

TBA PROGRAMMES: A COMPREHENSIVE LITERATURE REVIEW

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CONTENTS	Page
Bangla Summary	2
Abstract	4
Executive Summary	5
1. Introduction	7
2. Birth Attendants and Birth Practices	8
3. Evolution of TBA Programmes	10
4. Programme Objectives	12
5. Structure of TBA Programmes	14
5.1 Type of service (Focused, Integrated)	
5.2 Service Providers	
5.3 Service Recipients	
6. Service Giving Process	16
7. Training	18
7.1 Target population	
7.2 Selection criteria for trainees	
7.3 Course schedule	
7.4 Course content	
7.5 Incentives for this work	
7.6 TBA perceptions about birth process	
7.7 Trainers	
7.8 Monitoring and supervision of TBAs	
8. Outcome of TBA Training Programmes	26
8.1 Impact on maternal and infant mortality - morbidity indicators	
8.2 Client satisfaction	
8.3 Evaluation of TTBA's performance & TBA training programmes (change in KAP)	
8.4 Utilization of TTBA's	
8.5 TTBA's linkage with other health workers	
9. Cost Effectiveness of TBA programmes	40
10. Conclusion	41
11. Reference	45

BANGLA SUMMARY

ধাত্রী প্রশিক্ষণ কর্মসূচী বিষয়ে বিস্তারিত খতিয়ান পর্যালোচনা *

সুহেলা হক খান, মো: নজরুল ইসলাম, আহমেদ আলী, ফজলুল করিম

প্রতি বছর যে ৫০০,০০০ মহিলা গর্ভধারণ সংক্রান্ত কারণে মারা যায়, তার ৯৯% বাস করে উন্নয়নশীল দেশসমূহে। বেশীরভাগ উন্নয়নশীল দেশে সন্তান প্রসব হয় বাড়ীতে ধাত্রী দ্বারা। গর্ভধারণ জনিত কারণে মায়ের মৃত্যু হার হ্রাসের জন্য সারা বিশ্বে ধাত্রী প্রশিক্ষণ কর্মসূচী শুরু করা হয়। RED এর এই পর্যালোচনার উদ্দেশ্য ছিল ধাত্রী প্রশিক্ষণ কর্মসূচীর বিভিন্ন বিষয় সনাক্ত করা, এবং এতদিন পর্যন্ত পরিচালিত গবেষণার বিষয়বস্তুগুলোতে কোথায় বিভেদ (gap) আছে তা সনাক্ত করা। এ পর্যালোচনায় তিনটি শ্রেণিতে দেখা হয়েছে : বিশ্ব বাংলাদেশ সরকার, ও এনজিও বিশেষত ব্র্যাক।

জনন রীতি (birth practices), সেবক (birth attendant), ধাত্রী প্রশিক্ষণ কর্মসূচী বিকাশের প্রক্রিয়া, জন্ম সংক্রান্ত বিভিন্ন বিষয়ে জ্ঞান-মনোভঙ্গি-প্রয়োগ (KAP) – ইত্যাদি কিছু বিষয়ে গবেষণা হওয়া সত্ত্বেও অনেক বিষয় আছে যার উপর এখনও গবেষণা করা হয়নি। ধাত্রী প্রশিক্ষণ কর্মসূচী শুরু হওয়ার তিন দশক পরও কিছু কিছু বিষয়ের উপর খুব কম তথ্য আছে অথবা একদমই নেই, যেমন -- কর্মসূচীর ধরণ (focused or integrated), সেবা দাতা ও গ্রহীতা, সেবা দেওয়ার প্রক্রিয়া, এই জনকল্যান মূলক কাজ করার উদ্দীপক (incentive),

*Summary of the RED research report titled "TBA programmes: a comprehensive literature review," by Suhaila H. Khan et. al., March 1997. 38p (Summarized in Bangla by Suhaila H. Khan)

