Research Article

Rate of Home Delivery and Participation of Traditional Birth Attendants is Declining in Dhaka City

Shahab Uddin Howlader[1], Abdur Razzak[1]*, Selim Raza[2] and Sabir Hossain[1]

[1]Department of Biochemistry & Molecular Biology, Jahangirnagar University, Bangladesh
[2]Department of Applied Nutrition and Food Technology, Islamic University, Bangladesh

Abstract

The rate of home delivery and role of traditional birth attendants are declining rapidly. The aim of this study was to find out the current situation of home delivery and participation of birth attendants in Dhaka City regarding safe motherhood. A descriptive cross-sectional study was conducted in this research. This study found that 53.9% baby was delivered normally and 45.9% baby was delivered by surgical operation during study period. Institutional delivery rate was 75.5% in this study (37.7% in Clinic, 35.6% in Hospital, and 2.3% health care center) and one forth (24.5%) was delivered in home. The type of delivery was significantly related to maternal age, education and income level. In case of birth attendants, 56.2% babies were delivered by health service personnel, 35.2% by TTBA and 8.7% babies were delivered by TBA. Maternal education; pre-pregnancy nutritional status and family income have strong effect on type of birth attendants. Type of birth attendants had strong correlation with maternal age (p=0.000) and family income (p=0.000) and had association with parental education (p=0.000). Types of delivery (p=0.000), place of delivery (p=0.000), bleeding after delivery (p=0.000) were significantly associated with birth attendants. Moreover, infection after delivery (p=0.000), treatment with antibiotics (p=0.000) had significant association with birth attendants. It can be concluded that rate of home delivery and involvement of TBA in pregnancy outcome decreasing day by day which is strongly related with maternal age, education and family income. Type of birth attendants is also related with other obstetric care services in Dhaka City.

Introduction

Unassisted delivery or assisted by untrained or unskilled birth attendance is a public health issue associated with maternal mortality and morbidity around the world. A birth attendant, is a midwife, physician, obstetrician, nurse, or other health care professional who provides basic and emergency health care services to women and their newborns during pregnancy, childbirth and the postpartum period. Birth attendants are trained to be present at childbirth, whether the delivery takes place in a health care institution or at home, to recognize and respond appropriately to medical complications, and to implement interventions to help prevent them in the first place including through prenatal care [1].

Traditional Birth Attendants (TBAs) play an important role in regions where most births take place in the home [2] and, in Asia, constitute the largest single group of birth attendants (41% of births) [3]. According to The World Health Organization (WHO), TBA is "a person who assists the mother during childbirth and initially acquired her skills by delivering babies herself or through apprenticeship to other TBAs" [4]. TBAs are integral members of their communities and provide an important window to local customs, traditions, and perceptions regarding childbirth and newborn care [5,6]. Traditional midwives provide basic health care, support and advice during and after pregnancy and childbirth, based primarily on experience and knowledge acquired informally through the traditions and practices of the communities where they originated [7]. TBAs provide the majority of primary maternity care in many developing countries and may function within specific communities in developed countries.

In Bangladesh, although women living in urban slum areas of Dhaka reside in close proximity to facilities with skilled care, 70% of women in urban areas give birth at home with non-medically trained providers [8] which is likely to be even higher in urban slums in 2004.The World Health Organization estimates of coverage show that in 2011, only 18% of births in Bangladesh were attended by skilled personnel, in Nepal this was 19%, Pakistan 39% and India 47% [9].

According to study of Bidhan Krishna Sarker et al., [10] the majority of deliveries still take place at home (62%), and more than 56% deliveries are assisted by Traditional Birth Attendants (TBAs) or relatives while medically trained personnel conduct only 42% of all births, both at home and in facilities at the national level. The deliveries which take place at home and are assisted by TBAs are often performed in unsafe and unhygienic conditions resulting in increased risk of maternal and child morbidity and mortality. The aim of this study was to find out the participation of TBA in pregnancy outcome in Dhaka City regarding safe motherhood.

Methodology of the Study

The study was a descriptive cross-sectional study. The target group of the study was lactating mothers and their under-three year's children. The survey collected data through semi-questionnaire-based face-to-face interviews, for lactating mothers of age 14 to 45 years and who have at least one baby. Each respondent (mother) was asked to provide a detailed birth history, obstetric care and information about her under-three child.

