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## Research Article

# Knowledge, Attitudes and Practices of Traditional Birth Attendant on the Recognition of Danger Signs in Pregnancies and the Prevention of Infections - 6

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## ABSTRACT

We report on the results of a survey carried out on 30 Traditional Birth Attendants (TBA) in the littoral region of the Republic of Cameroon. The main objective of this survey was to evaluate knowledge, attitudes and practices of traditional birth attendants with regard to their ability to recognize danger signs during pregnancies and the prevention of infections. The survey did not include trained birth attendants who perform deliveries in homes. The mean age of traditional birth attendants was 49.6 years; the lowest age being 33 and the highest 69. 30% of the matrons were self-made. 19 of them, representing 63.3% had received a given training. All the informants acknowledged having referred parturients even though the practice was only systematic with 40% of them. In all, 56.7 % of the matrons referred parturients during labor and 27.7% before labor. 87% of the matrons interviewed referred patients for convulsions, 63.3% for abundant bleeding, 26.7% for prior history of C-section, 23.3% for fever or when the abdomen was so large. A single matron referred patients when the labor time rose up to 12 hours. No parturient was referred as a result of the loss of the amniotic fluid before labor. Hand washing was systematic for 73.3% of the matrons. Six of them, representing 20% used barriers against infections. They only used glove for this purpose. Generally, water and soap were used to sterilise tools (76.7%). Only 23.3% of TBA systematically directed their patients to health centers upon delivery. Traditional birth attendants being an essential component in reducing maternal and neo-natal in low-income countries ought to be empowered in recognizing danger signs of pregnancies and the prevention of infections.

**Keywords:** Traditional Birth Attendants; Infections; Pregnancy

## INTRODUCTION

Traditional Birth Attendants (TBAs henceforth) or matrons have been, over history, the main human resources for women who deliver. With the passage of time, depending on cultures and customs, and until today, they oversee most of the deliveries in rural areas of emerging countries. Their role cannot be denied when it comes to their cultural competence, comfort, empathy and psychological support during delivery. TBAs are found in most communities all over the world though their nature and function vary considerably. The World Health Organisation (WHO) defines a TBA as "a person who attends to a mother during delivery and who has initially acquired her competences by delivering on her own or working with another TBA" [1]. TBAs lack in formal training and their competences are initially acquired either by delivering babies or by learning from other TBAs. The aim of the KAP study on TBAs is to contribute in the reduction of maternal/infant mortality and morbidity by identifying bad practices that could be improved upon through training offered to matrons. Such training offers centre around the training of TBAs to achieve deliveries with more hygiene and security, discourage bad practices, identify danger signs and refer women with complications to health facilities where essential obstetrical cares are offered.

## JUSTIFICATION OF THE STUDY

The reduction of maternal and infant mortality represents two main targets of the Millennium Development Goals [2]. Almost four million new-born babies die before the age of one month every year and a similar number of stillborn babies is recorded. In the meantime, more than half a million of mothers die of their pregnancy and the majority of the cases occur in poor areas. Almost 43% of the sum total of living births are taken care of by traditional birth attendants (including their family members) in poor areas and this ratio is far higher in some rural areas [3].

Traditional birth attendants are indeed a main component in reducing maternal mortality. Hence, it is worth evaluating their knowledge, attitudes and practices in a bid to better work out trainings that could be offered.

## RESEARCH HYPOTHESIS

Traditional birth attendants have knowledge, attitudes and bad practices as far as recognizing danger signs of pregnancy and the prevention of infections are concerned.

## OBJECTIVES

### General Objective

The general objective of our study was to evaluate knowledge, attitudes and practices of traditional birth attendants with regard to their ability to recognize danger signs of pregnancy and the prevention of infections.

### Specific Objectives

There were four:

- determine socio demographic characteristics of traditional birth attendants.
- determine different danger signs of pregnancy identified by traditional birth attendants.
- evaluate knowledge and practices of matrons with regard to referring patients.
- evaluate knowledge and practices of matrons with regard to the prevention of infections.

## TOOLS AND METHODS

### Location of the study

The study was carried out in Nkongsamba chief town of the Moungo division. This was during a seminar on the training of traditional birth attendants.

### Type of the study

It was a Knowledge Attitudes and Practice study (KAP).

### Duration of the study

The study took place between the 26 and the 30th of September 2011.

### Population of the study

The population consisted of 30 traditional birth attendants. They represented the Littoral region during a seminar on the identification of danger signs in pregnancy and the prevention of infectious risks. Matrons were selected from health districts relying on the identification register and their intervention as traditional birth attendants. All matrons who participated in the seminar were interviewed for the study. Matrons who were not willing to participate

in the survey and who did not work within the littoral region were excluded from the study. Health personnel who performed delivery at homes were also excluded from the survey.