জনপ্রক্রিয়া সম্পর্কে ধাত্রীদের ধারণা, ধাত্রীদের প্রশিক্ষক, ধাত্রীদের তত্ত্বাবধান (supervision, monitoring), খরিদারের সন্তুষ্টি, প্রশিক্ষণপ্রাপ্ত ধাত্রী সেবার ব্যবহার, প্রশিক্ষণপ্রাপ্ত ধাত্রীদের সাথে অন্যান্য স্বাস্থ্য কর্মীদের যোগাযোগ, এবং ধাত্রী কর্মসূচীর খরচের কার্যকারিতা (cost effectiveness) ।

ধাত্রীদের কর্ম এই মূহুর্তে সম্পূর্ণভাবে বন্ধ করা যাবে না । সেজন্য উচিত যে সব গবেষণার বিষয়ে বিভেদ সনাক্ত করা হয়েছে সে সব বিষয়ে অতিশীঘ্র গবেষণা করা যাতে ধাত্রী কর্মসূচির উন্নতি হয়ে তা আরো কার্যকরী হয় ।

ABSTRACT

Of the 500,000 women who die every year due to pregnancy related causes 99% live in developing countries. Most deliveries in developing countries are non-institutional and take place at home by traditional birth attendants (TBAs). Thus, TBA training programmes were started in many developing countries with the expectation of decreasing maternal mortality. This comprehensive literature review was undertaken to identify various issues in the TBA programmes and the gaps in research conducted so far. This review encompasses three perspectives: global, Government of Bangladesh (GoB), and non-government organizations (NGOs) like BRAC.

It was clear that although research was carried out in the issues such as, birth practices and attendants, evolution of programmes, KAP of TBAs, many of the issues of TBA programmes are still unexplored. More than three decades after the initiation of TBA programmes worldwide there are still little or no information available on the following elements: type of service (focused or integrated), service providers and recipients, service giving process, incentives for this community work, TBA's perception on birth process, trainers of TBAs, supervision and monitoring of TBAs, client satisfaction, utilization of trained TBA (TTBA) services, linkage of TTBA with other health personnel, and cost effectiveness of TBA programmes.

~~TBA programmes have their inherent biases and weakness but TBAs will continue to exist, and they cannot be gotten rid of even if someone wanted to at this point in time. Thus, further research should be carried out, specially in the gaps identified, in order to improve and strengthen the TBA programmes and their effectiveness.~~

EXECUTIVE SUMMARY

Of the 500,000 women who die every year due to pregnancy related causes 99% live in developing countries. Most deliveries in developing countries are non-institutional and take place at home by traditional birth attendants (TBA). With the expectation of decreasing maternal mortality TBA training programmes were started in many developing countries. The objectives of this literature review was to identify the issues in TBA programmes, and also identify the gaps in research conducted so far. This review encompasses three perspectives: global, Government of Bangladesh, and non-government organizations specially BRAC.

The review identified the following programme relevant issues: birth attendants and practices; evolution of TBA programmes; programme objectives; structure of TBA programmes (type of service, service providers and recipients); service giving process: training (target population, trainee selection criteria, course schedule and content, incentives for this work, TBA perceptions about birth process, trainers, monitoring and supervision of TBAs); outcome of TBA training programmes (impact on maternal and infant mortality and morbidity indicators, client satisfaction, change in KAP of trained TBAs (TTBA), evaluation of TTBA's performance, utilization of TTBA's, TTBA's linkage with other health workers; and cost effectiveness of TBA programmes.

It was clear that although research was carried out in the following issues — birth practices and attendants, evolution of the programme, KAP of TBAs — many of the issues of TBA programmes are still unexplored. More than three decades after the start of TBA programmes worldwide there are still little or no information available on the following elements: type of service (focused or integrated), service providers and recipients, service giving process, incentives for this community work, TBA

perception on birth process, trainers of TBAs, supervision and monitoring of TBAs, client satisfaction, utilization of TTBA services, linkage of TTBA with other health personnel, and cost effectiveness of TBA programmes.

