

RESEARCH PAPER

## Knowledge and Skill of Traditional Birth Attendants in Hizla Upazila

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### ABSTRACT

The paper focused on the situational analysis of TBAs (traditional birth attendant) at Barajalia union of Hizla Upazila. The objective of the study was to analysis the knowledge and skill of TBAs on maternal health. The snowball sampling technique found out 80 TBAs in the study area among those 61 TBAs were available during the survey. Statistical analysis such as Chi-square test was carried out by using SPSS 16 software. In the study, it was found that 40(65.57%) TBAs had no institutional education. Furthermore, the study area had only 4(6.55%) skillful TBAs who have received professional training from recognized institution. Besides, about 52(85.24%) TBAs who are still practicing have either inherited the technique or achieved from other TBAs. However, the results from this study showed that 59(96.72%) TBAs disinfected their equipment's before delivery but none of them utilized antiseptic cream inside the vaginal canal. The results illustrated that only 9(14.75%) TBAs could understand the cervical dilation during delivery. Although 54(88.52%) TBAs brought out placenta gradually, infact 18(29.50%) could check whether the full placenta came out or not. It was found that 58(96.72%) TBAs utilized thread available at home while only 2(3.28%) used clamp to hold the cord in place where the cut was made. It was also found that delivery skill of TBAs was significantly associated (chi-square=23.814 and p=0.022) with education level of TBAs. Therefore, the study concluded that the institutional training and formal education triggered the skill and knowledge level of TBAs which ensure the safety in childbirth.

**Key words:** Knowledge, Maternal health, Skills, Traditional birth attendant

### Introduction

Maternal mortality is one of the most daunting challenges facing the world today in the field of health. WHO define maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (WHO, 2004). UN inter-agency estimates that the global maternal mortality ratio declined by 44 per cent – from 385 deaths to 216 deaths per 100,000 live births from 1990 to 2015. Rate of maternal mortality in Bangladesh has declined by 66% estimated at a rate of 5.5% every year over last few

decades. According to UN and WHO in 2014, the latest rate of Maternal Mortality in Bangladesh is 170 per 100,000 live births. Seventy percent of maternal deaths are due to direct obstetric causes (UNICEF, 1999). In Bangladesh 62% deliveries occurred at home and out of those 47% were assisted by a birth attendant whereas 37% were untrained and 10% were trained. (BDHS, 2014). The main factors associated with delivery assisted by an unskilled attendant were low levels of education, household poverty, inadequate prior knowledge of pregnancy, lack of knowledge of delivery and post-delivery danger signs and the failure to use maternity care services (Mugo *et al.*, 2016). Another study conducted in Pakistan showed that the most

frequent reason for preferring home delivery was their family tradition (Shah *et al.*, 2010). Besides, pregnant women prefer TBAs for other major reasons include; traditional views, religious fallacy, poor road conditions, limited access of women to decision making in the family. Apart from these, women are less likely to discuss their problems or symptoms with a male doctor (Sarker *et al.*, 2016). Though women prefer home delivery assisted by traditional birth attendant but TBAs were found to practices potentially faulty procedures including frequent vaginal examinations, pressure on the fundus, pulling of the infant and forced delivery of the placenta (Goodburn *et al.*, 2000). Furthermore, a large number of the deaths can be attributed to unhygienic and dangerous delivery practices and inadequate pre and postnatal care. Therefore, training of TBAs has been recognized as one of the interventions intended to reduce maternal mortality and morbidity rates as well as to improve the reproductive health of women (Sarmiento, 2014). Literally, Skilled birth attendant is considered as the “single most important factor in preventing maternal deaths” (WHO, 1999). Although maternal mortality rate has decreased, the total number of death is still higher. Many studies have been conducted earlier on TBAs. Yet there is limited literature and research regarding knowledge and skill of TBAs on maternal health in Bangladesh. This fact from the literature encouraged us to conduct the present study. The objective of this study was to analysis the knowledge and skill of TBA on maternal health.

