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Dacca, Bangladesh

July, 1979

Scientific Report No. 26

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PREFACE

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) is an autonomous, international, philanthropic and non-profit centre for research, education and training as well as clinical service. The Centre is derived from the Cholera Research Laboratory (CRL). The activities of the institution are to undertake and promote study, research and dissemination of knowledge in diarrhoeal diseases and directly related subjects of nutrition and fertility with a view to develop improved methods of health care and for the prevention and control of diarrhoeal diseases and improvement of public health programmes with special relevance to developing countries. ICDDR,B issues two types of papers: scientific reports and working papers which demonstrate the type of research activity currently in progress at ICDDR,B. The views expressed in these papers are those of authors and do not necessarily represent views of International Centre for Diarrhoeal Disease Research, Bangladesh. They should not be quoted without the permission of the authors.

ABSTRACT

The report describes the traditional taboos and practices associated with pregnancy, child birth and puerperium in the villages of Matlab thana. The practices in some traditional south-east Asian cultures are reviewed and compared with those prevalent in Bangladesh. The implications of these practices for organizing the delivery of maternal, child health and family planning services in rural areas is discussed with due consideration for the limited financial, technical and health manpower resources available in most developing countries.

INTRODUCTION

In all traditional societies pregnancy and childbirth are welcome events despite the potential danger to life of both mother and child inherent in the process of parturition. Although traditional societies, particularly those in rural areas, lack scientific understanding of the physiological processes involved, they have devised measures based on empirical observation and tradition to cope with problems encountered during pregnancy, childbirth and the post-partum period. This is well demonstrated by their attempts to prevent potential complications and reduce health hazards by practices which include the observation of various restriction rituals and the imposition of taboos on pregnant women and lactating mothers. Despite great regional and cultural differences it is interesting to note that the principles of management during pregnancy, labour, childbirth and the post-partum period are surprisingly similar in most rural societies. Although these are predominantly concerned with the woman's diet during pregnancy and in the antenatal period, they also include rituals and practices aimed at easing and facilitating childbirth.

Efforts are now being made by governments of the developing countries to integrate modern western medicine and technology into rural development programmes. The emphasis however is still primarily curative and services are largely hospital-based. They do not always penetrate down to the villages where the overwhelming majority of people live. Maternal, perinatal and infant mortality rates therefore remain unacceptably high.

A significant reduction in mortality rates would well be achieved by introducing a knowledge of certain basic principles and some of the more practical advances in modern medicine. In this context the improvement achieved by introducing Maternal Child Health and Family Planning services is noteworthy. Such procedures operating through village based programmes allow maximum incorporation of existing systems and traditional methods as possible, changes and modification being introduced wherever practicable. A recent WHO report on the promotion and development of traditional medicine is particularly encouraging since it stated that "several countries now consider the concept of integration of traditional modern medicine a reality that could be achieved in the foreseeable future".¹

This report further states that effective integration however entails a synthesis of the merits of both the traditional and the so called "western" or modern medicine. The system finally adopted should have the flexibility for individual skills and varying levels of knowledge and education. Due consideration should also be given to limited local resources and the diversity of supportive technologies, particularly for primary health care. This desirable objective can only be achieved by ensuring mutual respect, recognition and collaboration among the practitioners of the various systems concerned.¹

The present work was undertaken to investigate the traditional practices associated with pregnancy, childbirth and the post-partum period before embarking on a village based MCH-FP programme in a rural area of Bangladesh. The findings are compared with traditional childbearing practices in some Asian cultures and the implications for developing effective MCH programmes for traditional rural societies is discussed.

THE STUDY AREA AND METHODOLOGY

The study was undertaken in the field station area of the Cholera Research Laboratory, Dacca, located in Matlab thana, Comilla district about 45 km. south-east of Dacca. The area consists of 159 villages with a population of about 160,000 people. In one section of this area which included 70 villages, a village-based programme for delivery of MCH-FP services was started in October 1977. The material for this study was collected in co-operation with the 80 female village workers (FVW) who were undergoing training in the basic aspects of human reproduction, contraceptive methods, management of side-effects and follow-up. During the course of FVW training for the delivery of MCH services the author learned through discussions with the FVWs of the practices and beliefs that exist in this society regarding pregnancy, childbirth, lactation and associated health problems. Subsequently the FVWs were asked to collect information and make notes on indigenous practices of birth attendants, on dietary habits and taboos during pregnancy and the post-partum period, and on nursing and child care in general. This information was also verified by personal observation over a 1 year period.