TBAs will continue to exist, and they cannot be gotten rid of even if someone wanted to at this point in time. Thus, research should be carried out in the gaps identified in order to improve the TBA programmes and their effectiveness.

1. INTRODUCTION

Every year, at least 500,000 women die due to pregnancy related causes, and 99% of them are in developing countries (WHO, 1980). Maternal mortality is 50 to 150 times higher in developing countries than in developed countries (Royston et al, 1989). The main medical causes of maternal mortality are: septic abortion, eclampsia, obstructed labour, infection, and hemorrhage (Koenig et al, 1988). Although some quantitative information is available on maternal mortality, much less is known about maternal morbidity, and even less on qualitative information. A study in India estimated that there were 16.5 episodes of serious illnesses related to pregnancy and childbirth for every maternal death (Datta et al, 1980), and a more recent study estimated that to be 67 episodes (Koblirsky et al, 1993). Although these illnesses do not cause maternal death they have serious social and psychological implications (Goodburn et al, 1995). Furthermore, in 1991, 433,000 infants died worldwide due to neonatal tetanus (Whitman et al, 1991).

Most deliveries in developing countries are non-institutional and they take place at home by traditional birth attendants (TBA). Globally the TBAs assist in 60% to 80% of all deliveries (UNICEF, 1985). Thus, with the expectation of decreasing maternal mortality the TBA training programme was started in many developing countries (Jeffery et al., 1989). Gradually the TBA training programmes gained importance and WHO reported that in 1984 TBA programmes were taking place in 52 countries, more than double to that of 1972 (Alisjahbana, 1991).

The objective of conducting a comprehensive literature review was to identify the various issues involved in TBA programmes, and to identify the gaps in research conducted so far. This review encompasses global issues, and also local issues involving the government of Bangladesh (GoB) and various non-government organizations (NGO) including BRAC.

2. BIRTH ATTENDANTS and BIRTH PRACTICES

2.1 Global

Birth attendants are those who conduct deliveries. They may be trained or untrained. Trained birth attendants may be physician, nurse, midwife, or trained TBA (TTBA). Untrained birth attendants may be relative, friend, neighbour, untrained midwife, or untrained TBA (UTBA). According to WHO, a TBA is defined as a person who assists the mother at childbirth and who initially acquired her skills in delivering babies by herself or by working with other TBAs. TBAs or lay midwives are regarded as support elements in the face of a shortage of professional health personnel. The TTBA is basically a private practitioner, but she has relatively strong links with the organized health system.

The role and activities of birth attendants vary from country to country. For example, in Nepal and India, deliveries are frequently conducted by mothers-in-law; in Bolivia the birth attendant may be the husband; in Bali the birth attendants are usually men (Alisjahbana, 1991). In some countries (Bangladesh, Niger, Senegal) the TBAs have very little involvement after delivery, or they are summoned only to cut the umbilical cord (Population Reports, 1980).

A TBA in Ecuador is generally a person over age 40 and has years of experience in delivery care. Some TBAs take the profession after having been taught the practices by their grandmothers. Both women and men can become TBAs but women dominate the profession. TBAs encourage women to seek prenatal care, identifies and refers women at high risk for pregnancy complications, encourages family planning (FP), and assists in normal uncomplicated births (Eades et al, 1993). They received very little fees for their job, and received initial training from a parent. The TBA's goal of primary prevention are only partially satisfied; their greatest contribution being in health promotion.

In Zaire, TBAs are often confused about risk assessment and there are indications of referral for acute delivery complications. They often lack authority and plans for evacuation in the event of hospital referral. TBAs are often selected on the basis of respect, rather than interpersonal skills. They are not paid or considered professionals. There is a need for community health education of leaders, health committee members, pastors, and women's club leaders (Hermann 1990). In South Africa, judged by the standards of modern medicine, some of the traditional practices appeared to be useful, while others seemed counterproductive (Jason et. al, 1988).

