the level of knowledge, attitude and practice regarding AMTSL amongst SN/FHW who have been trained in AMTSL

Specific-

1. To access the retention of knowledge of SN/FHW about AMTSL practice.
2. To study the attitude of acceptability of AMTSL practise by them.
3. To study the effect on practise of AMTSL.
4. To study the problems faced by them during AMTSL.

7. METHODOLOGY-

Study design: The present study was descriptive cross sectional study. The study was conducted in six Districts of Gujarat. Twelve healthcare delivery services centre (two form each district) were selected based on the criteria of delivery load and SN/FHW trained in AMTSL.

Study area and duration: The study was conducted from 01 February, 2014 to 30 April, 2014 in the selected healthcare facilities.

Selection of Districts/ Healthcare facilities: One District was randomly selected (simple random sampling) from all six regions of Gujarat, namely- **Kheda, Banaskantha, Amreli, Navsari, Porbandar, Dahod**). This randomly selected District's were taken for the study. For selection of healthcare facilities where the SN/FHW have been given AMTSL training would be taken randomly of the selected district's.

Sampling: In the given area, a list of healthcare facilities having AMTSL trained SN/FHW was obtained. Out of them, two hospitals were selected based on AMTSL trained SN/FHW and load of delivery. Thus a sample of 10 SN/FHW from each type of facility was randomly selected for the study which in all amounted to 120 AMTSL trained staff nurses. 120 sample size was taken up purposefully for the ease of study and due to time constraints.

Furthermore a standard checklist was used to evaluate the attitude and practice of AMTSL during delivery process. For the same at-least two deliveries occurring either under SN or FHW was observed/ recorded.

Data Type: Primary data was collected from the field through semi structured interview schedule. Pre tested questionnaire was used to collect the data. The schedule included questions regarding the AMTSL method, knowledge attitude and practice of service. The questionnaire also focused on understanding the challenges or difficulties faced by them in providing services to the mother. Furthermore at least two deliveries were observed per facility chosen against standard checklist (checklist of MoH&FW) and guideline in order to access the attitude and practice of AMTSL. Data analysis was done using Microsoft Excel 2007.

8. ANALYSIS

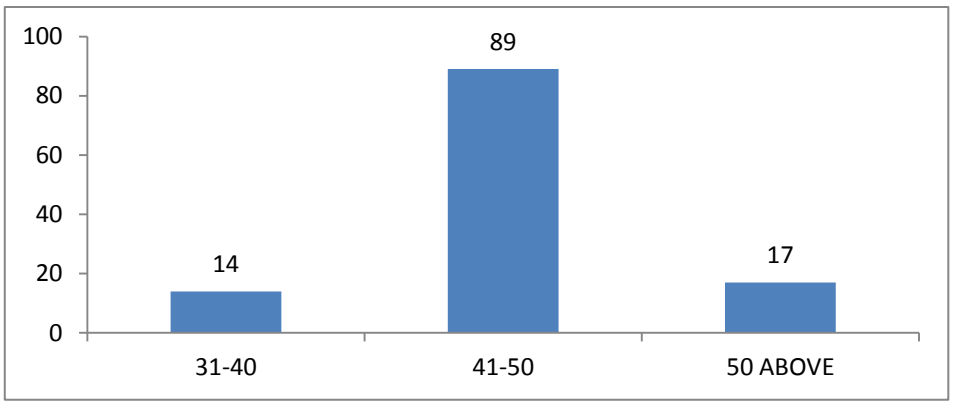
Table 2- Demographic Distribution of SN/FHW (N=120)

1.	**AGE**	FREQUENCY	PERCENTAGE
	31-40	14	12
	41-50	89	74
	50 ABOVE	17	14
2.	**SEX**		
	MALE	14	12
	FEMALE	106	88
3.	**WORK PROFILE**		
	STAFF NURSES	100	83
	FHW	20	17
4.	**TYPE OF POSTING**		
	REGULAR	78	65
	CONTRACTUAL	42	35
5.	**YEARS OF EXPEERIENCE**		
	0-5 YEARS	2	1
	6-10 YEARS	30	25
	11-15 YEARS	65	54
	16 ABOVE	23	20

The table shows demographic distribution of staff nurses on the basis of age, sex, work profile, type of posting and number of years of experience. Highest frequency of age is of group 41 to 50 years, females are approximately eight times more than males. Highest frequency is 65 for 11 to 15 years of experience which is about 54% of the total sample size (120).

8.1 AGE OF STAFF NURSES/FHW-

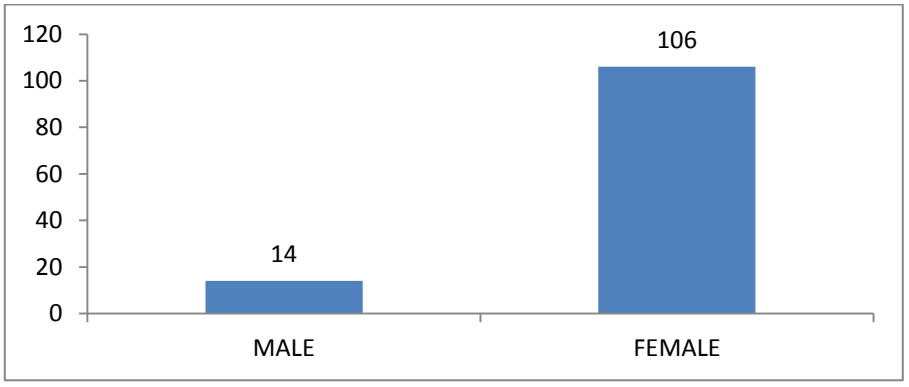
Figure 1- Age Distribution of SN/FHW



The staff nurses and female health workers who were considered for schedule were broadly classified into three major age groups with maximum (74%) in the age group of 41 to 50 years where as nearly equal percentage distribution was seen in age group 31 to 40 and 50 above age group.

8.2 SEX

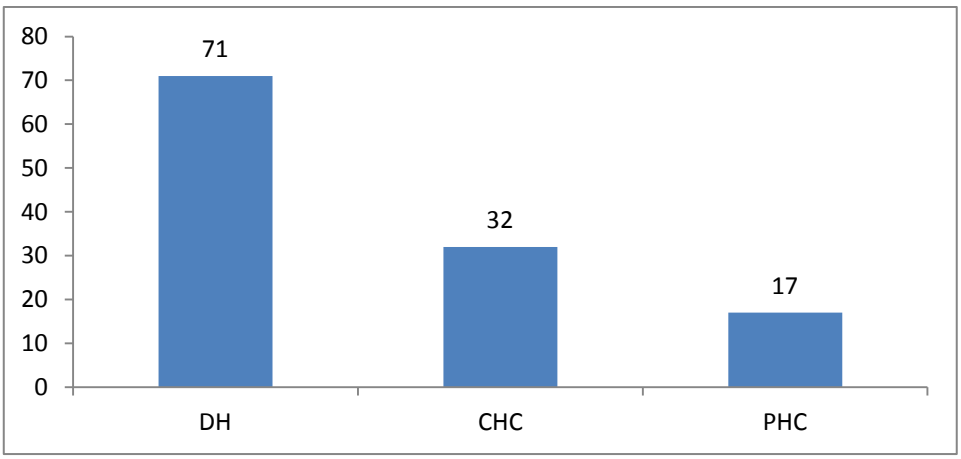
Figure 2- Distribution sex wise



Only 14 of 120 samples taken were male staff nurses known as staff brothers where as 106 of 120 were female staff nurses which is nearly 88% of total sample taken. Predominantly the posts of staff nurses are still occupied by female candidates with a slight penetration of male staff brothers showing transition phase of work gender culture.

8.3 PLACE OF POSTING

Figure 3- Distribution Place of posting



71 out of 120 (60%) of samples taken are posted in District Hospitals taking into consideration the heavy load of delivery as well as continuous utilization of services of skilled birth attendants due to referral as well as direct reporting. 32 (27%) are posted at various CHC with work load moderate to severe for deliveries. Rest 17 (14%) are posted at PHC which cater the population with heavy work load, hence rational deployment of SBA trained staff nurses is seen for posting.

