

Study of the Active Management of the Third Stage of Labor (AMTSL) in Four Maternity Hospitals in the Commune of Kara (Togo)

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Abstract

Introduction: Active management of the third period of labor (AMTSL) significantly prevents postpartum hemorrhage onset. **Objective:** To assess the practice of AMTSL in four maternity in the commune of Kara (Kara University Hospital Center, Kara Tomdè Regional Hospital Center, SOS Kara Mother-Child Hospital, and Adabawéré Peripheral Care Unit). **Method:** This was a cross-sectional descriptive study over four months, from January 28 to May 28, 2019. Two questionnaires were used for data collection: an observation and evaluation grid AMTSL practice and a questionnaire for providers. The grid was designed and adapted to the RPC repository model for emergency obstetric and neonatal care in Africa 2018. The data was processed using the Epi Info 7 software. **Results:** During the study period, 528 parturients were identified and 30 providers surveyed. No provider had received ongoing training in AMTSL. The practice of AMTSL was systematic at each delivery. The practice was correct in 45.8%. Factors associated with incorrect practice were relationship between caregiver-patient ($p = 0.0005$), placental examination ($p = 0.0003$), postpartum monitoring ($p = 0.0001$). **Conclusion and Suggestion:** The practice of AMTSL is systematic, but it was incorrect regardless of the provider's qualification. Continuing education on AMTSL is necessary to prevent postpartum hemorrhage.

Keywords

AMTSL, Assessment, Midwives, State Auxiliary Birth Attendants, Togo

1. Introduction

Active management of the third period of labor (AMTSL) involves three components: injection of uterotonic, controlled cord traction and uterine massage immediately following delivery of the placenta. It is a set of interventions to speed up the placenta's delivery by increasing uterine contractions and reducing the number of delivery hemorrhages by three [1]. Additional procedures such as examining the placenta, looking for soft tissue lesions and repairing them, and strict monitoring in the postpartum period are essential to significantly reduce postpartum hemorrhage (PPH) [1] [2] [3]. PPH is the leading cause of maternal death worldwide [1]. In Togo, the maternal mortality rate was 401 per 100,000 live births, of which 36.4% was due to PPH, according to the 2013 demographic health survey [4]. Several studies have demonstrated the superiority of AMTSL in the prevention and reduction of PPH [1] [3]. Active management may reduce the incidence of maternal anemia which is the main indirect cause of maternal deaths [5]. PPH is unpredictable, so every pregnant woman needs the care of a skilled provider during delivery [1] [6]. The number of deliveries not benefiting from AMTSL is estimated at 1.4 million, all of which are opportunities to prevent postpartum hemorrhage. Thus, the World Health Organization (WHO) has recommended it for any vaginal birth since 2002. It is essential to ensure that the person who assists the mother during the birth is fully competent to progress towards the achievement of sustainable development goals [1] [7] [8]. Midwives and nurses are responsible for most deliveries in countries of sub-Saharan Africa [9].

Despite political commitments and efforts to subsidize childbirth complications, the maternal mortality rate related to PPH remains stagnant especially in developing countries such as Togo although the practice of AMTSL [1] [4]. Studies in West Africa have shown that active management is higher in national hospitals than in lower-level facilities. They also revealed a weakness in the correct practice of controlled cord traction and correct control of uterine tonus [9] [10]. Factors associated with poor quality AMTSL were provider qualification, supervision, interpersonal relationships, parturient satisfaction, the level of maternity [6] [9] [11].

A study was carried out on this practice in four maternities in Kara commune including three level 3 maternity hospitals and one level 2 maternity hospital to help reduce maternal deaths from PPH. The objective was to evaluate the practice of AMTSL in the maternity of the University Hospital Center (CHU) of Kara, Regional Hospital Center (CHR) Kara Tomdè, Mother-Child Hospital (HME)-SOS, and Peripheral Care Unit (USP) Adabawerè in the municipality of Kara.

2. Method

This was a cross-sectional study for analytical purposes for 04 months from January 28 to May 28, 2019, in the four maternities.

Inclusion Criteria

For providers: be a qualified provider (state midwife or state auxiliary midwife) practicing in the delivery room, have accepted to participate in the survey, have performed a vaginal delivery in one of the four maternity hospitals in the presence of an investigator.

For parturients: Be an admitted parturient, have a pregnancy with a gestational age \geq of 37 weeks, have agreed to participate in the survey, and have given birth vaginally in one of the four study maternities in the presence of an investigator.