2.2 GoB

In Bangladesh, birth attendants are called "dai" and usually they are older female relatives, untrained and work as part of a family tradition. Most *dais* inherit the job from their mothers or grandmothers (Ahmed, 1989). The role of TBAs are just for conducting deliveries, and it is regarded as a low-caste and low prestige job. Traditionally mothers prefer to deliver at home surrounded by other family members when the pregnancy and childbirth is normal. Although the health facilities handle the complicated pregnancies, the high risk mothers are not brought to the health centres because the TBAs fail to recognize them. Beyond that, once the complication arises during labour, it is usually impossible to transfer the mother to the health centres because of the distance and lack of transport facilities particularly in the rural areas.

~~In Bangladesh 98.9% women prefer to have their babies delivered at home rather than at any~~
institution. About 58% primigravidae and 40.5% multigravidae preferred to delivery in their parent's home rather than their own homes. The TBAs are usually called after the onset of labour and after conducting delivery she hardly remains in touch with the mother or the new born. Even the TTBA hardly pay antenatal and postnatal visits to the mothers. In some areas of Bangladesh, the TBAs only

conduct the deliveries and another person is called for cutting the umbilical cord. National figures indicate that more than 80% of the deliveries are conducted by UTBAs, who may be a family member or neighbour. Only 2% deliveries are conducted by qualified physicians, 17% by GoB TTBAAs, and 8% by NGO TTBAAs (Akhter et al, 1995).

2.3 NGO

In one study of BRAC it was found that delivery by TTBAAs constituted 18% of all deliveries (Nasreen et al, 1994). Findings similar to the government one was found in different BRAC working areas as well (Ahmed, 1988; Ahmed, 1989; Goodburn et al, 1995).

3. EVOLUTION OF TBA PROGRAMMES

3.1 Global

Globally the TBAs assist in 60-80% of all deliveries (UNICEF, 1985). Thus, with the expectation of decreasing maternal mortality the TBA training programme was started in many developing countries (Jeffery et al., 1989). Gradually the TBA training programmes gained importance. WHO reported that in 1984 TBA training programmes were taking place in 52 countries, more than the double to that of 1972 (Alisjahbana, 1991). In Sierra Leone, TBA training has been done since 1930, and is one of the oldest known programmes.

3.2 GoB

1960's was the beginning of the initial TBA programme in Bangladesh, which had consisted of: a) within household contraceptive distribution, and b) motivate for using permanent methods. In the early sixties, the Academy for Rural Development in Comilla (now BARD) trained 150 TBAs for distribution

of family planning methods (Khan, 1964). Since then many NGOs have been working to train TBAs. Gradually the GoB included the TBA programme in its Maternal and Child Health (MCH) programme, which had consisted of: a) safe delivery, b) identification of abnormal cases of pregnancy, c) making further plans to increase delivery by TBAs from 5% to 50%, and to reduce Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR) (Ahmed, 1988).

In 1977: a) NIPORT developed curriculum & draft training manual for TBAs, b) TBA activities were going to be supervised by Family Welfare Visitors (FWVs), and c) TBAs were given training on birth practice, and MCH-FP (Ahmed, 1988).

In 1979: a) TBA training began at national level, b) TBAs trained by FWVs, c) trained at local UHFWC; this training had no practical component and was mainly bookish, d) administered by Deputy Director (training) of Population Control & Family Planning Directorate, e) the goal of the 1979 TBA training programme was to provide one TBA for each of the 68,000 villages in Bangladesh (Ahmed, 1988).

In 1980: a) administration shifted to NIPORT, b) no practical training (i.e. no actual deliveries) included in the training module (Ahmed, 1988).