The format of the notes was specially designed by the author to highlight significant findings. This not only facilitated compilation of data, but also provided a valuable teaching medium for the FVWs. In the course of their enquiries the FVWs interviewed 80 pregnant women and made notes of their dietary habits and tabooed food. Reports were also collected on more than 60 deliveries directly observed by the FVWs. About the same number of post-partum reports were also obtained from the FVWs. Two typical reports, the first of a 'normal' and the second of a complicated delivery are presented.

Report 1.

At 7 a.m. P.B. started having labour pains. This was her third delivery. I was sent for. When I got there at about 7:30 p.m. the dai was already present. The dai was an 80 years old woman. P.B. was lying in a corner of a room on an old worn-off but clean mat. The mat was stained with some blood and mucoid discharge. This was because the dai had poured and rubbed some mustard oil mixed with water into the vagina and ruptured the bag of waters. The dai made P.B. kneel with her thighs separated wide

apart. She asked me to sit in front of P.B. on a stool and she squatted behind her. P.B. held on to me with both hands whereas I was instructed by the dai to hold and support P.B. with one hand and with the other hand and one knee press P.B.'s abdomen. P.B. started pushing (bearing down) by then. The dai applied some more of the mixture of mustard oil and water into the vagina and asked P.B. to push down harder. After about 8-10 minutes the child's head became visible. The dai held it with an old worn-out piece of cloth between her hands and pulled on it and delivered the child. She placed the child on the floor on a torn piece of mat. Then she wound the cord round her fingers and pulled on it. Since the placenta did not deliver, she took P.B.'s hair and pushed it into her mouth and down her throat to induce vomiting. She also pricked the cord with a twig from a broom-stick. The placenta came out after 15 minutes. P.B. was asked to stand up and hold onto a bamboo pole slung from the roof. The dai then turned to the child and tied the cord with a piece of ordinary sewing thread and cut it with a bamboo blade. She then put the child on a leaf from the banana tree and bathed it with water from green coconuts. This was done on advice of a Kohiraj (indigenous medicine man) as P.B. had lost her previous two children 2-3 hours following delivery. The child was dried with a cloth and placed on a small mat. The placenta was put on a banana leaf and buried outside the house. P.B. was bathed with hot water and given some rice grains which had been fried to eat. The child was massaged with mustard oil, drops of which were poured down his nostrils and mouth.

Report 2.

This was S.B.'s fifth child. The labour pains started at 4 p.m. on 11-6-1978. After about an hour S.B. requested her mother-in-law to send for the dai and myself. S.B.'s mother-in-law gave her some old but clean clothes to wear and gave her an old torn mat to lie on in a corner of the room. A banana leaf was divided into two parts and those were placed nearby. When the dai arrived S.B. washed her feet with one 'kolash' of water at the doorsteps. She had to hold her breath while doing so. Before entering the room the dai snipped off a knot in the bamboo fence around the house with a slash of a sickle.

The dai was a 60 year old illiterate woman. She sat in the room for an hour but the pains did not increase. The mother-in-law went to the neighbour's house and brought a 'kobiraj-pani-pura' (water that has been blown upon). S.B. was given a portion of it to drink while the rest was applied on her head. A few minutes later a little blood-stained discharge was noticed and the pains also increased. S.B. started crying. The dai made her kneel with legs apart, and asked S.B.'s sister-in-law to sit in front of her for support. The dai then poured some coconut oil on the palm of her right hand and dipped the fingers of her left hand into it and then inserted them into the vagina with the intention of widening the 'opening'. She failed to do so as the child's head was 'stuck'. The whole night passed and no further progress was made.