## Methodology

The study was conducted at Barajalia union in Hizla Upazila of Barisal district. Hizla upazila is the remote area of Barishal district. There was only one upazila health complex of 31 beds that had not enough health facilities for delivery and maternal caring. Moreover, in case of emergency, it is very difficult for the community people to go to the hospital due to the poor transportation system.

However, the survey was carried out during the period from 15 August to 15 November 2017. The snowball sampling technique was applied to find out the respondents as there was no available list of TBAs in the study area. However, the name and contact details of 80 TBAs had been recorded from the study area. Infact the list of TBAs was prepared through the query with female member of Union Parishad, old aged women, community health care provider (CHCP) of community clinic as well as door to door visits. Nevertheless, the final study included 61TBAs from the prepared list who were available during the survey. The respondents were interviewed through pre-designed structured questionnaires. A pilot study was conducted for a period one week on five respondents to verify practicability of the interview schedule. The objectives of the study and the contents of the questionnaires were clearly explained to each respondent. Moreover, the respondents were requested before their consent to administered questionnaires. A gynecologist has been consulted during the designing of the questionnaires to fix t

technical terminologies relating to child birth. During the interview, all the technical terms used in the questionnaires were explained to each respondent in their local language for clear understanding.

The data were collected on general background of TBAs included the variables like educational level, professional duration and training of TBAs. However in this survey, the duration of profession indicated the number of years practiced as TBAs at the study area while the training clarified the number of skillful TBAs and sources and/or institutions from where the TBAs acquired their professional experiences.

The skill of TBAs was measured through some practices during, before and after delivery viz. equipment utilization (type of equipments used during delivery), umbilical cord management, hand washing before delivery, vaginal canal management, duration of pain TBAs wait up to the child birth, suggestions during delivery difficulties, placenta management, materials to coil the baby for keeping warm. Either knotting with thread or clamping the clip to hold the umbilical cord was considered in management of umbilical cord. Furthermore, vaginal canal management included the utilization of greasy substances inside the vaginal canal before delivery and cleaning procedure of vaginal canal after delivery. Besides, the practices of TBAs to bring out placenta after delivery as well as to check whether the full placenta has been brought out or not ensure the placenta management.

The knowledge level included understanding the pain of delivery, position of baby, timing of child birth and APGAR (Activity, Pulse, Grimace, Appearance, and Respiration) score. The knowledge on appropriate timing of child birth was measured through the understanding of cervix opening up to 4 inch. However, the APGAR score estimation includes the understating of muscle tone of the child after birth if the arms and legs are in active motion; pulse rate indicating the understanding of heart beat if the rate is >100 beats per minutes; grimace indicating reflex irritability is a term describing response to stimulation if there is sneezing, coughing or pull away when stimulated; appearance indicating the skin color if there is no blue or entire body is pink color; and respiration rate focuses on the understanding of breathing effort if the child is strongly crying immediately after birth.

However, the present delivery skill of the TBAs was analyzed based on the understanding level of each above factors included in delivery skill level of TBAs. The information about delivery skill of TBAs was collected by 10 pre-designed and pre-coded delivery skill related questions as described above. Responses of TBAs were recorded and the correct response was scored as ‘1’, and the wrong response was recorded as ‘0’. The scores were summed up to create delivery skill score whereas total score was 18 which was further categorized into five level of delivery skill of TBAs as follows: the summed score ‘<4’ represented ‘vary weak skill’, ‘5-8’ represented ‘weak skill’, ‘9-12’ represented ‘Moderate skill’, ‘13-16’ represented ‘highly skilled’ and ‘>16’ represented ‘excellent delivery skill’ that’s were leveled

as 1, 2, 3, 4 & 5 respectively. Then chi-square test was carried out to find out the association among different variables by using SPSS (Statistical Package for Social Science) V16 software. In addition, percentage distribution of different variables was done by Microsoft Excel.

## Results

**General background of TBAs:** The selected background characteristics of TBAs are shown in Table 1. Considering the educational level of the respondents in the study, among 61 TBAs only 15 (24.59%) TBAs had participated in primary education whereas 40 (65.57%) TBAs had no educational status (Table 1).