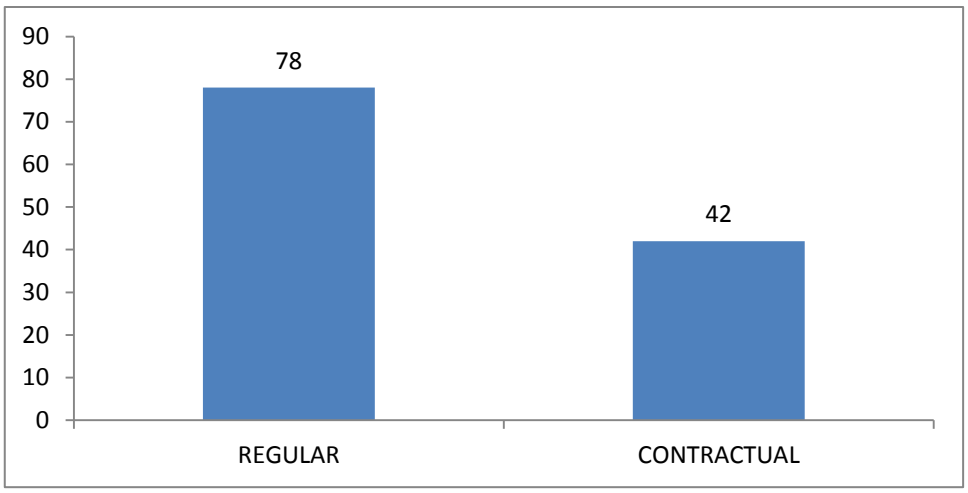
Table 3 Distribution of Place of posting

POSTING	FREQUENCY	PERCENTAGE
DH	71	59.17
CHC	32	26.67
PHC	17	14.17

With major chunk of staff nurses posted at District Hospital shows availability of trained human resource at tertiary care hospital which is a good sign because most of the complicated cases are referred to district hospital and also huge workload requires adequate human resources. When looked for the distribution of manpower, about 59% were posted in DH, 27% at various CHCs and 14% at PHC with huge workload of deliveries.

8.4 TYPE OF POSTINGS

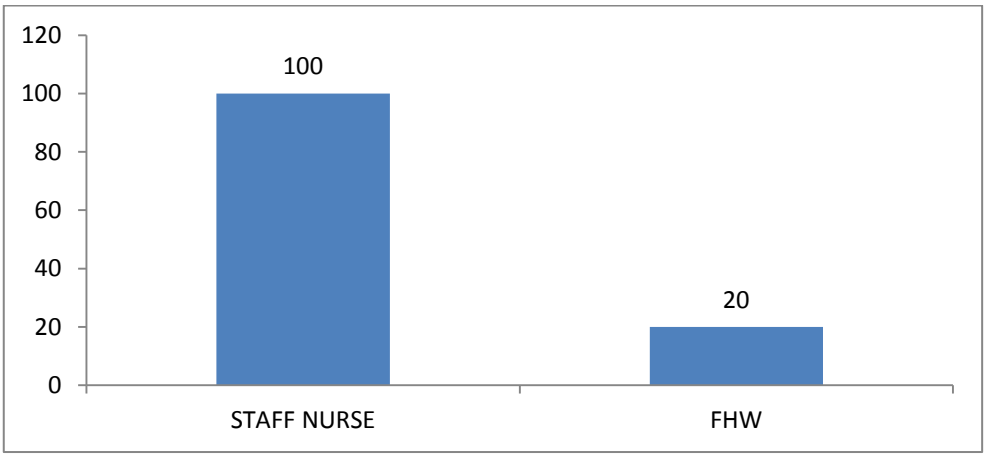
Figure 4- Distribution Type of Posting



With nearly 65% (78) staff nurses posted as regular staff is almost double of the staff nurses posted on contractual basis which amounts to 35% (42) out of total sample of 120. The contractual staff nurses are distributed all across the state and are working at par to regular staff nurses.

8.5 WORK PROFILE

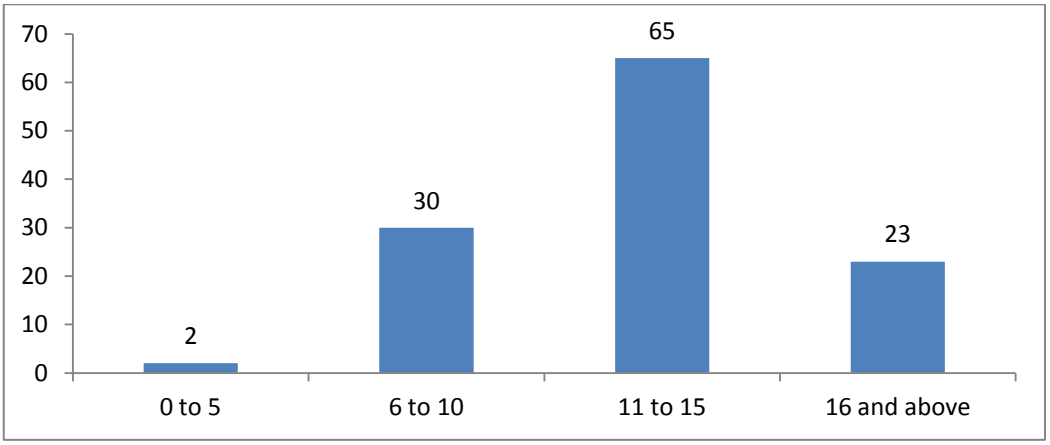
Figure 5- Distribution Work profile



Out of 120 samples taken for the research purpose 100 were staff nurses where as remaining 20 were female health workers. They are providing their help and support in conducting successful deliveries and ultimately helping quality service delivery.

8.6 YEARS OF EXPERIENCE

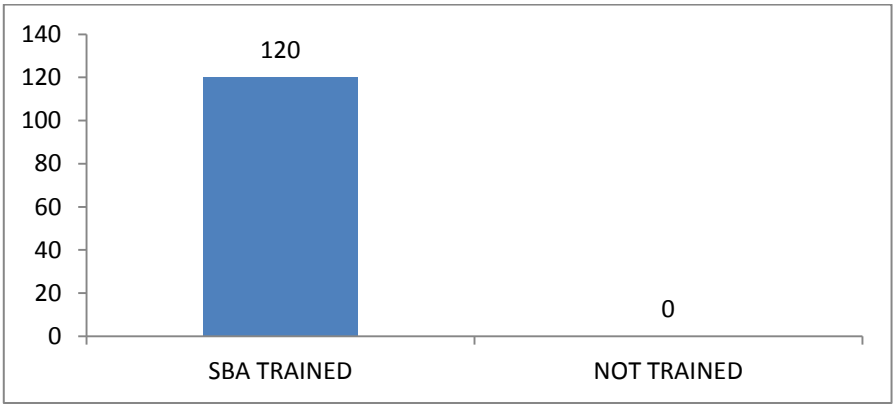
Figure 6- Distribution Years of Experience



Taking into consideration the years of experience, Gujarat has a rich human resource of experienced staff nurses as far as SBA training is concerned, 23 out of 120 (20%) are having experience of 16 or more than 16 years. 65 (54%) have clinical experience in SBA and AMTSL of 11 to 15 years which shows a good knowledge background for delivery care services. 30 (25%) have experience of 6 to 10 years in conducting deliveries which again shows experienced hands for the same. Only two (1%) have experience of less than 5 years.

8.7 WHETHER SBA TRAINED OR NOT

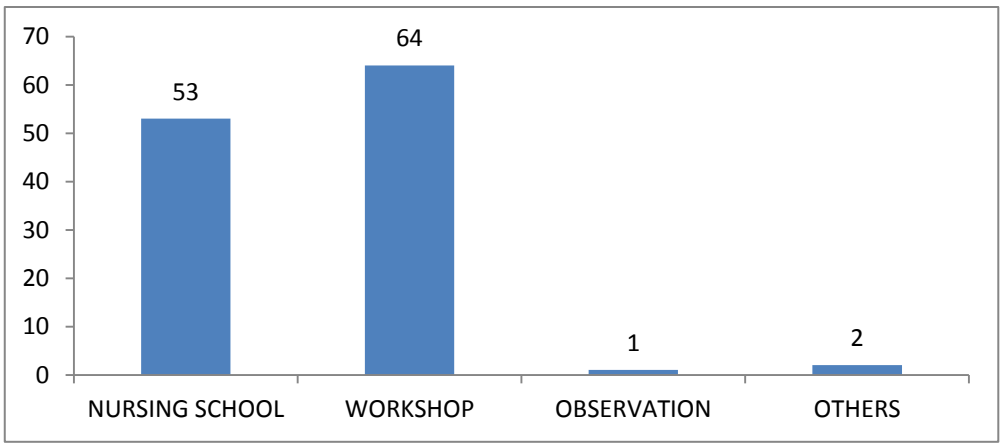
Figure 7- Distribution Whether SBA trained or not



All the 120 samples were SBA trained through various mode of learning. This indicated a good pool of trainers and professionals who constantly travel all around Gujarat to provide constant supportive supervision and capacity enhancement to staff nurses.