In the morning, 'pani pura' and 'taviz' (charm) were brought from another kobiraj. One 'taviz' was tied around the waist and the other on one thigh of S.B. The 'pani-pura' was partially fed and the remainder applied to the umbilicus. Despite this no progress took place. After an hour or so, S.B.'s brother-in-law went to a homeopath and brought back six packets of medicine to ease and hasten the delivery. These were fed to S.B. one at a time until they were all used up. Dusk fell, but S.B. made no progress. She became very restless. She had not passed any urine since the labour pains started. She kept crying and saying that she felt her insides were being torn apart. The mother-in-law became very worried and started asking Allah to help deliver the baby. She vowed that once that occurred she would feed three widows with a three-finned fish.

Next morning, petals of flowers from Mecca were brought from a fakir (holymen). They were soaked in water for a while and then fed to S.B. who, by that time, was weeping and wild with discomfort. She asked the dai to cut open her belly with a knife. Her breathing started decreasing gradually. Everyone in the 'bari' stopped working and prayed to Allah to relieve her. There were tears in everyone's eyes. Two of her sisters-in-law heated some mustard oil and started massaging S.B.'s hands and feet. At 1 p.m. S.B. opened her eyes and started bearing down. The dai placed her on the knees again with the sisters-in-law supporting her in front and the dai sitting behind her. Soon after that the child's head became visible. The dai held it with both hands between a torn cloth and pulled on it to extract the baby. A piece of thread and a razor blade was brought, while everybody waited for the placenta to deliver. One of the sisters-in-law placed her right foot on S.B.'s umbilicus. The other sister-in-law dipped S.B.'s hair into kerosene oil and then forced it into her throat to induce vomiting. S.B. was asked to push but she said she had no strength to do so. She was given $\frac{1}{2}$ seer of hot water to drink. The mother-in-law took some straw, rolled it into a ball, touched it on S.B.'s forehead and went outside the house. Keeping her back to the entrance of the house she then threw the ball over her head on the roof of the hut.

The dai took a needle and started poking the cord with it. The placenta delivered finally. The cord was then tied with a thread and cut with the razor blade. The blood on the blade was smeared on the baby's lips. The baby was bathed with a little hot water and mustard oil was applied all over its body. A little honey and mustard oil was fed to the child.

The placenta was placed on a banana leaf and buried in the ground. The mother was taken outside the room and bathed with hot water. She was then fed some honey mixed with 'muri' (puffed rice).

The dai then washed her own hands and cut her nails.

Indigenous practices related to pregnancy, labour and post-partum period in a rural area of Bangladesh

Pregnancy

All married women in rural Bangladesh desire to have children. Those who are unable to conceive or are unusually slow to do so are desperately unhappy. Women always carry the blame for infertility and barrenness provides legitimate grounds for divorce or for the man to take another wife.

When pregnancy has been definitely established, restrictions are imposed upon the woman's diet. The food intake and the kinds of food she eats are strictly controlled by her mother-in-law or by other elderly female relatives. The pregnant woman is advised to eat moderately so that the foetus does not grow too large and make the delivery difficult. She is often forbidden to eat certain kinds of fish, meat, vegetables and sweets*. Such foods are tabooed because they may harm the foetus, produce certain deformities in the child; or because they might precipitate a miscarriage. In this context it is interesting to note that in rural Bangladesh the nutritional status of a large proportion of the population, and of women in particular, is poor. Nutrition survey data show that 60% households in rural Bangladesh are actually protein deficient and of these 31% are protein deficient due to calorie deficiency. Even among families where gross intake may appear to be satisfactory, the intrafamily maldistribution of food causes some members, particularly pregnant and lactating mothers and children, to suffer from protein deficiency². Most of the foodstuffs prohibited to pregnant women, meat in particular, are not normally available for one single fundamental reason - poverty. The main source of protein in the diet of village women is fish but because of the taboo, they are deprived even of this during the period when high-protein food is most needed.

Most of the village women are kept busy especially during the harvest season, when threshing- parboiling, husking and storing paddy are added to their normal duties and household chores. Women look after the kitchen, garden and poultry, do all the cooking, fetch water, and attend to the children. Traditionally, they are supposed to continue to work during pregnancy. Only in the later stages may the woman refrain from doing hard physical work provided she can find someone to help her. Unlike other rural societies, most women in Bangladesh do not work outside their homes, or in the fields even when not pregnant. All their activities are normally confined within the 'bari' (a central compound with a cluster of huts surrounding it). Sexual intercourse is discouraged during the last few months of pregnancy as it is believed that it might harm the child.