**Table 1: Distribution of TBAs according to selected background characteristics**

Characteristics	No of respondents (N=61)	Percentage
<b>Education Level</b>		
No Education	40	65.57
Primary Education	15	24.59
Secondary Education	4	6.56
Higher Secondary Education	0	0.00
Bachelor Degree	2	3.27
<b>Professional Duration</b>		
1 to 8 years	14	22.95
9 to 16 years	14	22.95
17 to 24 years	15	24.59
25 to 32 years	15	24.59
33 to 40 years	3	4.91
<b>Training</b>		
Training received	4	6.55
Practiced with other TBAs	52	85.24
Practiced in private clinic	5	8.19

**Table 2: Distribution of TBAs based on their delivery skill**

Characteristics	No of respondents (N=61)	Percentage
<b>Equipment Utilization</b>		
Use Glove	26	42.62
Use Thread	58	95.08
Use Blade	58	95.08
Use Scissors	04	6.55
Labor and delivery kit	5	8.19
Equipment disinfection	59	96.72
<b>Umbilical cord management</b>		
<i>Utilization of Thread</i>	59	96.72
One Knot	5	8.19
Two Knots	35	57.37
Three Knots	15	24.59
Four Knots	4	6.55
<i>Utilization of Clip</i>	2	3.27
One Clamp	1	1.63
Two Clamp	1	1.63
Three Clamp	0	0
Four Clamp	0	0
<b>Suggestions during delivery difficulties</b>		
Referral to physician	39	63.93
Call a nurse to help her	20	32.78
Referral to other TBAs	2	3.27
<b>Duration of pain TBA wait up to child birth</b>		
Less than 8 hours	21	34.42
8 to 9 hours	10	16.39
24 hours	12	19.67
More than 24 hours	18	29.50
<b>Placenta Management</b>		
Bring Out Placenta gradually	54	88.52
Bring Out Placenta quickly	7	11.47
<i>Check Full Placenta (yes)</i>	18	29.50
<i>Stimulate Mother Wombs (yes)</i>	27	44.26
<b>Materials to Coil the baby after birth</b>		
Use towel	1	1.63
Cotton Cloth	15	24.59
Baby Tricot	35	57.37
Katha (blanket)	10	16.39

The study also found that the professional duration of the maximum respondents practicing as birth attendant at the study area ranged from 8 to 40 years. However, in the study area, it was observed that only 4 (6.55%) TBAs acquired skill through professional training while a major numbers of the TBAs 52 (85.24%) had been attending the child birth with hereditary skill acquired from their mother, aunt and other relatives who worked as TBA over the study area for a long period of time. Nonetheless, there were few TBAs 5 (8.19%) who worked as cleaner at gynecology department of private clinic and learnt to attend birth through observing and assisting nurses during delivery (Table 1).

**Delivery Skill of TBAs:** In majority cases of delivery, the present study found that the TBAs utilized thread 58(95.08%), blade 58(95.08%) and gloves 26(42.62%) whereas seldom used labor and delivery kit 5(8.19%) as delivery equipment. Indeed the maximum numbers of TBAs 59(96.72%) were used to disinfect their equipments before child delivery. The result of the umbilical cord management after child birth showed that 59 (96.72%) TBAs utilized thread available at home while only 2(3.28%) TBAs used clamp to hold the umbilical cord in place where the cut was made after birth (Table 2). In our study, it was found that whenever the difficulties faced during delivery 39(63.93%) TBAs

used to refer mother to go to the physician. However, 20(32.78%) TBAs preferred to call a nurse to assist her during difficulties at delivery. Moreover, the analysis from the TBAs practices showed that a pick percentage of TBAs 40(65.58%) tried their best for more than 8 hours for the child delivery rather than considering the difficulties and referring mother to physician. Next to the child delivery, though 54(88.52%) TBAs brought out placenta gradually, only 18(29.50) TBAs were able to check full placenta as well as 27(44.26%) TBAs stimulated mother wombs to recirculate blood clot. Additionally, the common materials used by the TBAs to coil baby for keeping body warm after birth included baby tricot (57.37%), cotton cloth (24.59%) and katha (locally made blanket) (16.39%) (Table 2).