8.8 PLACE OF OBTAINING EXPERTISE

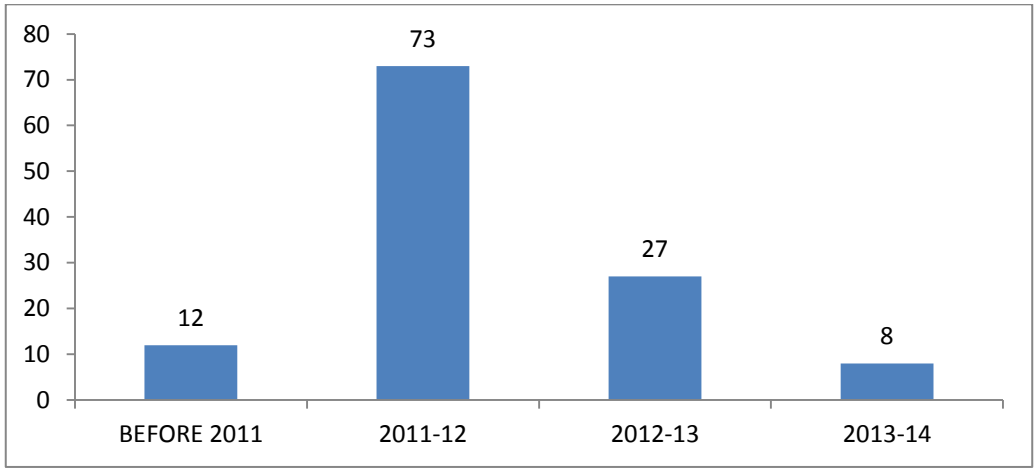
Figure 8- Distribution Place of Obtaining Expertise



State level workshop and skills lab training has proven to be helpful with 64 out of 120 (53%) obtaining expertise on AMTSL from it. Though importance of nursing school cannot be under-estimated with 53 out of 120 (44%) getting knowledge of AMTSL from there. At the same time it also shows that nursing education regarding AMTSL training needs to be improved and requires changes to be made for its upgradation in order to impart 100% knowledge on AMTSL. Nursing school can play a very crucial role in improving the situation of low knowledge level of AMTSL. Training right from the nursing school will make the base strong and will help to achieve 100% level of knowledge. Though a tedious process if it is implemented will create a pool of staff nurses which will not only be qualified in AMTSL for practising it but in future can be used as a resource pool for imparting training. The point which must be kept in mind is the education standard must be maintained to provide quality education. A meagre one and two of 120 obtained expertise from observation and other sources of learning respectively. Though all had formal training at nursing school but the latest place of learning was taken into consideration. Others included a certificate course which they undertook for the AMTSL while one reported that she saw AMTSL and developed interest in doing it.

8.9 YEAR OF OBTAINING EXPERTISE

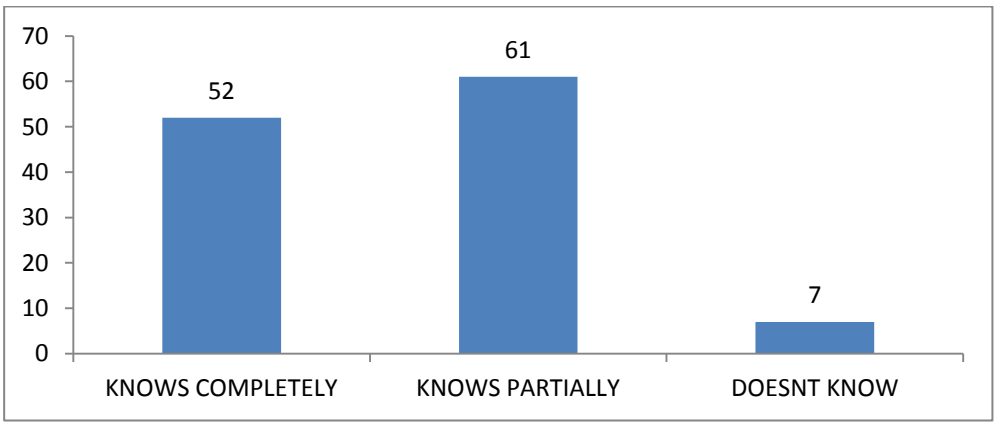
Figure 9- Distribution Year of Obtaining Expertise



The analysis shows 73 out of 120 (more than half- 61%) obtaining expertise in year 2011-12, where as 12 out of 120 in year 2011 or before, similarly 27 out of 120 obtained AMTSL knowledge in 2012-13 and eight in 2013-14.

8.10 KNOWLEDGE ABOUT FULL FORM OF AMTSL

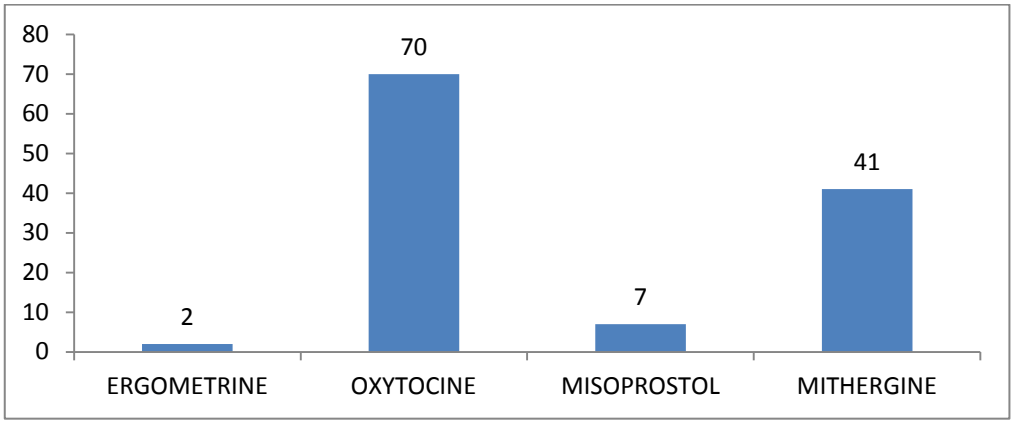
Figure 10- Distribution Knowledge about Full Form of AMTSL



Though staff nurses are trained in SBA still knowledge level of all 100% of them is not upto the mark. Only 52 of 120 (43%) could recall the full form of AMTSL which shows that they do not brush up the knowledge constantly. The good thing which came out of analysis is that only seven did not know at all the full form of AMTSL. Majority of staff nurses fell in the category of knowing full form of AMTSL partially which is 61 out of 120 (nearly 51%) of total respondents.

8.11 NAME OF FIRST LINE UTEROTONIC DRUG

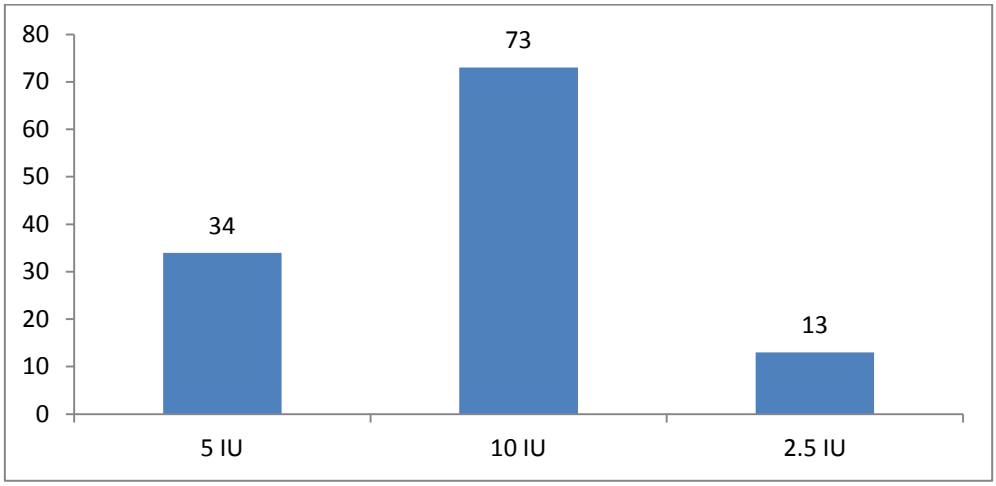
Figure 11- Distribution Name of First Line Uterotonic Drug



Assessment of knowledge was done by asking about the drug of choice for AMTSL which showed that more than half (58%) that is 70 out of 120 replied oxytocin as first line of drug for AMTSL, but at the same time 41 out of 120 (34%) replied methergine as first line of drug which is a matter of concern for correct protocol of AMTSL. Rest nine replied that ergometrine and mesoprostol is the drug of choice for AMTSL.