* The forbidden foodstuffs are mainly: mutton, duck, local varieties of fish, such as Bual, Shol, Göjer, Mugil, Koli, Puti, Baing, Chema; shrimps, vegetables such as squashes, onions, Kochhu, Misti Kumra (sweet pumpkin); fruits such as pineapple, and a mixture of banana and milk, eggs are also tabooed.

Preparations for delivery and childbirth

For predicting the time of delivery the woman depends on the onset of labour pains. Generally, she continues doing her daily chores until the pains become well-established. She will then tell her mother-in-law or other female relatives who will send for a local midwife -(dai)- or an elderly woman in the village who has experience in assisting during deliveries. Childbirth is always attended and assisted by female relatives. Men and children are excluded from the scene. The woman in labour or her female relatives spread an old, torn bamboo mat in a corner of the hut or, if the woman has a larger house, in one of the rooms or the verandah of a larger room. Sometimes they place under the mat an old knife, and old shoe, or a broom-stick to ward off evil spirits. She is made to change into old clothes which may or may not be clean. This change is made by either the woman herself or the mother-in-law, or the dai when she has arrived.

Childbirth in rural Bangladesh is accompanied by many rituals. As soon as the dai enters the courtyard of the parturient woman's home she cuts off one of the knots in the bamboo fencing. This is done in order to ward off any possibility of an obstructed labour. She then waits at the threshold or door of the hut for the woman in labour to come and wash her feet. This gesture is, in normal circumstances, an expression of respect. In this instance, however, it has an additional meaning. The woman in labour publically signifies her dependence on the skills and experience of the dai not only for a successful delivery but also may be for her own life and that of her child. After entering the house the dai changes into old clothes, occasionally, however, she may already have done so in her own home.

The woman is delivered while kneeling with her legs apart, bending forward and supporting herself by holding onto a relative or to a bamboo pole or a wooden stool. The dai squats behind her. To facilitate and hasten childbirth abdominal pressure is usually applied. This may be done either by the female relative supporting the parturient woman, or occasionally by the dai applying pressure on the abdomen from behind. The dai makes repeated vaginal examinations to ascertain the progress of the labour. This she does using her left hand, on which some mustard oil or coconut oil has been applied. She also makes an exploratory investigation to see if the child is arriving head first; if not, a skilled dai would insert her hand into the woman's womb and gently turn the child³. The delivery is finally effected by pulling the baby out by holding on to its head with an old rag.

Any delay or complication encountered during the delivery is generally beyond the skills of the dai to manage. In such instances, assistance is sought through supernatural intervention. The parturient may be fed with water in which a flower from Mecca has been soaked, or charms bought from a fakir are tied on the parturient's thigh and abdomen. Sometimes the abdomen is rubbed with oil that has been blown at three times while saying spells. The parturient may also be given 'pani pura', that is water which has been blown into while saying spells. In the case of prolonged labour women may

call in a kobiraj who draws a representation on paper of a womb and foetus and, saying spells, folds the paper and places it in an amulet which he ties to the mother³. Medicines may be also brought from the village homeopaths and kobirajs.

Once the baby has been delivered it is laid on the mat and the dai twists the cord around her fingers while waiting for the placenta to be expelled. The cord is not cut till the placenta is delivered. Any delay in the delivery of the placenta is handled by inducing the woman to vomit. To achieve this, the woman's hair is dipped into kerosene oil, or garlic paste and forced down her throat. In other instances, one of the female relatives may be asked to apply pressure upon the abdomen with her feet, knees or by using a wooden stool. Sometimes the cord is pierced by a sharp object like a needle or a twig from a broom-stick. Pulling at the cord or trying to extract the placenta manually are other frequently used methods. Often several of these techniques are used at the same time or in succession.

After the placenta has been delivered the cord is tied in two places and cut in between the ligatures. To tie the cord, a piece of fishnet, or threads pulled out of old cloth and entwined to form a thin cord, or a piece torn out from an old cloth or sewing thread is used. The cord is then cut using a silver or bamboo, or a razor blade; needless to say, these instruments are rarely boiled before use.

