

MATERNITY CARE AND NUTRITION IN A RURAL AREA OF BANGLADESH: A HOUSEHOLD SURVEY

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Objective: Determine knowledge, attitude and practice of mothers about maternity care and nutrition during pregnancy and lactation and knowledge and practice of traditional birth attendants about obstetric care.

Research Design and Methods: Cross-sectional household survey. All households in which there was a child 12 months of age or below in three villages were included. Seventy-six mothers and twelve traditional birth attendants were interviewed using standard questionnaires.

Setting: Palongkhali Union, a rural area in Cox's Bazar District, Bangladesh.

Results: The majority of mothers (92.1 %) did not visit a health worker during their last pregnancy. Mothers had false beliefs about food, such as fish and eggs during pregnancy and lactation. Although traditional birth attendants attended the majority of deliveries (77.6 %), their knowledge and training about maternity care were inadequate.

Conclusion: Mothers of Palongkhali Union had poor knowledge and false beliefs about food and nutrition during pregnancy and lactation. Health care and services for pregnant mother were inadequate. Knowledge and attitudes of traditional birth attendants about maternity care were poor. Improvement of maternal and child health services and appropriate training of traditional birth attendants are needed.

Bahrain Medical Bull 1996;18(4):

Bangladesh has a population of 115 million 47 % of whom are under 15 years of age¹. The infant and under-fives mortality rates were estimated as 114 and 180 per 1000 live births respectively¹. The maternal mortality rate is

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high (600 per 100,000 live births) with 5 % of the deliveries attended to by a trained health worker and with 25 % of the pregnant mothers had tetanus immunisation¹. These figures reflect the poor health and socioeconomic conditions of the people.

In 1989, a health development project (HDP) was established in Ukhia thana in Cox's Bazar District organized by the Department of Family and Community Medicine (FAMCO) of King Faisal University in Dammam, Saudi Arabia, the National Institute of Preventive and Social Medicine (NIPSOM) in Dhaka, Bangladesh and the International Islamic Relief Organization (IIRO)^{2,3}. It is coordinated by Rabitat Al-Alam Al-Islami in Dhaka and is sponsored by the IIRO. A thana is somewhat

akin to a country in England. Each thana is divided into several unions⁴. Ukhia thana has five unions. The HDP was established with the objectives of:

- a) Providing comprehensive primary health care (PHC) services to the rural population of Ukhia through training of community health workers called village health promoters (VHPs),
- b) Assisting in the overall socioeconomic development by supporting income-generating projects such as fisheries, poultry & agriculture. A primary health care institute (PHCTI) for training of VHPs was established and a plan of action was started.

A household survey was done to provide some data for the purpose of planning and improving the training of VHPs. The specific objectives of this survey were to determine:

1. Knowledge, attitude and practice of mothers about maternity care and nutrition during pregnancy and lactation.
2. Knowledge, attitude and practice of traditional birth attendants (TBAs) about obstetrical care for pregnant mothers.

METHODS

A household survey was carried out in Palongkhali union, one of the five unions of Ukhia thana. Palongkhali union has 13 villages with a total population of 14,449. A PHC centre was established by the HDP to provide comprehensive PHC services to this population. The target population was all mothers who have at least one child aged 12 months or below at the time of registration by the VHPs. VHPs were graduated in late 1991 and family registration started at the beginning of 1992. Before that time there was no system for family registration or registration of births and deaths. At the time of the survey family registration was complete for 11 villages. Each of the 13 villages had its own TBA.

Three villages were randomly selected, using random number tables, from the 11 villages with complete family files. With the help of the VHPs, all files in which there was a child 12 months of age or below were selected (cluster sampling). The three villages were Thaing-khali (population 1565), Tejnimar khola (population 532), and Palongkhali (population 928). The total numbers of families selected were 82. Twelve TBAs from 12 villages were interviewed.

Data were collected through interviewing of mothers and TBAs using structured questionnaires. The mother's questionnaire gathered information on antenatal care (ANC) attendance, health problems, and food preferences during pregnancy and puerperium. The TBAs' questionnaire contained questions on knowledge, attitude and practice about maternity care. The questionnaires were conducted by two interviewers (the first two authors) with the help of two interpreters, a male and a female VHP, from the same area for each interviewer. All TBAs were interviewed at Palongkhali PHC centre. Mothers were interviewed at their homes. Each interview took about 20-30 minutes for both mothers and TBAs. The survey took about 10 days.