8.12 DOSE OF FIRST LINE DRUG

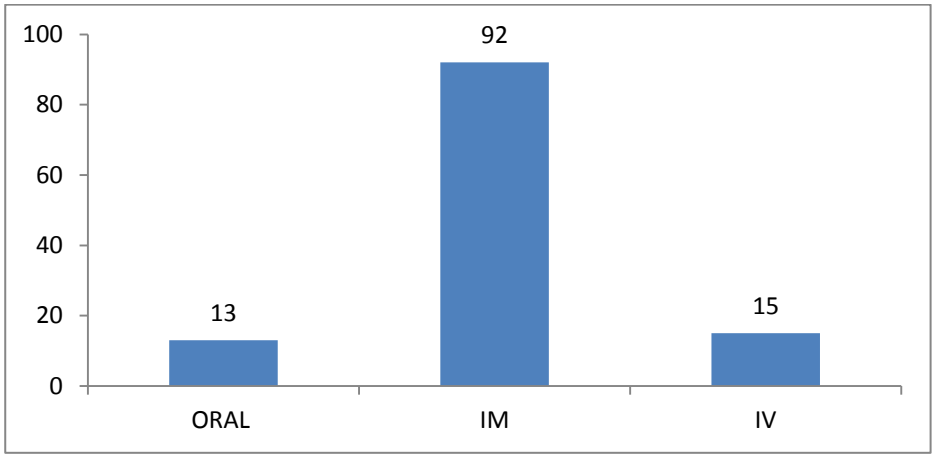
Figure 12- Distribution Dose of First Line Drug



Seventy three out of 120 (61%) respondents told 10 IU as the recommended dose for oxytocin whereas 34 and 13 told 5 IU and 2.5 IU as the recommended dose respectively which totally amounts to 39% of the total responses. Though the correct answer is double of wrong answer still one-third of staff nurses are not aware about the correct dose of oxytocin which is an alarming situation creating concerns for trainers.

8.13 ROUTE OF OXYTOCIN ADMINISTRATION

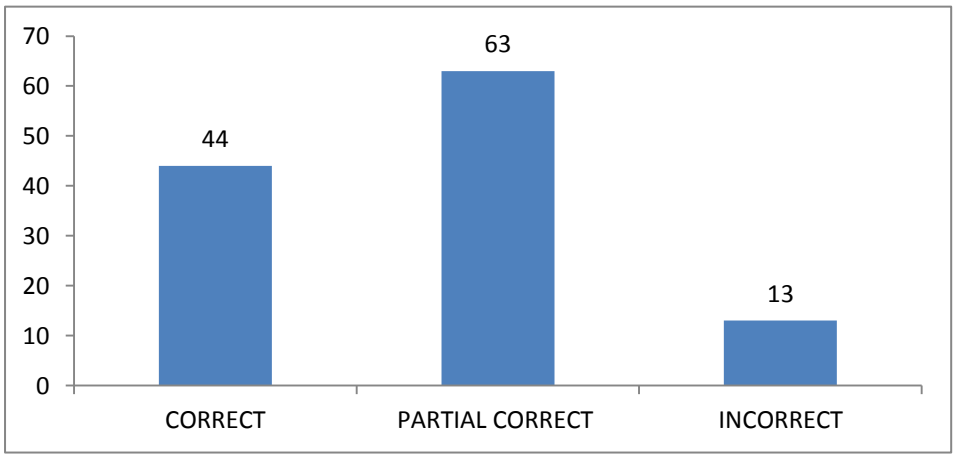
Figure 13- Distribution Route of Oxytocin administration



Seventy seven percent (92 out 0f 120) of the respondents told Intramuscular administration of oxytocin as the correct route of drug administration. Intravascular and oral route of drug administration came out to be 13% and 11% respectively.

8.14 SEQUENCE OF AMTSL

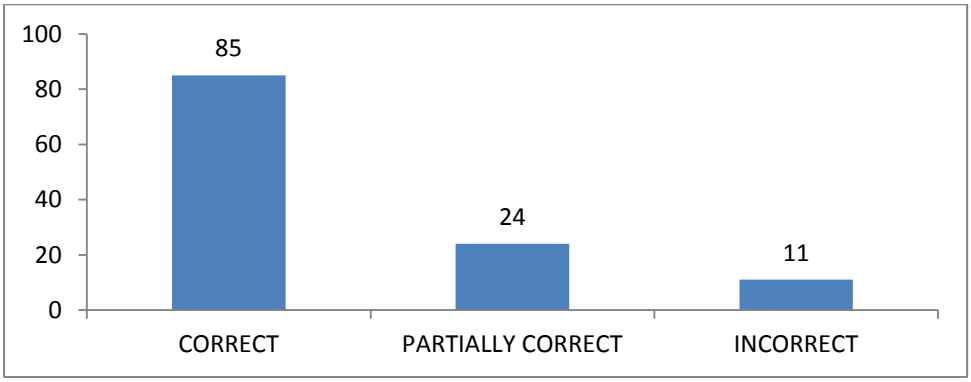
Figure 14- Distribution Sequence of AMTSL



Sixty three percent of responses were wrong which includes both partially correct as well as incorrect responses, whereas 44 out of total 120 (37%) responded correctly about the sequence of AMTSL. Again two-third of respondents are not aware about the correct sequence of AMTSL steps, which shows that either the training has not been effective or the staff nurses have not taken the training seriously or lack of motivation has led to lack of involvement in learning process.

8.15 CONTRAINDICATIONS/ HARMFUL PRACTISE OF AMTSL

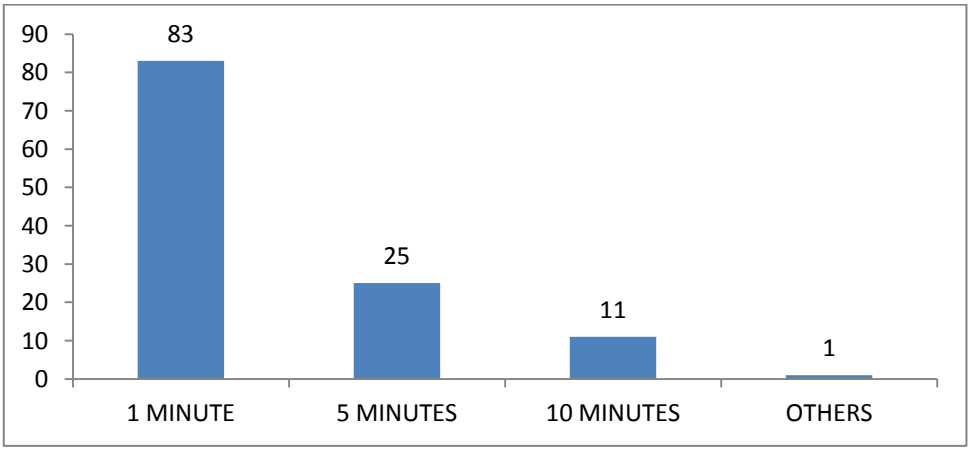
Figure 15- Distribution Contraindications/ harmful practise of AMTSL



Though the graph shows high number of correct responses by staff nurses regarding harmful effects and contraindications of AMTSL (85 out 0f 120) still 35 did not know the contraindications of AMTSL, which include both partial as well as incorrect answers. If partial correct and incorrect answers are bifurcated it comes out to be 24 and 11 respectively.