After the placenta has been delivered, the mother is made to stand in order to expel all the 'toxic' liquids from her system. She is then usually given a bath with warm water, however if the delivery occurred late at night, she may only be wiped with the clothes she was wearing during the delivery, the bath being delayed until the next day. Thereafter, the mother is usually fed fried rice grains with powdered cummin seeds, or puffed rice, or honey, or chappati, or hot rice with cummin seed powder. After the child has been separated from the placenta it is bathed with cold water over a pit dug in the mud-floor outside the hut. The baby is then fed honey mixed with mustard oil. Occasionally the mustard oil may be rubbed all over the child and a few drops placed inside his/her nostrils and ears.

The placenta is placed on a banana leaf and then buried along with the other discharges outside the house. The soiled mud-floor of the room where delivery took place is scraped either by the mother herself or a relative, the scrapings being buried together with the placenta. Occasionally the debris may be buried under the floor of the room where delivery took place.

Post-partum period

The women in rural Bangladesh usually remain inactive for five days following delivery. During this period they also have to practice dietary restrictions. Fish, meat, eggs, and spicy dishes are avoided for

the first few days. On the fifth day, the mother is given a minimum of five dishes to eat which include chicken or fish curry, brinjal chutney, fried banana, pulses, and eggs. It is believed that this may bring the child the blessings of a choice of five or more dishes all its life.³

Restrictions in diet are also observed by lactating mothers and these become more severe if the child suffers from diarrhoea, or has a cold or cough. The foods that are generally avoided are, once again, meat, eggs, fish, and occasionally milk. Regular breastfeeding does not start till after the third day following delivery; in the meantime the child is usually given honey mixed with mustard oil and occasionally warm water. Breast-feeding in rural Bangladesh is prolonged. Generally, it extends from the birth of one child well into the subsequent pregnancy. Chen et al., observed that only four women out of 200 terminated lactation spontaneously (in the absence of another pregnancy), this occurred when the children were 3½-4 years old.⁴

The MCH-FP Programme in the area

Rationale

The preceding account of the indigenous practices observed during pregnancy, childbirth and the post-partum period demonstrates that despite a number of rational measures devised to ease and facilitate labour and delivery, certain practices are potentially dangerous and can imperil the life of both mother and child. These practices could well contribute significantly to the high maternal and infant mortality prevailing in the rural areas. In the villages of the Matlab area, almost one-third of all deaths among women aged 10-49 years were related to child birth, occurring during pregnancy or within 90 days after termination of pregnancy.⁵

The daily diet of rural women, particularly in Bangladesh, is seldom nutritionally adequate; it is further depleted during pregnancy by various cultural taboos and restrictions. An undernourished mother faces increased risk from pregnancy, and is likely to give birth to an under-weight or even stillborn child.⁶ Similar dietary restrictions deprive post-partum and lactating women of some of the more nutritious ingredients at a time when they are particularly needed. The quality and quantity of breast milk is also adversely affected by such a diet. Numerous studies indicate significant alterations in the composition of breast milk produced by women who are themselves at the lower end of the nutritional scale; protein, lactose and fat content being reduced in the milk of malnourished women. The maternal caloric intake also influences the volume of milk produced, the daily volume decreasing by 40-50 percent on extremely low intakes. Thus

duration of lactation also decreases by as much as 60 percent. On the other hand improvements in the maternal diet are now known to increase milk output.⁷

The practice of withholding breastfeeding for the first three to five days after birth deprives the child of nourishment and also of the vital components present in the colostrum which facilitate development of the immune response system in the child. It is now generally recognized that antibacterial factors present in human milk are probably responsible for its protective function. These factors include immunoglobulins, lactoferrin, lysozymes and complement. Studies on Indian women have shown that with the exception of lysozyme, the other three factors show a high concentration in the colostrum and then a progressive rapid fall.⁸ Moreover delay in initiating breastfeeding may also initially affect the quantity of breast milk secreted because of the delay in the stimulation normally provided by suckling. This is a problem very frequently encountered in rural Bangladesh. It has been shown that the nursing stimulus provokes the secretion of the pituitary hormone prolactin.⁹

The practice of prolonged lactation is commendable but it is unfortunately often associated with delayed introduction of supplementary food. Food supplementation usually starts after the child is 10-11 months old. Breastfeeding although advantageous in the early months is an insufficient source of nutrients beyond the 6th month of life.⁷ The food introduced as a supplement is normally a gruel made of powdered rice grains mixed with water, which is nutritionally inadequate.