Three midwifery students collected the data at the end of their license, previously upgraded on the practice of AMTSL. It focused on the census, observation, and interview. The observation and evaluation of the practice of AMTSL were done in the delivery rooms. The statement had concerned the labor of childbirth until the transfer of the birth in continuation of beginning. Providers were therefore not aware of the AMTSL practice assessment. At the end of this first part on the observation and evaluation of AMTSL, depending on the provider's availability, a questionnaire was administered to her, and at this time, she discovered the topic of the survey.

To do this, the following tools were used: the observation and evaluation grid for AMTSL practice and the interview questionnaire. The tools were pre-tested in the maternities of CHU-Kara and HME-SOS-Kara. The observation and evaluation grid for AMTSL practice was carried out according to the guidelines on the recommendations for clinical practice of obstetric and neonatal emergency care in Africa 2018 [2]. It consisted of 15 items relating to everyday actions.

The parameters studied were the professional qualification of the provider (profession, year of practice, continuing education), the risk factors for PPH in parturients, and the quality of AMTSL practice relating to three modalities (gestures not taken = 0, gestures have done incorrectly = one and gestures well done = 2).

Data analysis and processing were carried out using Epi Info 7.2.1.0 software.

3. Results

Frequency: AMTSL was performed routinely at each delivery (100%).

3.1. Professional Qualification of Service Providers

A total of 30 providers were surveyed. These are 19 state midwives (SFE) and 11 state auxiliary midwives (*AAE: 3 years of midwifery training after the secondary school certificate*). No provider had received continuous training in AMTSL. More than half of them had more than five years of professional experience (56.25%). The SFE had performed 356 deliveries and the AAE's, 172 deliveries.

3.2. Risk Factors for PPH in Parturients

During the study, 528 parturients were selected, 92% of whom were carriers of a

term pregnancy and 8% of prolonged pregnancy. Among them, 213 parturients (40.3%) presented risk factors for PPH. High multiparity was the most common risk factor, *i.e.*, 19.48% (see **Figure 1**).

3.3. AMTSL Preparation Stage

Equipment preparation was well done for most deliveries ($n = 500$; 94.7%). Concerning the caregiver-patient relationship (psychological support for parturients, answers to their questions), the practice was incorrect in most cases, whatever the provider's qualification. It was not done 96.6% ($n = 391$) of cases, done incorrectly in 24.4% ($n = 129$), and done well in 1.32% ($n = 07$).

3.4. The Practice of AMTSL

3.4.1. Injection of an Uterotonic

All providers had injected 10IU oxytocin intramuscularly into either the thigh ($n = 499$) or buttock ($n = 29$). See **Table 1**.

3.4.2. Controlled Pull on the Cord

Most providers did not wait for a uterine contraction to occur before tugging on the cord. See **Table 1**.

3.4.3. Uterine Massage

Fundus massage was performed systematically by all providers. However, they did not make sure the uterus retracted when the massage was stopped. See **Table 1**.

3.5. Complementary Actions of AMTSL

The practice was incorrect, especially in the examination of the placenta ($n = 317$) and strict monitoring in the postpartum ($n = 524$). See **Table 1**.

3.6. Assessment of AMTSL Practice

The practice was correct in 45.8%, of which 56.2% in SFE and 35.4% in AAE.

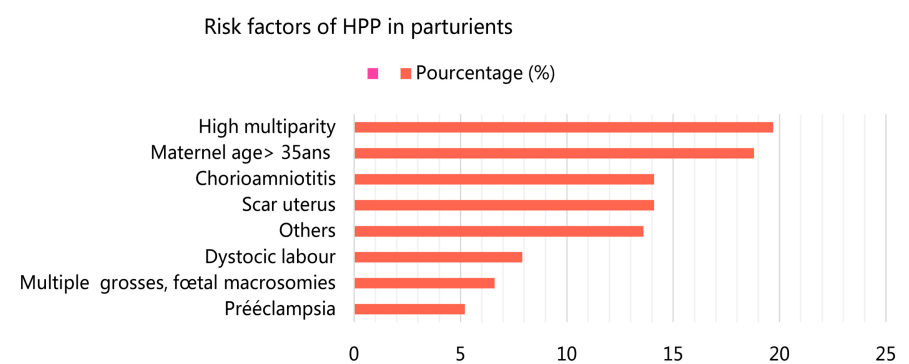


Figure 1. Distribution of parturients according to risk factors for PPH. *Others: Thrombocytopenia, fetal death in utero, placenta previa, retro-placental hematoma, induction of labor, long labor, rapid labor, excessive and inappropriate use of oxytocin, obesity, hydramnios.

Table 1. Distribution of actions during AMTSL practice.