In 1987: A workshop at NIPORT identified (Ahmed, 1988):-

- a) reasons for the failure of the GoB programme: 1. no rules set for selection criteria of TBAs chosen for training; 2. inadequate training for both FWVs & TBAs; and 3. syllabus not well formulated.
- b) consequent steps taken to improve the GoB programme: 1. appoint and train senior FWVs for professional and administrative supervision; 2. further training of FWVs; 3. prepare appropriate

training manual; 4. determine safe delivery kits; 5. transfer of administration and management from NIPORT to Directorate of Family Planning; and 6. research on mass education. ***There is still no training methodology and administrative supervision for government TBAs.***

3.3 NGO

Bangladesh Rural Advancement Committee (BRAC), one of the largest NGOs in Bangladesh started its TBA programme in Sulla in 1973, but had no effect as it was not comprehensive and well organized. This project was a part of the primary health care (PHC) programme, and BRAC trained its TBAs through its PHC programme (Ahmed, 1988 and 1989). In 1975, the programme was started in Manikganj. In early 1984, the TBA training programme was replicated in other PHC areas. TBAs were selected in cooperation with the Gram Committee members (Karim et al, 1992). The training was conducted by paramedics under the direct supervision of medical officers. It was incorporated in the Child Survival Project (CSP) in 1986. In 1991, the programme was incorporated in WHDP (now RHDC). In 1996, the training programme was cancelled by the Essential Health Care (EHC), though it is still retained within HPD (Health & Population Division). The current format for programme was taken in 1984 in CRP (Concentrated Re-enforcement Programme) within the OTEP (Oral Therapy Extension Project) (Ahmed, 1988).

4. PROGRAMME OBJECTIVES

4.1 Global

About two-thirds of the world's population have no access to institutional health facilities. Women are not given priority regarding any sort of health care services, let alone for pregnancy and child birth. Most of the TBAs are illiterate and they know nothing about the anatomy (how an organ looks or is

located in the body)) or physiology (how an organ works) of the female reproductive system, and fail to identify the position of the uterus as well as the position of the foetus within the uterus. Thus, in case of abnormal presentations TBAs fail to identify high risk mothers. Besides, the consequences of obstetrical emergencies such as prolonged labour, pre-eclampsia and eclampsia, retained placenta are unknown to the TBAs. They are also incapable of identifying high risk pregnancies and complications during delivery. Furthermore, some care during pregnancy and after delivery is essential for decreasing maternal and child mortality and morbidity. TBA training on these particular issues was assumed to be able to contribute to a great extent in the improvement of MCH care, as TBA training is thought to be essential to overcome their limitations.

According to a WHO report (WHO, 1992) the common goal of TBA programmes are to reduce maternal mortality by 50%, to provide contraceptive information and services for prevention of pregnancies, and to provide women with access to prenatal care and trained personnel during childbirth. There must be access to facilities for referrals of high risk pregnancies and obstetric emergencies. This report gave an overview of the then current TBA practice, the objectives of TBA programmes, implementation process for TBA programme, important issues affecting TBAs, the limitations of TBAs, and future prospects.

In Kenya, a general concern was that, TBA training programmes might not achieve their objectives. It was suggested that careful assessment of the medical sector may be made in terms of the benefits and obstacles of traditional medical practitioners; the utilization patterns of the community be made; that training programmes involved traditional healers, modern health workers and village leaders; that the cost of working with TMPs versus the benefits of investing in other health programmes be

welghed; and that traditional healers be involved in community health worker programmes (Boerma et al, 1990).

According to a report (Estrada, 1983), the training programme's general purpose was to develop training programmes in order to teach the technical knowledge and skills that will put into effect the expected roles and responsibilities of the TBAs and Midwives (MWs) in the delivery of essential health service components of PHC. The overall effectiveness can be measured by impact or achievement of work objectives.

4.2 GoB

The main purposes of the GoB TBA training are: 1. To ensure clean and hygienic delivery practices, and 2. To identify high risk pregnancies and complicated cases for early referral to hospital and clinic.