The lack of knowledge or proper hygiene and sanitation make both mother and child extremely vulnerable to infection. In the villages of Matlab thana one-quarter of all infant deaths are due to neonatal tetanus.¹⁰ Reliable certification of the cause of death is generally non-existent in the rural areas. From the fragmentary information available for the villages of Matlab thana it may be reduced that a significant proportion of maternal deaths are due to infection - particularly post-partum tetanus and sepsis.⁵

Data on causes of deaths among children under the age of 5 years from Matlab suggest that the causes for 62.2 percent of deaths among infants were not identified. Most of these took place during the neonatal period (1-28 days).¹¹ There is a high possibility that these deaths could be due to prematurity, birth injuries or a sequelae of obstructed or prolonged labour.

Strategy

The problem of improving the health of mothers and children in the rural areas and of reducing mortality and morbidity may be resolved by two possible approaches. Rural health centres may be established to deliver

preventive and curative services and provide maternity wards where at least complicated deliveries could be attended to, or alternatively, a worker trained to deliver MCH services may be placed in every village. In most instances government health programmes have provisions for the former: health centres are being built and staffed with trained personnel - both medical and paramedical. This approach however, has a serious disadvantage since these institutional services are seldom utilized for childbirth by village women. From January through December '78 only 18 out of over 12,000 pregnant women were admitted at the Thana Health Complex in Matlab for delivery.

This difficulty probably arises because hospitals are by tradition associated in people's minds with sickness and death whereas pregnancy and childbirth are normal, welcome experiences. Women on such occasions prefer to be surrounded by relatives and friends. Though the health centres may have facilities to handle difficult and complicated deliveries, even 'high risk' patients are not brought to such centres because traditional birth attendants fail to recognize such cases before the onset of the complications. Once the complications set in during childbirth, it is usually impossible for the woman to be transferred to the health centre, given the distance and lack of transport facilities in the rural areas.

Desirable as the rural health centres may be for meeting certain basic health needs of the rural population, they do not, in most instances, satisfy the requirements for MCH care. The ideal situation would be to have a worker properly trained in MCH care in every village. Although desirable this objective is difficult to achieve at present in most developing countries. It thus seems rational to impart training to women who are already carrying out these tasks namely the traditional birth attendants. In the villages of Matlab thana, it was found that the dais are usually elderly, illiterate, widowed or divorced, and occupy a low status in the society.¹² Similar findings have been reported by other workers.¹³ Besides, it was also observed that a very small percentage of rural women get delivered by dais, a large number being delivered by relatives.¹³ As there appeared to be no way to improve effectively the traditional birth attendants' methods and practices, we sought a compromise solution as an experimental project leaving the dais outside a formal training programme and using the younger, better-educated Female Village Workers (FVWs) as intermediaries. The FVWs were trained according to the guidelines mentioned in the later section. The FVWs were expected to impart their better knowledge to pregnant women, and to orient and guide them during their regular fortnightly visits and also to educate the dais in an informal manner. The FVWs were not intended to replace the dais, therefore the dais never looked upon them as a threat to their livelihood.

There are no official figures yet to demonstrate the effectiveness of this approach, but there is some indication that it is working well. The number of deliveries where the woman in labour or the dai request the presence of the FVWs is slowly increasing. The number of pregnant women

accepting tetanus toxoid immunization, boiling blades and other instruments used to cut the umbilical cord, is rising as well. The knowledge among the FVWs of the likely occurrence of complicated and prolonged labour is gradually increasing. It should be possible, to present some statistical evidence for the impact of the measures introduced in this project. The incidence of neonatal tetanus, would be one of several indicators that could be used to determine the improved quality of antenatal, delivery and post-natal care.

Birth Practices in other Rural Cultures

The preceding account of the traditional practices and the principles underlying the management of pregnancy, childbirth and the post-partum period is not unique to rural Bangladesh. All societies have learned to grapple with the problem posed by such conditions through the pragmatic experience of generations of ancestors with no scientific knowledge to guide them.¹³ Although each culture prescribes its own set of rules that vary in detail, it is surprising how much they have in common.