	0	1	2
Uterotonic injection			
1) Check the uterus for the presence of a second baby	0	0	528
2) Administter 10 UI of ocytocin intramuscularly	0	0	528
Controlled pull on the cord			
3) Clamp the umbilical cord close to perineum and hold the cord in one hand	1	368	159
4) Stabilise the uterus by applying counter-pressure to the abdomen	0	439	89
5) Await a strong uterine contraction	3	501	24
6) Gently hold the cord and controlled cord traction with counter-pressure	68	318	142
7) Hold the placenta in two hands and gently turn it until the membranes are twisted	16	321	191
8) Place the placenta in a bowl	194	234	100
Uterine massage			
9) Immediatly after placental delivery, start massaging the uterus till uterus is hard	2	200	326
10) Check that the uterus does not become relaxed after stopping uterine massage	4	503	21
11) Repeat intermittently for 1 - 2 hours	8	492	28
Complementary actions			
12) Examine the placenta to make sure it is complete	16	317	195
13) Examine the woman's vagina, perineum and external genitalia for lacerations and active bleeding	12	152	364
14) Helping the mother empty the bladder	108	207	213
15) Closely monitor for first 6 hours	1	524	3
-Constants: pulse, blood pressure, température			
-Uterinehardness, Vaginal bleeding			
-Status of the parturient			

0: undone actions; 1: actions done improperly; 2: well-done actions.

However, the procedure was incorrect in 51.7%, and the gestures were not made in 3.8% (see **Figure 2**).

3.7. Factors Associated with Incorrect AMTSL Practice

Several factors, such as lack of psychological support for the parturient ($p = 0.0005$), monitoring of the woman ($p = 0.0001$), and examination of the placenta ($p = 0.0003$), were associated within correct AMTSL practice (see **Table 2**).

4. Discussion

AMTSL, a procedure that accelerates placental delivery and uterine retraction, is associated with a reduction in the occurrence of PPH by more than 60% [1].

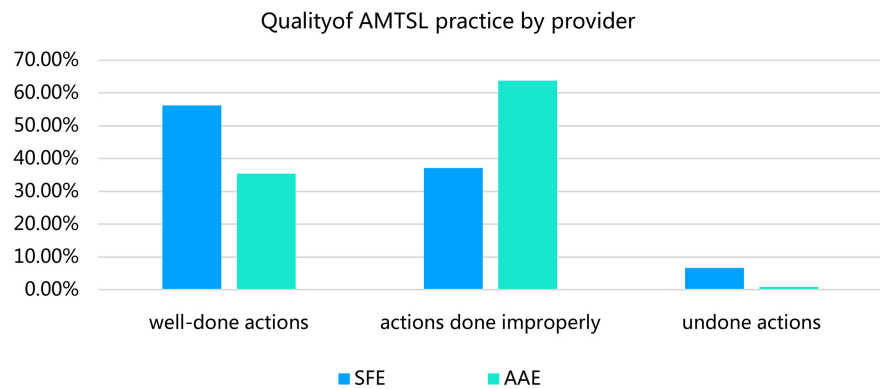


Figure 2. Providers' assessment of the quality of AMTSL practice.

Table 2. Distribution of factors influencing incorrect AMTSL practice.

	n	%	p-value
Soutien psychologique			
Oui	6	1.1	0.0005
Non	522	98.9	
Attendre les contractions utérines avant la traction contrôlée			
Oui	24	4.5	0.003
Non	504	95.5	
S'assurer de la rétraction utérine après massage utérin			
Oui	21	4	0.0001
Non	507	96	
Examen du placenta			
Oui	195	36.9	0.0003
Non	333	63.1	

n: effectif; %: percent; p-value significant: <0.05.

However, active management may increase maternal diastolic blood pressure, vomiting after birth, posterior pain, use of analgesia [5]. The study revealed that the practice of AMTSL was systematic in the four maternity hospitals in Kara commune. Sitti found a rate of 95.6% in 2016 at the teaching hospital center Sylvanus Olympioin Togo [12]. Baldé *et al.* in Guinea had found 96.1% [13]. A study carried out by E. AMOUH *et al.* in 2016 at Regional hospital center of Kara found that among patients evacuated for postpartum hemorrhage, only 50.4% had received AMTSL during labor [14]. It can be concluded that providers have adopted good practices in improving the quality of care.