Home visits were not pre-arranged and the exact objectives of the survey were not explained to the respondents. Questionnaires were coded and entered into an IBM personal computer. Analysis was done using SPSSPC software.

RESULTS

Maternity Care, Knowledge, Attitude and Practice:

It was possible only to cover 76 households (92.7 % of the sample). The mean age of the mothers interviewed was 25.9 years¹⁾ 5.6 (SD). When mothers were asked if they had visited health care personnel during their last pregnancy, the majority of them (92.1 %) did not visit a health care provider (doctor, midwife, nurse). Out of the six mothers who sought medical care, only three of them did so for routine ANC checkup. Out of those six, only one of them received advice on MCH care.

About 78 % of deliveries were attended by a TBA as shown in Table 1.

Table 1. Persons who attended delivery

Person who attended delivery	No	%
Untrained midwife (TBA)	59	77.6
Mother's relative	12	15.8
Trained midwife	3	3.9
Nurse	1	1.3
Delivered unattended	1	1.3
Total	76	100.0

The common problems during delivery were bleeding (13.2 %) and fever (13.2 % and 5.3 % of deliveries respectively). Other problems during delivery included breast infection, retained placenta, prolonged labour and malaria. Similarly, fever and bleeding were the common conditions experienced by mothers after delivery as shown in Table 2.

Table 2. Conditions experienced by mothers during the first 6 weeks after delivery

Conditions	No	%
Bleeding	9	11.8
Fever	16	21.1
Bleeding + Fever + Breast abscess	6	7.9
Other conditions (diarrhoea, headache, dizziness)	2	2.6
No complications (normal puerperium)	43	56.6
Total	76	100.0

The common foods preferred by mothers during pregnancy were sour foods, fruits (eg. Tamr hindi), vegetables and rice. Table 3 shows the types of food avoided by mothers during pregnancy. Fish, although cheap and available in the area, was not consumed by a quarter of pregnant mothers. However, the survey did not attempt to measure the quantities of food consumed.

Table 3. Types of foods avoided by mothers during pregnancy

Types of foods	No	%
Fish and rice	12	15.8

Fish, meat and eggs	19	25.0
All types of vegetables	3	3.9
All types of food except rice	2	2.6
Did not avoid any type of food, eat all kinds of food	40	52.6

Total	76	100.0

The main reasons stated by mothers for not eating these foods were their bad smell and taste (63.9 %), the wrong belief that these might lead to the birth of a baby with scabies or skin disease (11.6 %) and the inability to buy food due to poverty (8.3 %). Similar types of food were also avoided in the first few weeks after delivery. Similarly the false beliefs that these foods will harm the baby and will lead to scabies were clearly reported by mothers as the main reasons for avoiding them during the puerperium.

Breast-feeding was initiated immediately after birth up to 1 hour by 42 (55.3 %) mothers, in 1-4 hours by 25 (32.9 %), in 5-24 hours by 2 (2.6 %), and after 24 hours by 6 (7.9 %) mothers respectively. Only one mother did not breastfeed at all.

TBAs Knowledge and Practice in Maternity Care:

The mean age of TBAs was 53.3 years¹⁾ 10.3 ' SD), with a range of 35 to 70 years. All twelve TBAs were illiterate. The mean number of years they had been conducting delivery was 23.0 years¹⁾ 13.1 ' SD) with a range of 4.0 to 40.0 years. Five (41.7 %) of the TBAs had some training in maternity care and family planning.

All twelve TBAs recognised the need for further training in maternity care. Only 3 (25 %) of the TBAs had midwifery boxes or instruments. The contents of the boxes included one or more of the following: plastic sheet, cotton wool, steel blade for cutting the umbilical cord, thread, soap and brush, gloves and sterilizer box. There was no regular pattern for home visits by TBAs, sometimes monthly, weekly or twice per week. The main objectives of ANC visits as stated by TBAs were to check the position of the baby in uterus and give advice on cleanliness. Two of the TBAs gave advice on good food. However, when they were asked what type of advice they gave, no specific answers were given. When TBAs were asked about the actions they would take in two emergency situations (retained placenta and baby did not cry or breathe after delivery), their answers were satisfactory and scientifically sound.