Dietary restrictions observed during pregnancy in rural Bangladesh are similar to those reported from other parts of the world. Of the 64 societies studied by Ford¹⁴ meat and fish predominate among the foods that are forbidden. Pregnant Filipino women are supposed to avoid chicken, gizzards, sugar, sweets, rice cakes, beef, pork, salted fish, certain varieties of fish, banana buds, etc.^{15,16} Similar food restrictions are found in Vietnam¹⁷, Korea¹⁸, and Thailand^{19,20}. Distorted plantains are forbidden to the Lepcha women of Darjeeling as they are believed to produce deformities in the child.²¹

Unlike women in Korea¹⁶, rural women in the Philippines^{15,16}, Thailand^{19,20}, Vietnam¹⁷ and India^{21,22} are not supposed to work in the fields during pregnancy but continue attending to regular chores and working at home. The Tiwis in North Australia are not allowed to bathe in the sea or in large bodies of fresh water.²³ Sexual taboos similar to those found in Bangladesh apply in other regions of South-East Asia as well.

Labour pains are invariably the signal to install the woman for delivery in all traditional rural cultures. Labour pains also often initiate certain rituals for facilitating the delivery; untying knots and unbuttoning all buttons¹⁴ and opening doors of furniture and closets¹⁸ are frequent examples of such practices. The delivery place is either a special room in the dwelling or a portion of a room which is partitioned off temporarily. Tiwi women go to the bush.²³

As in Bangladesh, childbirth invariably occurs with the assistance of elderly women who have had previous experience of assisting at deliveries, or occasionally by women who are recognized birth attendants. In some

cases it may be simply relatives and friends. Men are generally absent from the scene of birth, except in certain societies in the Philippines, Thailand^{19,20} and India,²²

The position the woman takes to deliver varies in different societies: sitting, squatting, or reclining positions are common. In some cultures the women deliver in a kneeling position as in Bangladesh. They are supported by other women, or by a tree trunk placed behind the back, or support themselves holding a pole or looped ropes tied to the rafters. The abdomen is massaged or squeezed almost universally to facilitate the delivery. In almost all societies, dealing with prolonged labour and other complications of delivery is felt to require the assistance of supernatural powers: sacrifices are made to the gods; the woman in labour may be given chips off the rim of a clay pot mixed with water to drink so that the baby may be easily expelled as the boiling milk flows over the rim of the pot; seams of newly sewn clothing may be ripped off. Sorcerers or practitioners of traditional medicine may be called in if complications of delivery arise.^{14,17}

The methods used to facilitate delivery of the placenta include pulling on the cord, exerting pressure on the abdomen and inducing vomiting either by putting the woman's hair into her mouth or by feeding emetics. Other procedures, such as placing betel leaf on the throat, making the woman lie on hands and knees, or forcing her to blow into an empty bottle, are also used in the time of need. In all societies due care is given to disposal of the placenta. It is usually buried, though in some societies it may be burnt or thrown in the latrine. In Thailand the placenta is stored in a pot and buried after the 'lying by the fire' period is completed.^{19,20}

The cord is rarely severed before the placenta is delivered. Following delivery however, the cord may first be tied and then cut; in some instances this procedure may be reversed.¹⁴ The cord is usually ligatured with thread, fish-netting, plaited sinew or other similar materials. The implement used for severing the cord may be a bamboo sliver, sharp shell, broken piece of glass, razor blade, sickle, or sharp knife. In certain parts of Thailand the cord is kept on a herb which is placed on a clod of soil and then severed.²⁰

The mother and child are cleansed after the delivery and the baby may be anointed with oils, grease, or tumeric, or dusted with powders or warm ashes. In the Philippines the women apply an abdominal binder immediately after delivery.¹⁵

The majority of rural societies in South-East Asia require women to stay in seclusion for 3-7 days after delivery; this may be achieved by isolating the woman in a special shelter or confining her to her dwelling. These periods are extended in societies where 'mother roasting' (Vietnam) and 'lying by the fire' (Thailand and the Philippines) and 'observing the month' (China) are practiced.