8.16 TIME TAKEN TO COMPLETE AMTSL PROCEDURE

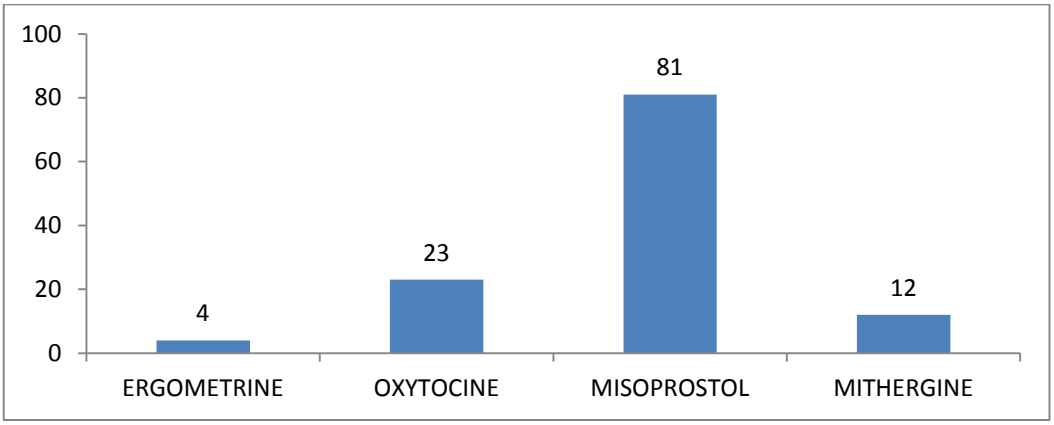
Figure 16- Distribution Time Taken To Complete AMTSL Procedure



It was asked that what is the correct time to complete AMTSL and 69% responded correctly by saying in one minute, where as rest 31% (total 37 out of 120) responses were wrong, they either said five minutes or 10 minutes or some other response. Again the two-third replied correct answer which shows that nearly one-third of staff nurses are not aware about the correct timing of AMTSL completion.

8.17 SECOND LINE OF DRUG OF AMTSL

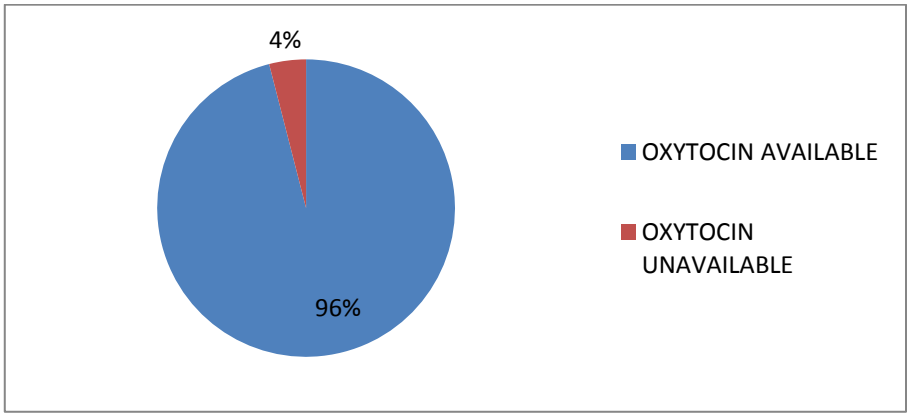
Figure 17- Knowledge about the Second Line Drug of AMTSL



Mesoprostol being the second line of drug in case of AMTSL was responded correctly by 81 out of 120 (68%) where as rest 32% responded wrongly either by saying ergometrine, methergine or oxytocin.

8.18 AVAILABILITY OF OXYTOCINE AT FACILITY

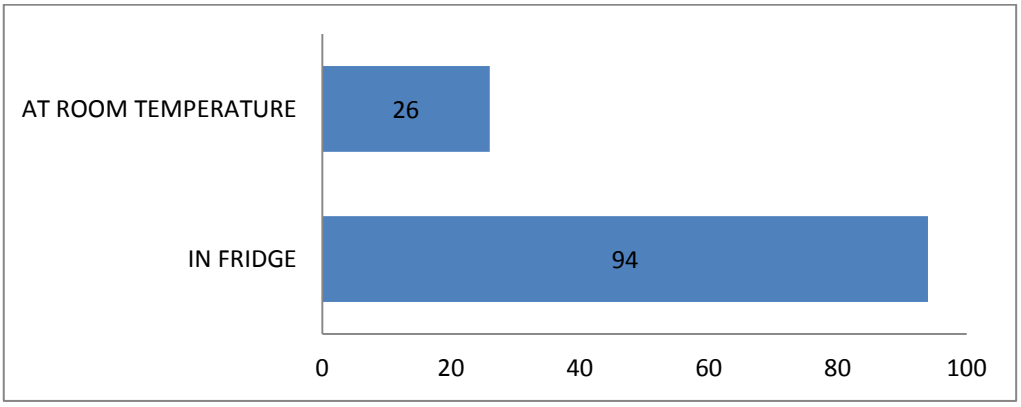
Figure 18- Distribution Availability of Oxytocin at Facility



When the availability of oxytocin was checked then almost 96% (115 out of 120) of the staff nurses told that it was available with them, only five (4%) did not had the drug with them, which was mainly due to stock out and non replenishment of drug. When asked about the turnover of stock, a time gap of seven days came out which again is a matter of concern because the deliveries in those seven days get affected badly due to unavailability of drug defying the principle of right dose, at right time at right place for right purpose for right person. As far as number of facility with oxytocin stored in available was concerned 93% (27 out of 29 facilities visited) had oxytocin stock.

8.19 STORAGE OF OXYTOCIN

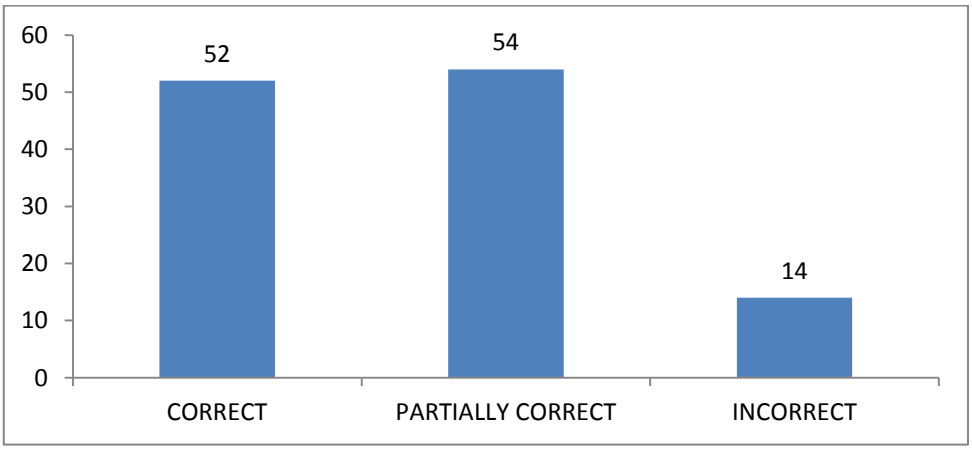
Figure 19- Knowledge about the Storage of Oxytocin



When asked about the storage of oxytocin then 78% (94 out of 120) told that it is stored in fridge and when it was verified physically it was found to be correct, 22% (26 out of 120) responded wrongly and said it is stored at room temperature and when physically verified 19 out of 26 had stored oxytocin in cabinet. It must be extensively included in training curriculum to tell about storage of oxytocin.

8.20 CORRECT SEQUENCE OF STEPS OF AMTSL

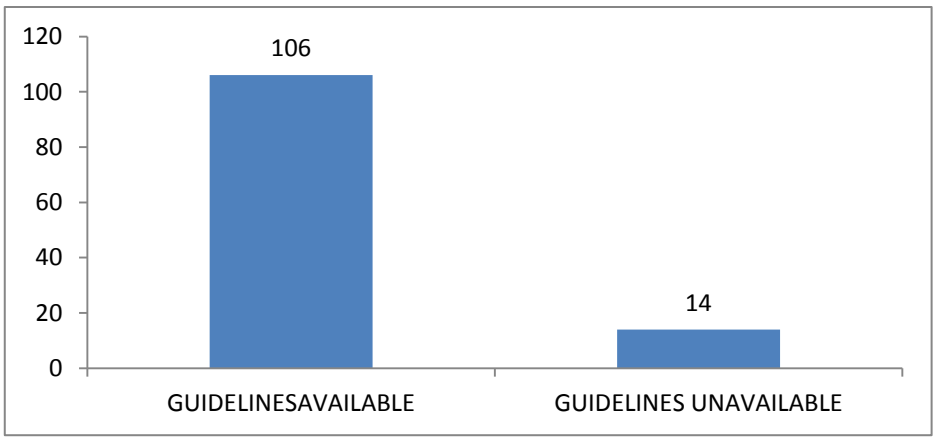
Figure 20- Distribution Correct sequence of steps of AMTSL



All the staff nurses were asked to enumerate all the steps of AMTSL, in which more than half (57%) were not able to enumerate all the six steps of AMTSL where as 43% (52 out of 120) told correct sequence and steps of AMTSL. If the incorrect answer is bifurcated into partially correct and incorrect then the figure comes to 54 and 14 respectively. Though the steps are more in number but still if the sequence is not remembered how the protocol will be followed.