**Sampling**

The sample size consisted of 30 participants. The survey was carried out following a stratified sampling at two levels on different health districts of the Littoral region of the Republic of Cameroon.

**Method**

A questionnaire was designed at the beginning of the training. This questionnaire was about knowledge, attitudes and practices of traditional obstetricians as concerns their recognition of danger signs of pregnancy and the prevention of infections. The questionnaire was made up of four parts; namely birth attendant’s socio demographic characteristics, information on their activities, the recognition of danger signs in pregnancy and practices with regard to prevention of infections. The questionnaire was introduced to all participants at the beginning of the training session. Training facilitators were responsible for helping birth attendants who could not fill in the questionnaire by themselves. Forms were collected at the end of the training and later analyzed.

**Tools used**

- Individual data sheets
- Stationaries (pencils, pens, eraser...)

**Statistical analysis**

Data were analyzed with the computer. In order to calculate means and percentages the epi info and excel software were used and the obtained data presented in histograms and tables.

**RESULTS**

**Socio demographic characteristics of birth attendants**

The minimum age of traditional birth attendants stood at 49.6 years with the lowest age standing at 33 years and the highest at 69. In total, 23.3% of the birth attendants were single woman. As low as 16.7% were traditional healers. 17 of them, representing 56.6%, practiced other income generating activities such as farming, selling while 13 being 26.7 % had no other activities. As concerns the level of education, 73.3% had not accessed secondary education. None of the birth attendants had been to higher education. 30% of the birth attendants confirmed they had obtained their skills on their own. 19 of them, representing 63.3% had undergone training from any third party. Generally, birth attendants were paid in kind: soap, table birds, and tubers. Those who received money would earn 2000 CFA francs per delivery (table 1).

**Referral practices**

All the interviewees acknowledged having referred parturients. 40 % of them referred parturients to other health centers on a regular basis. In total, 86.7% referred for convulsions, 63.3% for abundant bleeding, 26.7% for prior history of caesarean section and 23.3% for fever or when the stomach was too large. As low as 1 birth attendant referred parturients when the labor duration was above 12 hours. No parturient was referred because of fluid loss before labor. In total, 56.7% of the birth attendants referred parturients during labor and 26.7% before the beginning of labor (table 2).

**Prevention of infectious risks**

Hand washing was systematically observed by 73.3% of the birth attendants. Six matrons, representing 20% used barriers against

**Table 1:** socio demographic characteristics of birth attendants.

variables	Number /30 (%)	
<b>Matrimonial status</b>	single	5(16.7)
	Married	17(56.7)
	widow	8(26.6)
<b>Profession</b>	Liberal Profession	17(56.7)
	housewife	13(26.7)
	healer	5(16.7)
<b>Level of education</b>	none	11(36.6)
	Primary	11(36.6)
	Secondary	8(26.8)
	Higher education	0(0.0)
<b>Acquisition of knowledge</b>	After training	2(6.7)
	Trained by a third party	19(63.3)
	Self-trained	9(30)

**Table 2:** Referral practice.

variables	Number/30 (%)	
<b>Referral Practice</b>	Yes, often	12(40)
	Yes, rarely	18(60)
<b>Justification of the referral practice</b>	Prior history of C-section	8(26.7)
	Prior history of peripartum death	4(13.3)
	Too large stomach	7(23.3)
	Abundant vaginal bleeding	19(63.3)
	Breech presentation	9(30)
	Feet oedema	6(20)
	Convulsions	26(86.7)
	jaundices	2(6.7)
	headaches	5(16.7)
	Great multiparity	3(10)
	labor > 12 hours	1(3.30)
	loss of amniotic fluid	0(0.0)
	fever	7(23.3)
	unlimited contractions	3(10)
<b>The moment of reference</b>	During pregnancy	8(26.7)
	During labor	17(56.7)
	In post-partum	5(16.6)
<b>post-partum check-up in a hospital</b>	yes	7(23.3)
	No	23(76.7)

infections. Gloves were the only barrier used. 60% used a new blade for cutting the cord. Other risky and infectious gestures included: the treatment of the placenta (46.7%), the administration of traditional concoctions on the cord (46.7%), traditional cares to the new-born baby (53.3%). Tools were generally sterilized with water and soap (76.7%). Wastes were dumped in community rubbish dumps by 86.7% of the matrons. Only 23.3% of the matrons systematically referred their patients to health centers upon delivery (table 3).