It was observed that out of 61 respondents, 59(96.72%) TBAs used to wash their hands before delivery. In addition, 13(21.31%) practiced to wash their hands with only water whereas 43 (70.49%) used soap to wash hands prior to delivery (Figure 1).

The recorded practice of the utilization of greasy substances inside the vaginal canal showed that maximum TBAs 50(81.96%) used coconut oil before child birth in order to make the path greasy while none of them utilized antiseptic cream to avoid post-delivery infection (Figure 2).

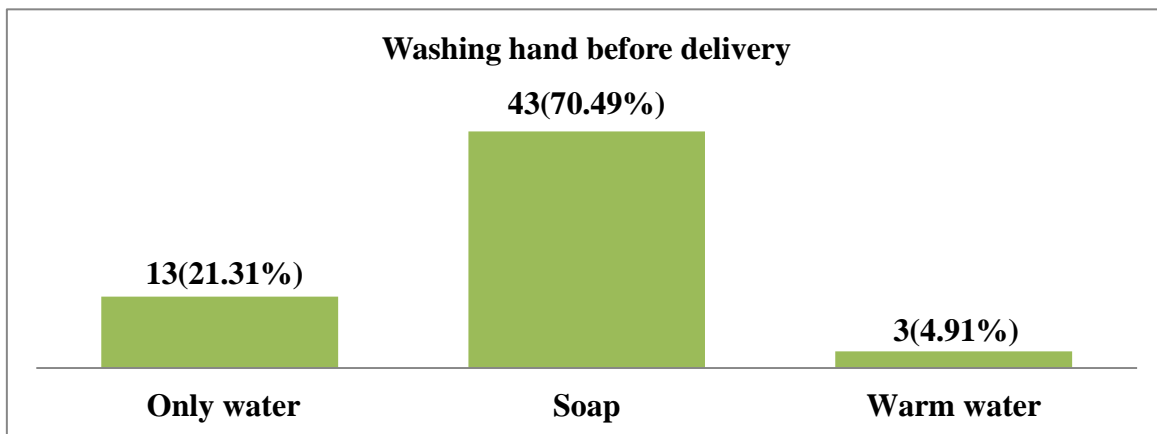


Figure 1: Graphical presentation of hand washing before delivery

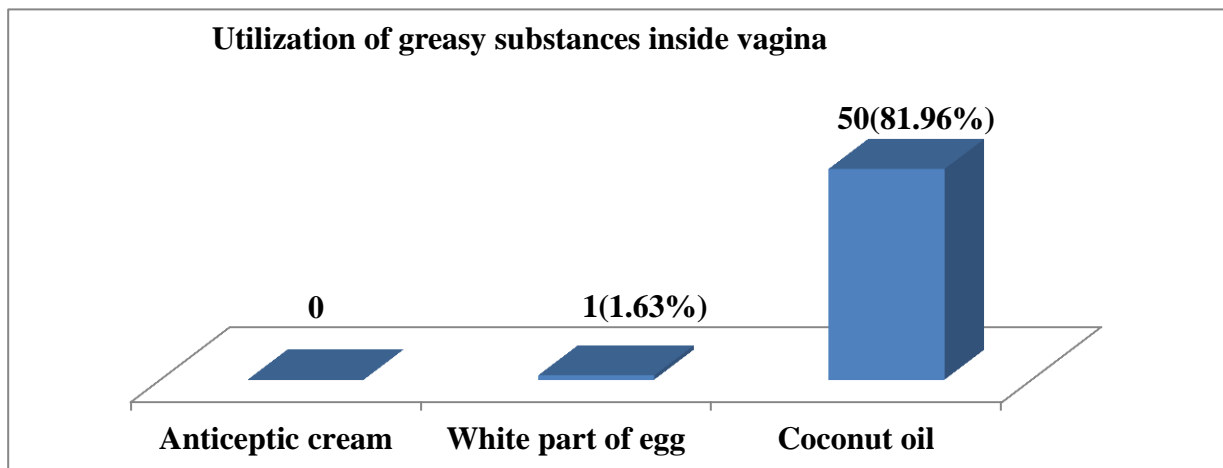


Figure 2: Percentage of TBAs use greasy substances inside vagina before delivery

The skillful practice regarding cleaning procedure of vaginal canal as presented in figure-3 showed that antiseptic cream was used by 9 (14.75%) TBAs whereas 22 (36.06%) TBAs used only cloth to clean vaginal canal after delivery (Figure 3). In addition, Delivery skill of TBAs was significantly associated ( $p \leq 0.05$ ) with education level of TBAs. It