4.1. Assessment of the Quality of AMTSL Practice

Quality of care requires that all care must be provided on an evidence-based basis, hence using the benchmark to assess the practice of AMTSL [12]. The analy-

sis of the results made it possible to see the strengths and the deviations from the model. The good practice of AMTSL was evaluated at 45.8%. This rate is higher than that found by J. SAIZONOU *et al.* in Benin, 38.6% of deliveries [10]. A Senegalese study on the AMTSL situation in 2010 found a correct practice at 56% for preparation stage, 83% for delivery and 66% for uterine massage [15]. The quality of AMTSL good course varies from country to country [16] [17]. A study in seven countries showed correct use of AMTSL in only 0.5% to 32% of deliveries observed [9]. Quality maternal care services require a certified health professional (a midwife, doctor or trained nurse) who has acquired the skills necessary to manage pregnancy, childbirth, and immediate postpartum [15]. According to the WHO, the qualified personnel to carry out the delivery is the midwife. Still, the auxiliary birth attendants were included in this study since they perform the deliveries alone. Also, state midwives and state auxiliary midwives receive theoretical and practical knowledge on AMTSL during their initial training. The correct practice was 56.2% for SFE and 35.4% for AAE. It is essential to ensure that the person assisting the mother during childbirth is fully competent to progress towards the Sustainable Development Goals [7]. The uterotonic injection was given according to guidelines standards for all deliveries. The use of 10 IU oxytocin is recommended for the prevention of postpartum hemorrhage. Oxytocin reduces the occurrence of bleeding during delivery by 46% but shows little preventive efficacy against severe bleeding [1] [18] [19].

4.2. Factors Influencing the Incorrect Practice of AMTSL

The poor quality of care in health facilities is an obstacle to the access of pregnant women and their families to qualified care. The quality of care combines technique and interpersonal relationships [20] [21]. Gestures were made incorrectly in 51.7%, while gestures were not made in 3.8%. According to Saizonou J *et al.* 2012, the poor quality of AMTSL was 63.2%. The factors associated with poor quality were interpersonal relationships, providers' qualification, and supervision [10]. At least 2 out of 5 providers had more than five years of work experience in our study, but none had received continuing training. The factors associated with the incorrect practice of AMTSL were: not waiting for the onset of contractions before cord traction ($p = 0.03$), movement of placenta ($p = 0.0001$), placenta not examined ($p = 0.0003$), do not ensure uterine retraction ($p = 0.0001$). However, 40.3% of parturients presented risk factors for PPH described in the literature [8] [22] [23]. Despite the risk factors, there were no other preventive measures taken besides AMTSL to prevent possible severe immediate postpartum hemorrhage. This observation has been made in other studies in particular, fundal massage immediately following delivery of the placenta, plus follow-up palpation of the uterus which are considered a standard of care and an indicator of surveillance during the high-risk postpartum period were very rarely practiced [9] [10] [11] [17].

Although providers understand the value of active management, they need an

update on the recommendations [24]. Providers need more support and supervision to ensure the full delivery of AMTSL interventions. There is a need for continuous training and innovative approaches to maintaining provider skills and knowledge [6] [10]-[15] [20].

Also, the caregiver relationship (absence of psychological support ($p = 0.0005$), lack of answers to questions ($p = 0.001$)), was poor whatever the qualification of the provider. In the study carried out in maternity hospitals in Madagascar, psychological support was 35%, and no questions were asked 72% [16]. WHO recommends respectful maternal care for a positive intrapartum care experience for women and their families [25]. This deterioration in the caregiver-patient relationship is thought to be due to the workload, especially during on-call. In general, on-call duty is provided by one provider (at HME-SOS and USP Adabawerè) and two providers (at CHU and CHR Tomdè). According to Bohren *et al.*, providers' poor communication and information sharing gaps in respectful care [21]. High caseloads, work-related stress, and unfavorable work environments have limited providers' efforts to provide dignified and respectful care. The emotional health of providers can lead to abuse and affect care for women [26]. For compliance of care, checklists posted in delivery rooms, internal and external facilitating/training supervision, and disseminating AMTSL evidence are needed [10] [15] [27].

5. Conclusion

AMTSL is a high-impact intervention in reducing maternal mortality. The practice of AMTSL was systematic in the delivery rooms of the four maternity hospitals in Kara commune. However, the quality of this practice remains insufficient. Only uterotonic injection was given according to guidelines standards for all deliveries. This poor quality is due to the lack of continuing training, work overload and the deterioration of the neat caregiver relationship. To meet this challenge, it is up to health providers to strengthen interpersonal communication, theoretical and practical knowledge, with particular emphasis on uncontrolled AMTSL actions to significantly prevent postpartum hemorrhages. Therefore, it would be desirable to conduct a second study to assess the impact of the incorrect practice of AMTSL on the occurrence of postpartum hemorrhage.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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