Post-natal care home visits were practiced by 9 (75 %) of the TBAs in an irregular pattern but mostly during the first week after delivery. Only 3 (25 %) TBAs reported the use of traditional or herbal medicines during and after delivery.

DISCUSSION

Delivery was mainly attended by TBAs. The concept of maternal care (antenatal, natal- & post-natal) was not clear in the minds of mothers and TBAs. This was evidenced by the poor knowledge of mothers about ANC and limited training of TBAs. The lack of ANC was possibly due to illiteracy, lack of health awareness, education and lack of MCH services in the area.

Victoria et al in a study on early childhood mortality in a Brazilian cohort showed that deaths were highly concentrated in children from low-income families and were associated with children weighing less than 2000 grams at birth⁵. A study in Finland found that perinatal problems (mortality, short gestation, low birth weight and low Apgar scores) were higher in mothers of low social class as

measured by level of education⁶. A community-based survey of maternal mortality in Gezira area of Sudan showed that the level of education of the mother and husband and the husband's income were the most significant factors affecting maternal survival during pregnancy and child birth⁷.

Poor health and inadequate care of mothers during antenatal, natal, and postnatal periods are associated with high maternal and infant morbidity and mortality. The nutritional status of a woman during pregnancy and lactation is an important determinant of the women's health and of subsequent infant and child morbidity and mortality as shown by several studies⁸⁻¹⁰. Fever reported by mothers was most probably due to malaria. Malaria during pregnancy is associated with increased risk of maternal morbidity and mortality and adverse pregnancy outcomes^{11,12}.

The health of the mothers was also affected by the wrong beliefs and misconceptions about foods and food consumption during and after pregnancy. Most of the foods avoided during and after pregnancy were protein-rich highly nutritious foods. Food fads and cultural practices may reflect, in part, mothers' anxieties about safe deliveries of healthy babies. This was supported by Landman's article on food fads in pregnancy¹³. They may also reflect lack of nutrition education. Bosley stated that attitudes most likely to influence food practices are those related to tradition, social approval, health beliefs and availability of foods (accessibility and cost)¹⁴. The advice given by TBAs did not help mothers to overcome the main problem of not eating certain foods i.e. "Bad smell and taste". Although not explored, TBAs might have the same thoughts about food as do the mothers.

Therefore the problem in the studied population is not only one of insufficient food, but also food fads and misconceptions. Several studies have demonstrated the relationship between maternal malnutrition and the health of infants and mothers^{15,16}. The role of VHPs is to allay these fears through health education. Training of TBAs will also have a role in improving MCH care. Late initiation of breast feeding also reflected lack of awareness and health education.

In Bangladesh the TBAs, known as "dais", attended the majority of births. In this study TBAs were illiterate and received none or very minimal training. However, they had some knowledge in dealing with emergency situations. Although TBAs would refer mothers to hospitals, there were some factors which contributed to high maternal and foetal morbidity and mortality. These were possibly: (a) Poor nutritional status of mothers, (b) Anaemia during pregnancy aggravated by repeated attacks of malaria, (c) Lack of primary, secondary and tertiary health care services, (d) Unhygienic methods of cutting the umbilical cord, (e) Lack of ANC and (f) Lack of transportation means to hospital.

The high incidence and mortality from neonatal tetanus and the high maternal mortality in Bangladesh and other developing countries were partially attributed to TBAs' poor cord-care practices¹⁷⁻²⁰. Due to the shortage in qualified health personnel in rural areas, many health care projects have trained and employed TBAs to provide basic maternal and child health (MCH) services²¹⁻²⁴.

CONCLUSIONS

There is a need to establish MCH services at Palongkhali PHC centre. The recently graduated female VHPs can be responsible for managing MCH services and nutrition education after appropriate training. With appropriate training to fill the gaps in knowledge, attitudes and skills, TBAs can be a valuable resource in providing MCH services. This can be done through short-training courses for TBAs. Income-generating projects need not be overemphasised for improving socioeconomic conditions of the people.

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