4.3 NGO

The goals of the BRAC TBA programme are: 1. To improve the current TBA training programme; and 2. To create service for high risk pregnancies (Ahmed, 1989).

5. STRUCTURE OF TBA PROGRAMMES

5.1 Type of service to be given

5.1.1 Focused service: This kind of service deals with only delivery.

5.1.2 Integrated service: This kind of service deals with delivery and other activities, such as MCH care, EPI, FP. Currently TTBA's advise pregnant women about nutrition during pregnancy and after

childbirth, as well as about the need for tetanus immunization, delivery in a clean place, management of labour, early recognition of problems, safe cord-cutting techniques, early care of the baby and FP (Minden, 1992). Sometimes it is better to describe TBAs as 'traditional healers' because in addition to conducting deliveries they assist mothers during prenatal and postnatal period, give advice on child care, infertility, contraception, perform abortion, and play important ritual and religious roles. But in many societies the TBAs do not have significant role during delivery and only give psychological support by talking and joking to pass time. In Thailand, TBAs measure height, weight, blood pressure, examine foetal position; test urine; provide instruction for antenatal care and breast care; and alert prospective mothers to unusual symptoms requiring examination.

TBA's have a potentially positive role in providing maternal and child health care services. In addition, this population was well aware of the consequences of AIDS, though few knew of condoms as being able to reduce the risk of infection (Adjei et al, 1989). Another study (Kanabahita, 1993) found that a problem in maternal care was insufficient transport. The TBAs learned about the importance of hygiene, seek prenatal care, receive TT injections, identify high risk women and to refer them to the hospital. Most TBAs care for AIDS orphans. Other than these, little information is available on the types of services that are given, whether it is focused or integrated.

5.2 Service Providers

5.2.1 Global and 5.2.2 GoB: No relevant information in this area could be found.

5.2.3 NGO: Relevant information in this area could not be found. Service providers may be trained or untrained personnel. Trained personnel include: physician, nurses, midwife, TTBA, etc. and untrained personnel include: UTBA, *dai*, relative, friend, neighbour, etc. But detailed information is not available.

Another NGO, the Manikganj Jonasankha Shimotokoron Samity (MJSS) TBAs attend a short training course, but learn primarily on the job, and are paid only travel expenses.

5.3 Service Recipients

5.2.1 Global, 5.2.2 GoB and 5.2.3 NGO: Relevant information in these sectors could not be found.

6. SERVICE GIVING PROCESS

6.1 Global

6.1.1 Antenatal care: The extent of antenatal care by TBAs ranged from almost nothing to very close continuous personal contacts. The TBAs determined the delivery date, advice on diet, movement and activities, and sexual relation with husband. TBAs massage abdomen to relieve discomfort, and also estimate the progress of pregnancy. Moreover, in Mexico the TBAs perform external version to avoid breech delivery from eighth months of pregnancy until the engagement of the head. This process is uncomfortable for mothers but probably safe and more convenient than travelling to a city hospital for cesarean section (Jordan, 1978).

6.1.2 Labour and delivery: During labour, TBAs sometimes massage abdomen and administer herbal beverages, insert hand into the birth canal to observe the progress of delivery, and use poor lubricant particularly oil for easy delivery; sometimes they extract placenta manually (Islam et al, 1989). Cords are cut with locally available equipment such as old blade or bamboo (stick) and dressed with earth or cowdung. The umbilical cord is cut after complete cessation of circulation of blood from mother to baby (Islam, 1989).