The study was conducted at different hospitals, MCH centers and clinics in selected areas of Dhaka City, the most densely populated area of Bangladesh, which were selected purposively as the study objective fulfill and the place depending upon communication, availability to the sample and other relevant inclusions and exclusions factors. Study was conducted from January 2014 to December 2016.

Subject selection criteria

Sample was selected by the following criteria: Lactating mothers who have 0-3 years old children, age limit was taken 14-45 years, and those whom were agreed to fulfill the questionnaire willingly. Respondents, who were not willing to participate in the study, do not have any child and age of above 45 years old, excluded. Data from children with a missing birth weight, mothers with twin or multiple pregnancies, and stillbirths were also excluded from the analysis. Due to resource constraints smaller purposive sample size i.e. 385 per year (Total 1155) was included in the study and prior permission was taken from the superior authority of specific community clinics and hospitals.

A standard questionnaire was developed to obtain the relevant information regarding the socioeconomic information, and information about anthropometric status, and about obstetric care. Questionnaires were checked each day after interviewing and again these were carefully checked after completion of all data collection and entry to minimize the errors for entering the data set into the computer.

Variables of the study

Different factors such as maternal pre-pregnancy nutritional status and age, educational qualification, occupational status, and place of residence, were considered in the study.

Maternal age was divided into the categories of ≤15 years, 15-20 years, 20-25 years, 25-30 years 30-35 years and >35 years. Education level was defined as less than secondary, secondary, higher education, graduate or above and current occupational status was classified as service, business, part time, and housewife. Height and pre-pregnancy body weight were recorded during data collection, and Body Mass Index (BMI) was calculated as the ratio of weight in kilograms to height in meters squared (kg/m^2). BMI was further categorized into four groups: low (≤18.5 kg/m^2), normal or healthy weight (18.5-24.9 kg/m^2) or overweight (BMI 25.0-29.99 kg/m^2) and obese (>30 kg/m^2). Financial status is classified on the basis of the monthly income of the participants as less than 1000.00Tk, 10000 to 20000.00Tk, 20000 to 30000Tk, 30000.00 to 40000Tk, 40000 to 50000Tk, 50000 to 60000Tk, and 60000Tk thousands per month. Place of residence was classified as in building, tin shed building, slum.

Data analysis

All the statistical analysis and all other data processing were done by using SPSS version 17.0 and Microsoft Excel 2010 windows program. Data was analyzed in term of frequency distribution and percentage. To reveal the association and correlation among different parameters Pearson Chi-square and Pearson correlation tests were used.

Results

Socioeconomic characteristics of mothers

In the study participated mother's age limit was found in fourteen to thirty five years. The mothers were categorized into six age groups. In this study, 1155 mothers were assessed in the selected areas of Dhaka city where 0.5% mothers were found in the age of less or equal 15 years, 23.1% mothers were found in the age of less or equal 15-20 years, 33.8% mothers were found in the age between 20-25 years, 30% mothers were found in the age of 25-30 years, 9.0% mothers were found in the age of 30-35 years and 3.6% mothers were found in the age of above 35 years.

Table 1 show that monthly income of 3.8% family had less than 1000.00Tk. 26.1% family had 10000 to20000.00Tk.24.2% had 20000 to 30000Tk, 9.5% had 30000.00 to 40000Tk per month. 11.3% had 40000 to 50000Tk, 13.2% had 50000 to 60000 Tk. Only 11.9% family had more than 60000Tk thousands.

Educational qualification of mother was 46.9% less than SSC, 15.2% SSC, 222.2% was HSC and 15.8% was graduate or higher. Educational qualification of father was 29.2% less than SSC, 14.8% SSC, 29.8% was HSC and 26.2% was graduate or higher (Table 1).