affirmed that TBAs who had no institutional education maximum of them had weak delivery skill whereas TBAs who achieved bachelor degree were highly skilled. However, our study didn't find the association ( $p = 0.869$ ) between acquired training and delivery skill of the TBAs (Table 3).

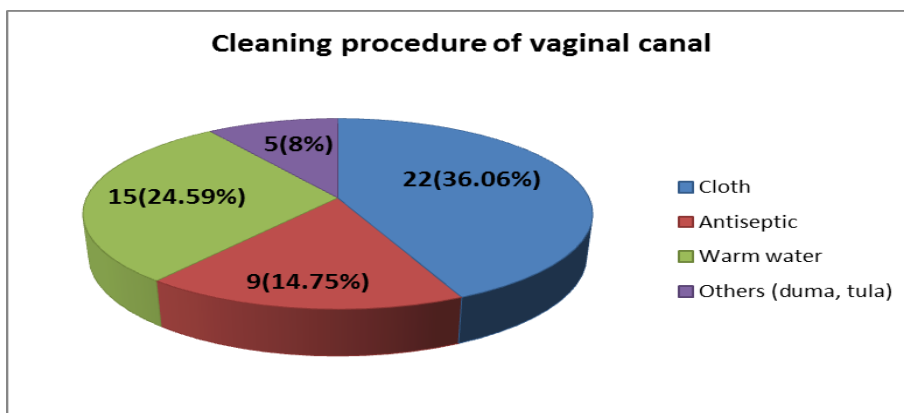


Figure 3: Cleaning procedure of Vaginal Cannel after Delivery

Table 3: Association of delivery skill score with education level and acquired training of TBAs

Variables	Delivery Skill Score					Total	Chi-square	P-value
	Very Weak	Weak	Moderate	High	Excellent			
Education level	No education	7 (11.4%)	22 (36%)	8 (13.1%)	3 (4.91%)	0	23.814	0.022
	Primary	1 (1.6%)	6 (9.8%)	4 (6.5%)	3 (4.91%)	1 (1.6%)		
	S.S.C	0	0	2 (3.2%)	2 (3.2%)	0		
	Bachelor degree	0	0	0	2 (3.2%)	0		
	Total	8	28	14	10	1		
Training	Yes	1 (1.6%)	2 (3.2%)	1 (1.6%)	0	0	1.257	0.869
	No	7 (11.4%)	26 (42.6%)	13 (21.3%)	10 (16.3%)	1 (1.6%)		
	Total	8	28	14	10	1		

**Knowledge level of TBAs:** The way to understand the pain of delivery by the TBAs reported that 22 (36.06%) TBAs could understand the true pain spread waist to leg while 36(59.01%) TBAs could understand the false pain spread waist to hip. Our study also found that TBAs understood the position of the baby through pushing the fingers inside the opened cervix. Consequently, whenever the TBAs