8.21 AVAILABILITY OF GUIDELINES

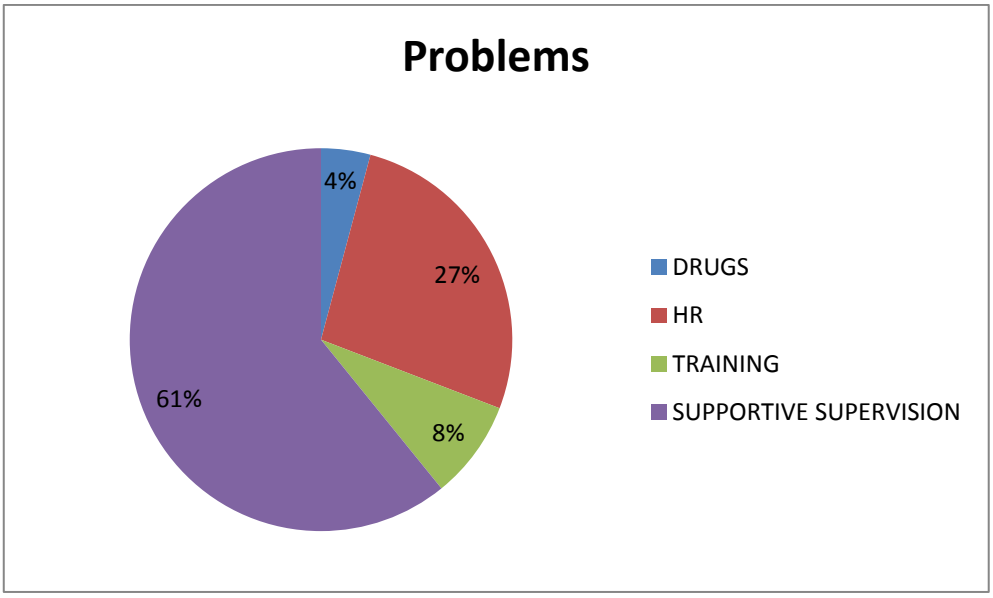
Figure 21- Distribution Availability of guidelines at the facility



Eighty eight percent of facilities visited had guidelines available with staff nurses where as 12% (14 out of 120) staff nurses did not have guidelines with them. Hence it cannot be said that the staff nurses are at fault. The availability of guidelines has to be ensured up till the ground level for reference.

8.22 PROBLEMS FACED IN IMPLEMENTING AMTSL

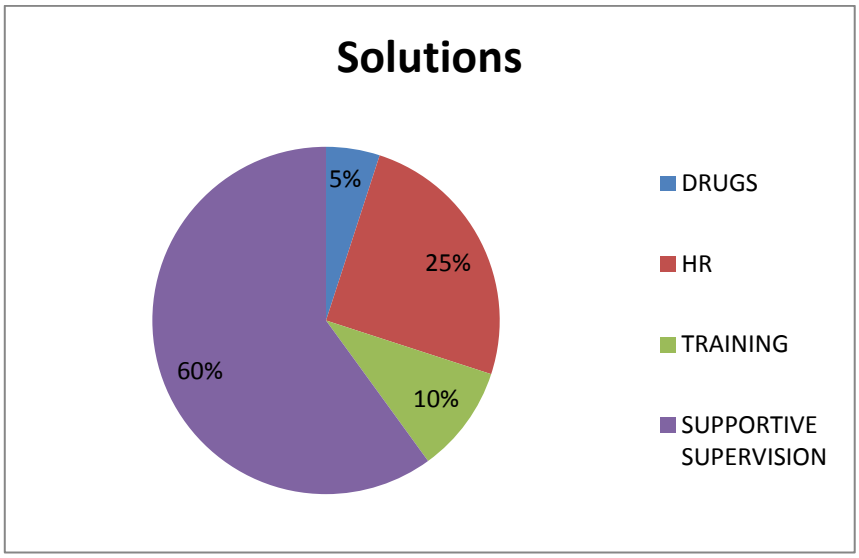
Figure 22- Percentage Distribution Problems faced in Implementing AMTSL



When asked about problems faced in administering AMTSL almost all SN/FHW have combination of problems ranging from availability of drugs, lack of training, lack of supportive supervision, lack of additional human resource but for the convenience purpose the problems were classified broadly into four categories namely unavailability of drugs, lack of human resources, lack of training and lack of supportive supervision. The analysis clearly shows 73 out of 120 complaining about lack of supportive supervision at the time of delivery or otherwise, next major problem is lack of human resource which accounts to 32 out of 120 responses, other minor problems include 10 and 5 lack of training and lack of drugs respectively.

8.23 SUGGESTIONS GIVEN BY SN/FHW

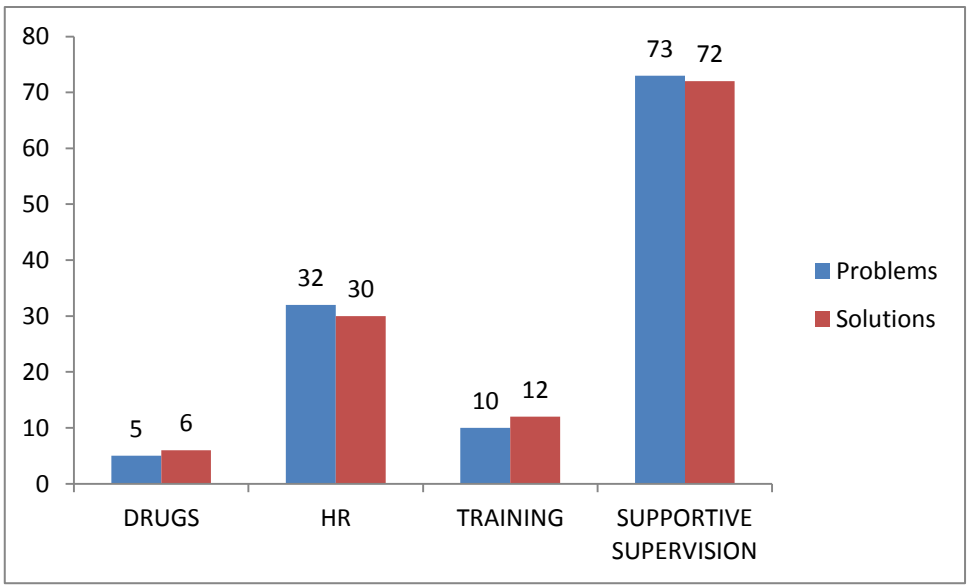
Figure 23- Percentage Distribution Suggestions Given by SN/FHW



Similar was the case with when asked for suggestions, a number of suggestion poured in which ranged from a variety of issues but for convenience purpose it was divided broadly into four basic sections namely timely availability of drugs, additional human resources, more sessions of training and increased frequency of supportive supervision. Surprisingly the answer followed the same pattern as that of problems with one or two minor changes. Supportive supervision and hand holding sessions suggestions crossed 70 mark out of 120, whereas timely availability of drugs and more sessions of training showed same response of 6 and 12 respectively, additional provision of human resources was also suggested by 30 out of 120 (25%) of responses.

8.24 PROBLEM VS SUGGESTION

Figure 24- Relation of Problems to suggestion



When problems versus suggestions is analysed it becomes evident that they are related to each other and follow the same pattern. Where the problem of drugs is reported by five of respondents, six say that timely availability of drugs will help to improve AMTSL procedure. Similar pattern is also seen in inadequate human resources and training. The pattern of supportive supervision also has the similar pattern with problems versus suggestions is 73 and 72 out of 120 respectively.

Hence the problems seen by them are also viewed and solutions are analysed by them. They work at ground level and see the situations in a better way.