Pre-pregnancy nutritional status of mother

In this study, 79.7 mothers were able to tell their pre-pregnancy and 20.3% mother cannot tell their weight. 55.8% of the mothers had normal BMI whereas only 13.5% were underweight. On the other hand, 9.2% mothers were found overweight and 1.2% obese respectively (Figure 1).
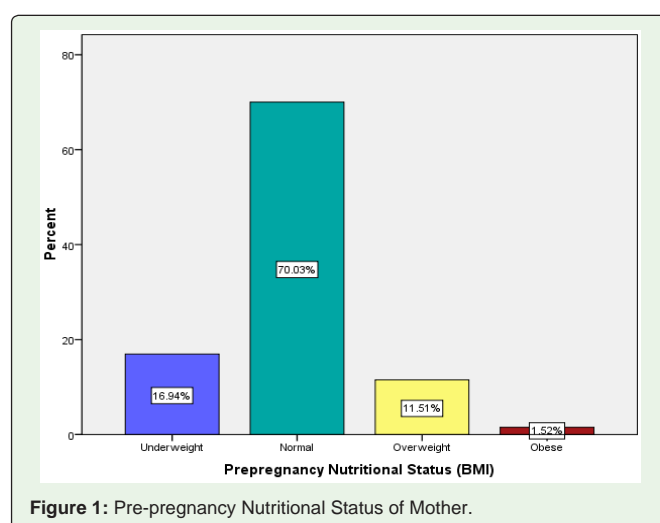

Figure 1: Pre-pregnancy Nutritional Status of Mother.

Obstetric care of mother

Table 2 show that 53.9% baby was delivered normally and 45.9% baby was delivered by surgical operation and 0.2% by others methods. 36.9% babies were delivered in clinic. 35.1%, 2.3% babies were delivered in hospital and health care center respectively. Still above one forth (25.8%) of mother are used to deliver their babies in home. In addition, 55.1% babies were delivered by Health Service Personnel (HSP), 36.1% by TTBA and 8.8% babies were delivered by TBA.

Majority (63.1%) of mothers had normal bleeding after delivery, 25.5% had medium and 11.4% mothers had excessive bleeding after delivery. 82.9% mothers had no infection after delivery and 17.1% of them had any kind of infection after baby birth (Table 2).

Among 1155 mothers 609 (52.7%) took antibiotics after delivery to prevent any infection. All the mothers who gave birth by surgery have taken antibiotics. On the other hand, 47.3% mother did not take any antibiotics. Most of the mothers (89.9%) did not have any problem to remove their placenta after delivery of baby and only 10.1% had different types of problem (Table 2).

Table 1: Socioeconomic Characteristics Participants.

Maternal Age (Years)	Frequency	Percent
Less than 15	6	0.5
15 to 20	267	23.1
20 to 25	390	33.8
25 to 30	346	30
30 to 35	104	9
Above 35	42	3.6
Family Income (Tk per month)		
Less than 10000	44	3.8
10000 to 20000	302	26.1
20000 to 30000	279	24.2
30000 to 40000	110	9.5
40000 to 50000	131	11.3
50000 to 60000	152	13.2
Above 60000	137	11.9
Maternal Education		
Less than SSC	542	46.9
SSC	175	15.2
HSC	256	22.2
Graduate or Above	182	15.8
Father's Education		
Less than SSC	337	29.2
SSC	171	14.8
HSC	344	29.8
Graduate or Above	303	26.2

Table 2: Distribution of Obstetric Care Services.

Type of Delivery	Frequency	Percent
Normal	623	53.9
Cesarean	530	46.1
Place of Delivery		
Home	283	24.5
Hospital	411	35.6
Clinic	435	37.7
Health Care Center	26	2.3
Birth Attendants		
Trained Birth Attendants	406	35.2
Untrained Birth Attendants	100	8.7
Health Service Personnel	649	56.2
Bleeding after Delivery		
Normal	729	63.1
Medium	294	25.5
Excessive	132	11.4
Infection after Delivery		
Yes	198	17.1
No	957	82.9
Treatment with Antibiotics		
Yes	609	52.7
No	546	47.3
Problem to Remove Placenta		
Yes	117	10.1
No	1038	89.9

Association and correlation with individual level factors

Type of birth attendants had strong correlation with maternal age (p=0.000) and family income (p=0.000) and had association with parental education (p=0.000) (Table 3).

Types of delivery (p=0.000), place of delivery (p=0.000), bleeding after delivery (p=0.000) were significantly associated with birth attendants. Moreover, infection after delivery (p=0.000), treatment with antibiotics (p=0.000) and problem to remove placenta (p=0.000) had significant association with birth attendants (Table 4).