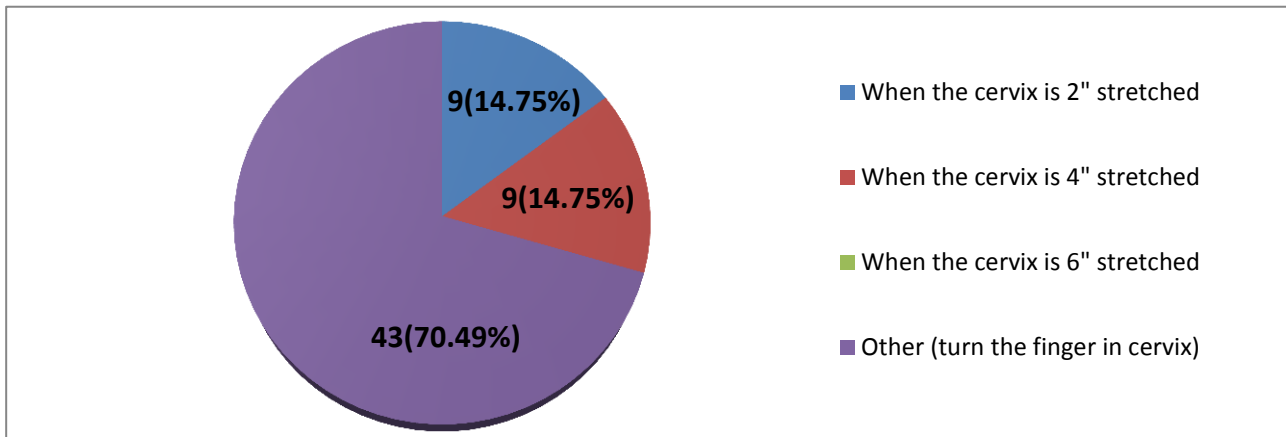
53 (86.88%) felt hard and hairs at their fingers inside the cervix indicated the right position of the baby to deliver. Although 58 (95.08%) TBAs understood APGAR testing score of the baby, they couldn't perfectly recognize all the components of APGAR score (Table 4).

Table 4: distribution of TBAs based on their knowledge level

Characteristics	No of respondents (N=61)	Percentage
<b>Understand Pain of delivery</b>		
True pain spread Waist To Leg	22	36.06
False Pain Spread Waist To Hip	36	59.01
<b>Understand right position of baby</b>		
Feeling Hard (head)	53	86.88
<b>Understand APGAR Testing Score</b>		
Check APGAR score	58	95.08
Pulse Rate	25	40.98
Appearance	28	45.90
Grimace	53	86.88
Respiratory Tract	58	95.08

The report on understanding the timing of child birth showed that only 9 (14.75%) TBAs could understand appropriate cervical dilation which opened up to 4 inch to give child

birth while 3 (70.491%) TBAs turned their fingers inside cervix to understand the timing of child birth (Figure 4).



**Figure 4: Understanding the timing of child birth**

**Discussion**

Many factors are liable to child birth at home such as low income, lack of health facilities, religious shackled and low level of educational percentage. Similar to others (Garces *et al.*, 2012), our study found that TBAs had low or no formal education. Furthermore, the percentage of trained TBAs was lower in the study area 4 (6.55%) compare to the national data (10%) in Bangladesh (BDHS, 2014). Since maximum TBAs acquired delivery knowledge by practicing with other TBAs and observing child birth technique at clinic, they were used to attend child birth without understanding the technical aspects of delivery that was very risky for maternal and child health leading to poor health outcomes and even death.

The results from the study found many TBAs attended child birth without wearing gloves as they had no knowledge about cross-transmission of germs. However, in true pain, painful uterine contract at regular intervals and frequency of contractions increase gradually while false pain remains confined to lower abdomen and groin (Dutta, 1983). Though almost half of the TBAs could understand false pain in this study area still many TBAs couldn't understand true pain appropriately as they had no actual knowledge about delivery pain. On the basis of this study findings as well as other studies (Bangladesh national hygiene baseline survey, 2014) higher percentage of TBAs were found to use coconut oil inside vagina before child birth for cervical dilatation but none of them utilized antiseptic cream to avoid post-delivery infection. Additionally, the fetal presentation can be determined by the first fetal body part that passes through the birth canal and most commonly the body part is the vertex of the head but sometimes the buttocks or a shoulder leads the way and that is abnormal position (ACOG, 2009). Nevertheless in our study area, TBAs checked the fetal position by inserting hand through vagina and confirmed right position by feeling hard. However, Norwitz *et al.* (2003) ascertained the degree of cervical dilatation ranges from 0 cm (closed or fingertip) to 10 cm or 4 inch (complete or fully dilated). Infact our study found that major percentage of TBAs 43(70.491%) measured the cervix opening by their four fingers equal to 10cm/ 4 inch which