The analysis gave a deep understanding about the AMTSL implementation. Good learning and understanding was there with the field visit which gave an insight about the knowledge, attitude and practise level of staff nurses and female health workers and helped to understand the situation in a better way. Also the gaps were visualised and will help to find out solutions so that comprehensive remedies can be taken out of it.

LEARNINGS AND FEEDBACK

AMTSL being one of the most important components now days to prevent Maternal Deaths is being implemented in state of Gujarat. The ground level staff nurses were having knowledge and were familiar with the procedure and were willing to perform it but with slight reluctance. Handholding and supportive supervision if provided to them either from the district level or state level will definitely improve the situation ultimately providing effectiveness and improvement of quality service delivery. Most of the staff nurses were in the age group of 41 to 50 years (74%) and were qualified and have experience of over five years (11-15 years experienced staff number crosses 54%) which is a great asset for Health department of state of Gujarat because competent human resource will help in delivering proper health care services to the people there by increasing faith in government health care system.

Internal customer satisfaction was one of the major issues which came up several times, rational deployment of staff nurses must be taken up without delay in order to build up confidence and perform better. Rational deployment at high delivery load facilities is the need of the hour. It is in line with the policies of Government of Gujarat which clearly state that provision of quality delivery in services and maximum utilization of available resources must be taken on priority basis. Hence rational deployment of AMTSL trained SN must be seen as an important step for delivering quality services.

Though workshops have a good impact on the knowledge level of staff nurses but research work and that too extensive research is required to upgrade knowledge and skills on AMTSL by staff nurses working in maternity wards.

When asked about the year in which they did expertise it showed reducing trends of taking up expertise over last three years which indirectly highlights more training session and workshops to be done with exclusive stress on AMTSL.

After several workshops and continuing nursing education, the knowledge level of many of the staff nurses still required hand holding and supportive supervision. Though the analysis suggest that basics of AMTSL like full form was correctly told by only 43% respondents which may not create an issue but if they do not know the procedure of implementing can create harm. When looked for the knowledge level about storage

of oxytocin 86% responded correctly which shows a good knowledge about it and also slight effort will raise the bar to 100%.

This also corresponds to availability of oxytocin at almost all facilities (96% of facility had oxytocin) with a turnaround time of seven days but when asked about the drug of choice for AMTSL only 58% (70 out of 120) responded that oxytocin is first line drug for AMTSL, in-fact 34% told methergine as the drug of choice for AMTSL.

When asked what is to be done in AMTSL, 44 (37%) responded correct way of administering it, whereas rest 63% either told wrong way or partially correct way of administering AMTSL. This if taken up on priority scale can improve the service delivery.

Almost 60% of trained AMTSL staff nurse and FHWs are posted in district hospitals while rest 40% are distributed across rest of facilities. This can be taken as rational because all complicated cases are referred to tertiary care hospitals and trained manpower is required in order to handle such cases.

When nearly 88% of staff nurses are females it is expected that they would understand the problems and pains faced by the mother during delivery and hence will perform their duties with utmost attention and upto the satisfaction of not only the customer or beneficiary but also for herself.

When asked to enumerate all the steps of AMTSL sequentially only 52 out of 120 (43%) could tell correct sequence of AMTSL whereas 57% either responded wrongly or partially correct answer, this shows that once taught no supportive supervision or constant monitoring is done to keep updated with the knowledge. Also they mechanise the work without using their brains, may be because of excessive workload. AMTSL most crucial thing is timing of administering drug, when asked about the timing for AMTSL 83 out of 120 (69%) responded correctly but if the timing for administering was increased to 5 minutes the response correctness rose to nearly 90 percent.

Similarly when asked about the dose of oxytocin to be given for AMTSL 73 out 0f 120 (61%) responded correctly about dose of oxytocin as 10 IU, whereas rest 39% responded incorrect. Route of drug administration was also asked to check knowledge level in which 77% (92 out of 120) responded that the route of administration of oxytocin is intramuscular.

Another major issue which was touched when judging knowledge about AMTSL was about contra indications and harmful effects of AMTSL, 85 out of 120 which is nearly 70% told about the contra indications of AMTSL but problem arose why rest 30% (35/120) could not respond correctly or responded partially creating a loop hole in quality service delivery to beneficiary.

When asked from where the expertise was taken about AMTSL the importance of workshop was highlighted but at the same time nursing school teachings also came up. The number were almost equal for taking expertise from workshop and nursing school with 64 and 53 respectively, this shows the importance of curriculum revision in nursing school about AMTSL so that good knowledge can be imparted right from the beginning.

The most positive thing which came out was the availability of oxytocin at the facility, almost 100% (precisely 96%- 115 out of 120) had oxytocin and it was verified physically. Another important thing which came out of analysis was that 106 out of 120 (84%) had the AMTSL guideline note at the facility itself.

When asked about the second line of drug for AMTSL 68% responded correctly by saying mesoprostol whereas rest 32% either told oxytocin, methergine as the second line of drug.

Hence it can be said that though with experienced workforce and lots of training imparted still more efforts are required in order to reach a satisfactory level of AMTSL practice. Resources are available now it is the time for rational and specific utilization of these scarce resources for betterment of service delivered to beneficiaries.

CONCLUSION

The study revealed different aspects of learning's, but the points which emerged as the main points of conclusion are-

1. Refresh cascade training has not being conducted since long time ago and hence is required for improving service delivery. SNs/FHWs do not get refreshers course to brush up their knowledge and also such training sessions are not organised frequently
2. Guidelines were available at the health care facilities but were not being used as a tool for betterment of practices.
3. The deliveries seen completed without any complications shows their skills ability.
4. Constant supervision is the need of the hour without which the knowledge level of SNs/FHWs cannot be kept updated.
5. Quality control measures are not being looked after especially in AMTSL.
6. The distribution of years of obtaining expertise may be encouraging but it shows that the level and intensity of learning has reduced over the years.
7. Incorporation of AMTSL in treatment protocol as well as supportive supervision and handholding is now required to improve the knowledge about AMTSL.
8. The importance of workshop was highlighted but at the same time nursing school teachings and its importance cannot be overlooked. Incorporation of AMTSL curriculum in nursing teaching has to be taken up on priority scale.

Hence the study has given an invariable depth of insight and will be helpful in improving the current efforts of providing quality services to even the last women in queue.

SUGGESTIONS

Major findings suggest changes to be made in the overall training, implementation, monitoring and supervision of AMTSL.

The following are the suggestions which can be taken up for the improvement of AMTSL-

1. Regular cascade induction training to all newly joined staff nurses.
2. Improve quality of training by field supervision and monitoring feedback along with constant orientation.
3. Organize training in the comprehensive manner with inclusion of practical aspects and live performance should be included.
4. Availability of stock should be ensured and utilization of DLIMS can be helpful to monitor. Training of inventory management. Timely and correct stock of availability of drug at all the delivery points in order to properly implement AMTSL at all levels.
5. Display of protocols and availability of guidelines in vernacular language.
6. Facility specific guidelines should be avail to all health facilities.
7. List of the guidelines can be formalized from the state level.
8. Regular monthly review by Head nurse or by Facility Superintendent to ensure implementation of all SBA protocols and formation of Facility specific Quality Control committee/ Block / District/State.
9. Periodic performance evaluation by nursing mentor group and on site hand holding.
10. Supportive supervision by checklist for quality of services, on site mentoring and performance appraisal system/ incentivize the good performer.
11. Monitoring of the indicators (HMIS/MCTS). Which may indirectly give a defined picture like: Institutional deliveries increased, Obstetric complications attended which will ultimately reduced maternal deaths.

12. Review the MDR with inclusion of SBA protocols implementation. Incorporate AMTSL monitoring through MDR.

13. Practice of AMTSL needs to be ensured at all levels across all districts.

14. Mobile nursing mentoring groups can be initiated for hand holding and supportive supervision.

15. Due to age long practise methergine is still used in many cases, a comprehensive change in course curriculum for nursing course must be undertaken for inclusion of oxytocin as the drug of choice for AMTSL.

16. Update the Standard Treatment Guidelines to comply with the ICM/FIGO recommendations for AMTSL regarding the timing of the administration of the uterotonic drug.

17. Provide refresher training on AMTSL to staff nurses who have received training four years ago, especially in timing of uterotonic administration. It is recommended that special emphasis must be laid on explaining the steps of AMTSL in easier way so that it gets embedded in memory.