**DISCUSSION**

Thirty matrons, working in the littoral region of the republic of Cameroon, were interviewed during a training seminar held by the Ministry of Public Health on the recognition of danger signs of pregnancies and the prevention of infections. The mean age of matrons was 49.6 years. The youngest matron who was interviewed was 33 years, the oldest being 69 years and still fully employed. Our results are different from Thatte’s [4] findings whose informants’ mean age was 42 years with 35 and 60 years being the youngest and

**Table 3:** Prevention of infections.

variables	Number/30 (%)	
Hand washing	systematically	22(73.3)
	occasionally	8(26.7)
Use of barriers	Yes	6(20)
	No	24(80)
Use of new blade	yes	12(40)
	no	18(60)
Risky and infectious gestures	Traditional cares for the cord	14(46.7)
	Traditional cares for the perineum	8(26.7)
	Treatment of the placenta	14(46.7)
	Cutting of the cord with scissors	12(40)
	Traditional cares for the baby	16(53.3)
Means of sterilisation	Water and soap	23(76.7)
	alcohol	1(3.3)
	bleach	6(20)
Wastes disposal	Incineration	1(3.3)
	Septic tank	3(10)
	Community rubbish dump	26(86.7)

oldest matrons. Tina [5], conversely, found out a mean age that stood at 47.1 years that is close to our results. In general, matrons are adults whose age falls between 40 and 50 years.

Most of the matrons who were interviewed, thus 83.7%, were married or widows. 5 of them were single women. This contrasts with Itina's [6] series whereby 92.4% are either married or widow. All these women started practicing as matrons when they were delivered by themselves and others after menopause. But although there is no set rule, it may be surprising to see a woman who has never given birth to become a matron.

As concerns their profession, 5 matrons representing 16.7% were in the meantime traditional healers and 56.6% were either traders or farmers. Only 26.7% did not exercise any other activities. Our result differs from Salako's series [7] whereby almost half of the traditional birth attendants (43.1%) were not involved in other activities. The matrons that we interviewed argued that the low frequency of birth prompted them to practice other trades so as to cater for their family needs.

The majority of matrons (73.3%) had not undertaken secondary education. In fact, 36.6% had not had access to education and the same was true of the percentage of those who had not accessed basic education. None of them had undertaken higher education. Similar results were disclosed by Bassey, et al. [8]. with the following rates: 44.3% and 31.4% for women who did not attend any formal education and those who had attended the basic education level; respectively. Matrons are generally housewives without no genuine instruction [9]. The mean length of service stood at 12.1 years. The most experienced matron had 30 years of experience and she is still practicing.

The average number of deliveries per month stood at 1.16; being almost 576 deliveries per year for the 30 interviewees. This further shows their contribution in the reduction of maternal mortality. Only 16.7% exclusively practiced deliveries in their homes. The remaining 83.35% would practice deliveries either at the parturient's home or in their own home.

The majority of matrons that is 19 of them; representing 63.3% had learned the trade from a third party (mother, mother-in-law, aunt). Nine matrons, representing 30%, declared having acquired their competence on their own.

Most of them were multiparous women whose know-how was developed gradually. In our series, irrespective of the learning path, observation is the main path used to transmit and acquire a know-how and not theoretical knowledge learned. In Tina's series [5], all of the matrons acknowledged having undertaken an initial training. Her study dealt with the assessment of experiences and the change in practices of TBAs who had an initial training.

TBAs were paid in kind. The most classical gifts consisted of some soap, table birds, and tubers. Four matrons declared having perceived money to the tune of 2000 CFA francs in average. In general, matrons practice in rural areas whereby, assistance to delivery is rewarded with presents following customs and traditions of people.

When there was a complicated delivery, matrons declared that they referred mothers to the nearest hospital or health center. Their attitude towards reference was not, however, always the same because the most experienced matrons rarely referred mothers to such health facilities. In our study, they represented 40% of our sample.

Such a practice accounts for the presence of a hybrid situation of taking care of pregnant women that may certainly translate the impact of trainings that are offered them in their daily practices. The same is true in Tina's [5] series whereby only 53% of matrons acknowledged having referred patients. In fact, in this series, most of the TBAs had benefitted from training. It is at this stage that we see the significance of training matrons. The issue is rather to prompt matrons to refer patients in time and not to limit the number of referred cases through trainings.