Table 3: Association and Correlation with Individual Level Factors.

Age of Mother	TTBA	TBA	HSP	X²/R-value	p-value
Less than 15	3	3	0	52.146	0.000
15 to 20	109	30	128		
20 to 25	137	30	223		
25 to 30	97	22	227		
30 to 35	36	8	60		
Above 35	24	7	11		
Income					
Less than 10000	17	10	17	44.498	0.000
10000-20000	132	31	139		
20000-30000	96	29	154		
30000-40000	31	9	70		
40000-50000	43	9	79		
50000-60000	43	8	101		
Above 60000	44	4	89		
Paternal Education					
<SSC	115	54	168	46.628	0.000
SSC	59	16	96		
HSC	141	17	186		
≥Graduate	91	13	199		
Maternal Education					
<SSC	199	72	271	40.164	0.000
SSC	71	6	98		
HSC	86	14	156		
≥Graduate	50	8	124		

Table 4: Association of Birth Attendants with other Obstetric Care Services.

Obstetric Care Services	X²-Value	p-Value
Type of Delivery	768.974	0.000
Place of Delivery	561.482	0.000
Bleeding after Delivery	28.400	0.000
Infection after Delivery	31.856	0.000
Treatment with Antibiotics	394.241	0.000
Problem to Remove Placenta	25.390	0.000

Discussion

In this study, 56.2% babies were delivered by health service personnel (HSP), 35.2% by trained traditional birth attendants (TTBA) and 8.7% babies were delivered by untrained Traditional Birth Attendants (TBA). Participation of skilled or trained birth attendants is doubled from 2011in Bangladesh [9].

This study found that 53.9% baby was delivered normally and 46.1% baby was delivered by surgical operation. In 2007 institutional rate was only 15% in Bangladesh [11]. In this study institutional delivery rate was 75.5% in this study (37.7% in Clinic, 35.6% in Hospital, and 2.3% health care center). Among them 61% delivery was ended with C-section 39% was delivered normally. On the other hand, forth (24.5%) was delivered in home. These findings are opposite to a previous study which stated that in rural Bangladesh the majority of deliveries take place in at home 70% [12], (62%) and more than 56% deliveries are assisted by traditional birth attendants or relatives while only 42% conducted by trained personnel both at home and institution at national level [13] and a report conducted NIPORT in 2009 [14,15], indicating rapid increase in institutional delivery and reduction of home delivery and participation of TBA in Dhaka City which is consistent with rate of urban India (90%).

Our study also found that 63.1% mothers had normal bleeding after delivery, 25.5% had medium and 11.4% mothers had excessive bleeding after delivery. Types of delivery (p=0.000), place of delivery (p=0.000), bleeding after delivery (p=0.000) were significantly associated with birth attendants.

This study also found that 82.9% mothers had no infection after delivery and 17.1% of them had any kind of infection after baby birth. In addition, 52.7% mother took antibiotics after delivery to prevent any infection. All the mothers who gave birth by surgery have taken antibiotics. On the other hand, 47.3% mother did not take any antibiotics. Most of the mothers (89.9%) did not have any problem to remove their placenta after delivery of baby and only 10.1% had different types of complications and infection after delivery (p=0.000), intake of antibiotics (p=0.000) and problem to remove placenta (p=0.000) had significant association with birth attendants.

Monthly income of 3.8% family had less than 1000.00Tk. 26.1% family had 10000 to 20000.00Tk. 24.2% had 20000 to 30000Tk, 9.5% had 30000.00 to 40000Tk per month.11.3% had 40000 to 50000Tk, 13.2% had 50000 to 60000 Tk. Only 11.9% family had more than 60000Tk thousands.

Educational qualification of mother was 46.9% less than SSC, 15.2% SSC, 222.2% was HSC and 15.8% was graduate or higher. Educational qualification of father was 29.2% less than SSC, 14.8% SSC, 29.8% was HSC and 26.2% was graduate or higher.

In this study, 0.5% mothers were found in the age of less or equal 15 years, 23.1% mothers were found in the age of less or equal 15-20 years, 33.8% mothers were found in the age between 20-25 years, 30% mothers were found in the age of 25-30 years, 9.0% mothers were found in the age of 30-35 years and 3.6% mothers were found in the age of above 35 years.