Immediately after delivery the mother is fed boiled chicken, and unsalted porridge or hot ginger ale or thick parched corn coffee (Philippines)¹⁵, or rice with salt or dried fish (Thailand)^{19,20}. The diet is restricted in the immediate post-partum period. In particular, 'hot foods' are avoided. Dietary restrictions are followed for a varying length of time. The foods that are denied the mother are often the ones that are tabooed during the pregnancy.¹⁴

In most societies the child is not allowed the mother's breast milk for the first 3-5 days. Instead, it is fed warm water, decoctions to induce diarrhoea in order to clean out the insides, or put to another lactating woman's breast.

Regular breastfeeding, once started, generally continues for prolonged period¹⁴ as in Bangladesh.

DISCUSSION AND CONCLUSIONS

Considering the limited financial, technical and health manpower resources available in most developing countries, it seems that the most logical way to achieve a break-through in the delivery of health care for mothers and children in rural areas would be to deliver it through women who have traditionally been responsible for taking care of parturient women and the children.²⁴ A WHO meeting's report states that the 'major aim of developing traditional birth attendants (TBA's) would be to incorporate them as a resource in the overall strategy of orienting all health programs to the needs of the people'.¹ But before any programmes for training the traditional birth attendants are undertaken, it would be wise to study the ultimate acceptability of the TBA's in the society. In countries like Ghana, Indonesia, Malaysia, Pakistan, Philippines, Sudan and Thailand, where TBA's are recognized, considerable numbers have been trained and used in basic health services.¹ Whether it would be possible to train TBAs to deliver good MCH services in all developing countries is difficult to answer, as the underlying conditions, that is the indigenous practices and quality of the TBAs vary from country to country and from region to region within the same country. A great deal depends on the attendant's age, marital condition, status in the society and other circumstances such as the proportion of the total deliveries conducted by the TBAs.

From the data presented earlier it would appear that in order to have a successful MCH program, the training of the TBAs will have to be oriented towards:

- (a) providing positive knowledge and skills where they are found lacking, this is particularly true in the fields of basic physiological processes during labour and child birth; basics of sanitation and

hygiene; recognition of the potentially high risk cases, recognition and management of prolonged labour and complications during labour and delivery;

- (b) eradicating misconceptions and ensuring discontinuation of practices that are known to be dangerous and harmful; the former is particularly true in case of dietary practices during pregnancy and post-partum period and the latter is applicable to management of complications during childbirth, and to the breastfeeding practice of delayed introduction of food supplementation of infants;
- (c) encouraging practices that are beneficial like the practice of prolonged breastfeeding; and continuing practices that may appear irrelevant in medical terms, but provide a sense of socio-psychological security to the women, e.g. the rituals associated with onset of labour pains etc.

Consequently the training programme should be designed so as to incorporate the following:

- (i) basic information on the physiology of pregnancy and childbirth;
- (ii) Nutrition and diet during pregnancy and lactation with particular emphasis on quantity as well as quality of food intake so that the extra demands made by the pregnancy are adequately met; this may require overcoming some of the traditional taboos;
- (iii) sanitation and hygiene - it is imperative to familiarize the birth attendants with causes of infection, particularly in relation to management of labour and delivery. The relationship of 'Thakuria' (neo-natal tetanus) with inadequate hygienic measures and its prevention through tetanus toxoid vaccination during pregnancy should be stressed. The recommended procedures should be as closely linked with existing practices as possible; for example, pregnant women could be educated to wash and preferably boil the old clothes and mats to be used during labour, dry them out in the sun and store them until required; the birth attendant must be instructed to thoroughly wash her hands and file her nails before conducting the delivery; and to boil the ligature thread and blade before use;
- (iv) pre-natal care: emphasis should be laid on the recognition and management of the 'high risk' cases before they become potentially fatal; for example, anaemias, pre-eclampsias etc.

- (v) management of labour and delivery - stress should be laid on the management of normal labour; the disadvantages of applying undue abdominal pressure and of making repeated vaginal examinations must be made clear. The importance of recognizing and seeking early help and advice in the case of prolonged labour and other complications; the sequelae of prolonged and obstructed labour should be emphasized.
- (vi) childcare - the advantages of breastfeeding with early supplementation by introducing locally available nutritious food in the infant's diet have to be pointed out; common causes of infant and child morbidity and mortality should be discussed and it should be explained how some can be prevented through immunizations and improved hygiene, better nutrition and other measures.

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