18. Conduct AMTSL training workshop for others staff nurses who do not have training for AMTSL.

19. Implement clinical audits focused on AMTSL.

20. Regular follow up about knowledge level assessment must be done in form of Continuing Nursing Education (CNE).

21. Procedural assessment can be related to performance appraisal for better attention on it.

LIMITATIONS OF STUDY

1. Study had been conducted in the high delivery load facilities so KAP of low volume facilities' staff may differ. To evaluate, AMTSL implementation, the high facility volumes would be appropriately included in sampling frame.
2. In sampling frame, which was considered only two deliveries was observed, so practices may differ in more number of deliveries. But it was ensured that no subsequent two deliveries were selected, randomly two deliveries for observation of practices per SN/FHWs was taken.
3. Study sample size was purposive as only 120 samples have been collected due to time constrain and sampling design.
4. On knowledge question, RECALL Bias could be there as considering time lapsed after training. To counteract it was suggested to hold periodic refresher training, Supportive supervision and monthly review by Facility in charge.

ETHICAL CONSIDERATION

The consent of selected hospital and Staff Nurses /Female Health Workers was taken before initiating the process of interview. The nature and purpose of the study was well explained and communicated to them. The person was given right to deny at any point of time during interview. The confidentiality and privacy of the information was maintained and the data was solely used for study and research purpose.

SECTION C

SCHEDULE

TITLE

To assess the Knowledge Attitude and Practice (KAP) of Staff Nurses (SN)/ Female Health Workers (FHW) who have been trained for Active Management of Third Stage of Labour (AMTSL) in Gujarat.

INTRODUCTION

This study will assess how Staff Nurses/ Female Health workers manage the third stage of labour by AMTSL. If you agree to participate in the study, you will be requested to answer some questions asked. Your name will not be disclosed at any point of time. The questionnaires / discussion notes will be marked with numbers for purposes of data analysis only. The information you give will be confidential and will not be associated personally. Performing AMTSL and answering questions will take about 10-15 minutes. Your responses will be used solely for quality improvement purposes. You are free to decide if you want to be in this study or not. If you choose to take part, you can change your mind at any time and quit the study. The questionnaires and discussion notes will be marked only with codes and not with names. Study reports will not reveal individual names. Every effort will be made to protect the confidentiality of the information provided.

CONSENT

I have been given an opportunity to have any questions about the study answered to my satisfaction.

I.....……

agree to participate as a volunteer.

---------- ----------

Date **Signature of participant**

Part one: Demographic Data.

Instructions: Please fill or encircle appropriately.

1.NAME…….……..……....

2. DOB ……..……. 3. AGE…...…..…… 4. SEX……..…….……..…

5. NAME OF INSTITUTE POSTED……..…..

6. TYPE OF INSTITUTION …….. 7. TYPE OF POSTING ……...

8. Profile (Please mark only one)
(a) Medical Officer
(b) Medical Officer AYUSH
(c) Staff Nurse
(d) Female Health Worker

9. For how long have you been practicing? Years**…….……..……..…….**

Part two: Training Information in AMTSL.
Instructions: Please fill or encircle appropriately.

10. Are you SBA trained?
(a) Yes
(b) No
If yes continue, if no please give reasons ……..…….…….....

11. What is AMTSL?
……....……...…….……

12. Where did you get expertise on AMTSL?
(a) At midwifery/nursing school
(b) At training workshop
(c) By observation
(d) Other (Please specify)**…….**

13. In which year did you get expertise on AMTSL?
(a) 2011-12
(b) 2012-13
(c) 2013-14
(d) Other (Please specify)**…….....**

Part three: knowledge on AMTSL
Instructions: Please fill or encircle appropriately.

14. The first line uterotonic recommended for AMTSL is
(a) Ergometrine
(b) Oxytocin
(c) Mesoprostol
(d) Methergine
(e) Other (Please specify)**……...……**

15. The recommended dose of that drug (selected in Question 14) during AMTSL is

(a) 5 IU
(b) 10 IU
(c) 2.5. IU
(d) Other (Please specify)**…….……...…..……**

16. The recommended route to give that drug (selected in Question 14) during AMTSL is-

(a) Oral
(b) Intramuscular (IM)
(c) Intravenous (IV)
(d) Other (Please specify)**…….…**

17. The three main sequential components of AMTSL are

(a)Oxytocin administration, immediate uterine massage after delivery of the placenta and CCT

(b) Immediate uterine massage after delivery of the placenta, CCT and Oxytocin administration

(c)Oxytocin administration, CCT and immediate uterine massage after delivery of the placenta.

(d) Other (Please specify**…….……....**

18. The following is (are) believed to be harmful practice(s) when performing AMTSL.

(a) Massaging uterus before delivering the placenta
(b) Applying Controlled Cord traction (CCT) without fundal support
(c) Both
(d) Other (Please specify**……..……..……**

19. Within how much time should AMTSL be completed?

(a) 1 minute
(b) 5 minutes
(c) 5-10 minutes
(d) Other (Please specify) **…….……....**

20. What is the second line of drug for AMTSL?
(a) Ergometrine
(b) Oxytocin
(c) Mesoprostol
(d) Methergine
(e) Other (Please specify)**……...….**

21. Do you have Oxytocin available at your facility?
(a) Yes
(b) No
22. Where do you store Oxytocin? (Verify physically)
(a) Refrigerator
(b) Room Temperature
(c) Other (Please specify)**…….……...……**

23. Enumerate steps of AMTSL?
……
……
……
…….....

Part four: Guidelines, motivations and views behind AMTSL implementation.

Instructions: Please fill appropriately.

24. Do you have SBA guideline?
(a) Yes
(b) No

If yes (verify physically) **.....**

25. What problems/ barriers do you face in the correct implementation of AMTSL?
……
……
……
……...……

26. What would you like to suggest in reinforcing AMTSL implementation in Gujarat/ your facility?

.....……

……...……

……

……..

Thank you for your time and for your participation.

DATE…….. TIME…….. PLACE……....……

REFERENCES

1. "The Key Challenges to Progress in Achieving MDG-5 in North Central Nigeria" by *Dalyop D. Nyango, Josiah T. Mutihir, Emmanuel P. Laabes, Joseph H. Kigbu, Mariam Buba of* Department of Obstetrics & Gynecology, Reproductive Health Unit, Jos University Teaching Hospital, Jos, Nigeria.
2. International Confederation of Midwives, International Federation of Gynaecology, Obstetrics (2003) International joint policy statement: management of third stage of labour to prevent postpartum haemorrhage. J Obstet Gynaecol Can 25(1):952–953 and FIGO/ICM global initiative to prevent postpartum haemorrhage. J Obstet Gynaecol Can 26(12):1100–1102
3. World Health Organization (2000) managing complications in pregnancy and childbirth: a guide for midwives and doctors. WHO Department of Reproductive Health and Research, Geneva. WHO/RHR/00.7
4. Kongnyuy EJ, Mlava G, van den Broek N (2009) Facility-based maternal death review in three districts in the central region of Malawi: an analysis of causes and characteristics of maternal deaths. Womens Health Issues 19(1):14–20. doi:10.1016/j.whi.2008.09.08
5. U.S. Agency for International Development (2006) Prevention of postpartum haemorrhage initiative, support, analysis and research in Africa. Facility-based management of third stage of labour and community perception and actions on postpartum haemorrhage: findings from a national survey in Tanzania. Washington DC USA.
6. Festin MR, Lumbiganon P, Tolosa JE, Finney KA, Ba-Thike K, Chipato T et al (2003) International survey on variations in practice of the management of the third stage of labour. Bull World Health Organ 81:286–291.
7. Winter C, Macfarlane A, Deneux-Tharaux C, Zhang WH, Alexander S, Brocklehurst P, Bouvier-Colle MH, Prendiville W, Cararach V, van Roosmalen J, Berbik I, Klein M, Ayres-de-Campos D, Erkkola R, Chiechi LM, Langhoff-Roos J, Stray-Pedersen B, Troeger C (2007) Variations in policies for management of the third stage of labour and the immediate management of postpartum haemorrhage in Europe. BJOG 114(7):845–854. doi:10.1111/j.1471-0528.2007.01377.x
8. World Health Organisation (2007) WHO recommendations for the prevention of postpartum haemorrhage. WHO Department of Reproductive Health and Research, Geneva.