Association and correlation

Type of birth attendants had strong correlation with maternal age (p=0.000) and family income (p=0.000) and had association with parental education (p=0.000). Types of delivery (p=0.000), place of delivery (p=0.000), bleeding after delivery (p=0.000) were significantly associated with birth attendants. Moreover, infection after delivery (p=0.000), intake of antibiotics (p=0.000) had significant association with birth attendants (Table 3 & 4).

Conclusion

In this study, 56.2% babies were delivered by health service personnel (HSP), 35.2% by trained traditional birth attendants (TTBA) and 8.7% babies were delivered by untrained Traditional Birth Attendants (TBA). This study found increased rate of cesarean (46.1%) and institutional delivery (75.5%) in (61% delivery was ended with C-section, 39% normally). On the other hand, one forth (24.5%) was delivered in home. These findings are opposite to a previous study and consistent with rate of urban India and several previous studies in Bangladesh, indicating reduction of home delivery and participation of TBA in Dhaka City. Monthly income and educational qualification and age determine the type of birth attendants and place of delivery. Types of birth attendants had great association with delivery pattern, place of delivery, bleeding after delivery. Participation of birth attendants has effect on infection after delivery, treatment with antibiotics and complications. It can be concluded that rate of home delivery and involvement of TBA in pregnancy outcome decreasing day by day which is strongly related with maternal age, education and family income. Type of birth attendants is also related with other obstetric care services in Dhaka City.

References

1. World Health Organization. Global action for skilled attendants for pregnant women. 2002.

2. Narayanan I, Shaver T, Clark A, Cordero D, Faillace S. Entry into this world: who should assist? Birth attendants and newborn health. Arlington, Virginia. Basic Support for Institutionalizing Child Survival Project for United States Agency for International Development. 2004; 12.

3. de Bernis L, Sherratt DR, AbouZahr C, Van Lerberghe W. Skilled attendants for pregnancy, childbirth and postnatal care. Br Med Bull. 2003; 67: 39-57.

4. World Health Organization. Traditional birth attendants: a joint WHO/UNFPA/UNICEF statement. Geneva: World Health Organization.1992; 18.

5. Kamal IT. The traditional birth attendant: a reality and a challenge. Int J Gynaecol Obstet. 1998; 63: S43-52.

6. Leedam E. Traditional birth attendants. Int J Gynaecol Obstet. 1985; 23: 249-74.

7. World Health Organization. Classifying health workers. Geneva, WHO. 2010.

8. National Institute of Population Research and Training. Bangladesh demographic and health survey. Dhaka: National Institute of Population Research and Training. 2005; 342.

9. WHO. Proportion of births attended by a skilled health worker. 2008.

10. Bidhan Krishna Sarker, Musfikur Rahman, Tawhidur Rahman, Jahangir Hossain, Laura Reichenbach, Dipak Kumar Mitra. Reasons for Preference of Home Delivery with Traditional Birth Attendants (TBAs) in Rural Bangladesh: A Qualitative Exploration. PLoS One. 2016; 11.

11. Murray SF. Relation between private health insurance and high rates of caesarean section in Chile: qualitative and quantitative study. Br Med J. 2000; 321: 1501-1505.

12. Martin JA, Park MM, Sutton PD. Births: preliminary data for 2001. National Vital Statistical Report. 2002; 50: 1-20.

13. Ravindran J. Rising caesarean section rates in public hospitals in Malaysia 2006. Med J Malaysia. 2008; 63: 434-435.

14. National Institute of Population Research and Training (NIPORT) MaA, and ICF International. Bangladesh Demographic and Health Survey 2014: Key Indicators. Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT, Mitra and Associates and ICF International. 2014.

15. Islam MT, Yoshimura Y. Rate of cesarean delivery at hospitals providing emergency obstetric care in Bangladesh. International Journal of Gynecology & Obstetrics. 2015; 128: 140-143.

Citation: Howlader SA, Razzak A, Raza S and Hossain S. Rate of Home Delivery and Participation of Traditional Birth Attendants is Declining in Dhaka City. SM J Nutr Metab. 2018; 4(1): 1023.

Page 5/5