could trigger the delivery difficulties. Thus the study confirmed that the maximum TBAs had no knowledge and skill about this measurement moreover they only turned the fingers inside cervix to understand the timing of child birth which was the most common faulty practice of TBAs in the study area. Furthermore, the labor of normal child birth varies widely, but the active phase averages some eight hours (Baby Centre Medical Advisory Board, 2012). On the contrary, in the study area, TBAs forced for childbirth before eight hours without waiting for full opening of cervix whereas some other TBAs tried for more than 24 hours without referring mother to the physician which could lead to the maternal and/or child death.

In case of placenta management a hand is inserted through the vagina into the uterine cavity and the placenta is detached from the uterine wall and then removed gradually (Dehbashi, 2004). The placenta should be checked weather full placenta comes out or not, otherwise, it may causes retained placenta in the womb. Thereafter, the uterus should be massaged after delivery to facilitates expulsion of retains clots if any (Dutta, 1983). A considerable percentage of TBAs couldn't manage placenta appropriately as most respondents had no formal training. Similar to the other studies (Falle *et al.*, 2009, Reeve *et al.*, 2016), our study also found that TBAs were willing to refer mother to any health facility whenever they couldn't manage the complication. It appeared that referral mostly took place after all other traditional interventions failed.

According to national neonatal health strategy 2009, umbilical cord should be tied in at least 3 places using a clean/sterile thread to stop unnecessary blood flow. Though extra blood would be all the more for the baby to process causing jaundiced, but this is rare. On the other hand, Andersson *et al.* in 2011, found that delayed cord clamping reduced prevalence of neonatal anemia. Therefore, it is usually safe to wait to clamp the umbilical cord after the baby is born for

at least 60 seconds and possibly longer if baby is born near due date (American College of Nurse-Midwives, 2013). Besides, within 0- 4 minutes of birth, baby should wrap with dry and warm cloth to prevent hypothermia (National Neonatal Health Strategy and Guidelines for Bangladesh, 2009). But in the study area low proportion of TBAs were found to tie umbilical cord with three knots farther many of them used to cut umbilical cord immediately after childbirth without wrapping baby with warm cloth that may causes hypothermia and anemia to the baby.

After child birth, vaginal discharge should clean properly. Vagina should clean with warm or cold water then an over-the-counter pain reliever, spray or antiseptic cream should use according to the suggestion of health care provider. Due to lack of education and training, TBAs of the study area couldn't provide appropriate postpartum care contrariwise their faulty procedure of cleaning vaginal discharges may cause uterine infection. Moreover, very few TBAs were found to check pulse rate and observe appearance of baby even though APGAR score describes the condition of the newborn infant immediately after birth (Papile, 2001).

A study conducted in Nigeria and found that knowledge level of TBAs about child birth is positively correlated with education level (Ebuehi and Akintujoye, 2012). Nevertheless, the present study found that TBAs' skill on different practices of child birth was significantly associated with their education level. However, although few TBAs acquired training, they were weak and/or moderate in skillful practices of child birth. Because, they achieved the skill development training for a duration of 1-2 days which was not enough to be a highly and/or excellently skillful TBA. Moreover, illiteracy of the maximum TBAs also fueled their unskilled practices in child birth.

## Conclusion

The lack of formal educational background and skill of TBAs have been found as the major risk on the way of safe birth at home. Even though few TBAs acquired training, they had no enough knowledge to understand the true pain of child birth, position of baby, cervical dilation and APGAR testing score. In addition, they were not enough skillful in umbilical cord & placenta management and used to do faulty practices. Thus the study concluded that the formal education and professional training triggered the skill and knowledge level of TBAs. Therefore, the study recommended that TBAs need at least one week exclusive training on maternal health and child delivery technique in order to update their knowledge and skill as well as to change their traditional attitude toward child birth.

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