Interviewed on referral indicators, participants listed situations and signs that required the direction of pregnant women to health services. The most frequent situations were the following: Convulsions (86.7%), Abundant vaginal bleeding (63.3%), breech presentation (30%), large stomach (23.3%), prior history of C-Section (26.7%), fever (23.3%), feet oedema (20%), jaundice (6.7%), great multiparity (10%), and unlimited contractions (10%). None of the matrons referred patients in case of water burst before the beginning of labor. One matrons indicated that she referred patients who spent more than 12 hours in labor. In this case, most of the matrons declared that they could wait between 12 to 48 hours before referring. Even after normal delivery, only 23.3% systematically directed their patients to health units. In Keri's [10] study, the mostly reported cases that were referred include: the spacing of contractions or their rapprochement, the water burst despite contractions, the poor presentation of the foetus, twin pregnancies, prior C-section history, and primipara. The recognition of danger signs is diversely appreciated by matrons. Nevertheless, matrons could improve on their referral practices [11]. In a case-control study dealing with the evaluation of the impact of matrons on the recognition of danger signs of pregnancies and referral practices, Akpala [12] discovers significant differences ( $p < 0.01$ ) for the following criteria: pregnant women aged less than 16 years (74% vs 19%), and those aged more than 35 years (63% vs 16%), minor size (72% vs 0), prior inter partial haemorrhage history (77% vs 13%), labor beyond 24 hours (95 vs 39 %), pregnancy oedema (67% vs 19%). Concerning the maternal-foetal outcome, Sibley's [13] meta-analysis reports that the training of TBAs correlates with an 8 to 10 % of perinatal and neonatal asphyxia; respectively. The World Health Organisation now recommends a qualified assistance to delivery (including the midwife, the doctor and the nurse) while excluding traditional birth attendants as well as trained ones.

Hand washing was systematically observed by 73.3% of matrons. This finding is identical with that discovered by Tina [5] (73.3%).

Those who did not observe hand washing explained that they failed to do so because they were called up when the new-born was at the vulva.

The use of barriers contributes in the fight against the transmission of infections. As concerns the question to know if they used barriers, 6 matrons representing 20% gave a positive answer. Gloves remained their only barrier. Masks, boots, eye glasses and blouses were not used. The reason was that they were ignorant and some of the kits were unavailable (gloves). The use of barriers does not fit into the habits of matrons according to the existing literature. In fact, Bassey reported a 10.7% rate of usage.

Forty percent of TBAs cut off the cord using scissors and 60% use a new blade. Ahmed [14] reports 21.1% and 65.1 %; respectively. In Bassey's [8] series, a new blade was used in similar proportions. Other risky and infectious practices were also recorded. These include; the treatment of the placenta (46.7%), the administration of traditional concoctions on the cord (46.7 %), traditional cares for the new-born (53.3%), traditional cares of the perineum (26.7%). The treatment of the placenta consisted in washing it up in water so as to get rid off impurities. It is generally done without protecting the hands. These practices are accounted for by a set of traditional values that endanger the mother and the baby; therefore indicating the need for the training of matrons. Similar practices are found in the literature [15].

The sterilization of tools is done with water and soap by 23 TBAs representing 73.3%. Six TBAs use bleach whereas only one uses alcohol. In Gary's [15] series, 52 of the matrons used either boiled water (29%) or alcohol (23%). This translates a high risk for the spread of infections especially when they are called upon to perform close deliveries. In fact, even in cases whereby alcohol is used, the risk for infection remains because the latter is rather considered as a fixer and would only have a limited action on certain positive and negative gram germs. The use of boiled water on the other hand is beneficial and recommended even though it is unable to destroy sporulated forms and non conventional transmissible agents. The temperature must be above 80°C for some bacteria, and 95°C for other viruses to be effective within reasonable durations [16].

In the attempt to find out where wastes – gloves, blades, cloths - were disposed, the majority; that is 86.7% stated that they used community rubbish dumps. A single informant acknowledged incinerating wastes. The matron in question was sensitized on the positive aspects of incineration. Here, once again, the ignorance of indirect contamination risks was voiced by matrons to justify their practice.

Traditional birth attendants are an essential component in reducing maternal and neo natal mortality especially in rural areas whereby they are deeply involved in deliveries. However, they possess knowledge and practices that put the wellbeing of the mother and her foetus at risk. It is therefore important not to forbid their activities in enclaved areas but, rather, to encourage and empower them so that they can easily recognize danger risks in pregnancy and refer patients within acceptable time. On the other hand, the prevention of infections must be included in training modules because our study proves that TBAs are not only exposed to infections but can also prompt maternal foetal contamination. Nonetheless, if the main expectation underlying the training of TBAs is to reinforce the link between the community and the health system in place, it seems necessary to implement this type of programme in a place where there are effective SOUB and SOUC, and infrastructure that can

enable a rapid transfer of women towards centers. Yet, in the areas concerned with high maternal mortality rates such conditions are often questionable.

## LIMITATIONS OF THE STUDY

This study has some limitations. The study was conducted during a training seminar of matrons on the recognition of danger signs of pregnancy and the prevention of infections. The sample was thus defined by the central level. The questionnaire designed targeted the two major axes of the training. From this, a study including a bigger sample and that could be extended to other regions is recommended. Other issues that could be interesting may include: how to conduct a normal delivery, the prevention of post-partum haemorrhage, the use of traditional oxytocic, and post-natal cares.

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