6.1.3 Postnatal duties: In Asia, TBAs help in clearing, washing and cooking after delivery to give new mother an opportunity to take rest and take care of baby. On the other hand the educated and government salaried TBAs leave soon after delivery. In Malaysia and Mexico, the midwives apply medications and massage the abdomen, back and thighs to speed the return of women's "youthful figure" so as to reposition parts of body strained during childbirth (Population Reports, 1980). TBAs also administer sweat baths and roasts as they believe that these increase the circulation to purify the body and help women regain their figure (Chen, 1973). TBAs are becoming increasingly aware of modern family planning methods where the family planning programmes exist. The younger TBAs (30-40 years) had positive attitude towards family planning in Lebanon, India and El-Salvador, while the older TBAs (50 years) in India opposed family planning (Chamie et al, 1976; Chaturvedi et al, 1977; Harrison 1977).

6.1.4 Others: TBAs also perform female circumcision, advice how to cure infertility and how to prevent unwanted pregnancies. Circumcision is usually done before puberty and its main purpose is to minimize sexual pleasure to ensure virginity before puberty and fidelity after marriage. For treatment of infertility, the TBAs give a variety of treatment, such as massage of uterus to turn a retroverted uterus, herbal medicines, intercourse on prescribed days, vaginal suppository, and secret rituals sometimes involving placenta of a successful delivery. While controlling fertility and birth spacing, their recommended methods are abstinence, withdrawal, abortion and breastfeeding. In the Philippines, about one-third of the abortion in rural areas were performed by TBAs (International Institute of Rural Reconstruction, 1995). In Indonesia, Pakistan and Thailand, 12-15% TBAs perform abortions (Rogers et al, 1975; Roshan, 1974; Narkavonnakit 1979). For induction of abortion, the TBAs most frequently reported massage of uterus, herbal medicine and insertion of foreign bodies into the uterus.

6.2 GoB and 6.3 NGO:- Relevant information could not be found in GoB and NGO sectors.

Although there was one case study done on BRAC regarding TBA practice during delivery through participant observation (Ara A et al, 1989) where there was documentation of some actual delivery cases by female interviewers, but not most deliveries because the presence of an outsider during delivery was not an acceptable norm in the context of Bangladesh rural areas.

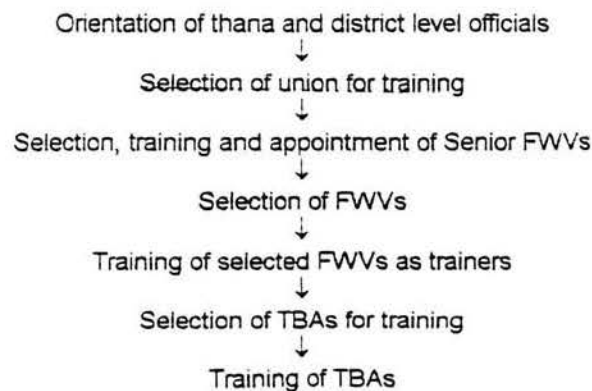
7. TRAINING

7.1. Target Population

7.1.1 Global: Relevant information in this area could not be found.

7.1.2 GoB: In the second (1980-85) and the third phase (1985-90) a total of 18,000 TBAs were trained. In the fourth phase (1991-96) till April 1994 a total of 24,185 TBAs were trained (target was 47,000). Altogether 42,185 TBAs have so far been trained. The target population for the TBA training programme are: a) train 460 Senior FWV (one from each *thana*); b) train one FWV from each union as trainer; c) train 15 TBAs in each union; and d) development, distribution and marketing of cheaper delivery (Akhter et al, 1995).

Steps for implementation of TBA training programme:



7.1.3 NGO: a) In 1988 target was set at 60 TBAs from each union (20/ward); this was modified to 3 TTBA per 2 villages per 10 upazilas covered by WHDP in 1992; b) Till 1989, 5467 TBAs were identified and 4384 trained (81%) by the BRAC programme; c) By 1992, 2308 TBAs trained in 1500 villages under WHDP; and by 1994 2355 TBAs were trained (Ahmed, 1988 and 1989; Karim, 1992).

7.2 Selection Criteria of TBAs for Training

7.2.1 Global: Relevant information in this area could not be found.

7.2.2 GoB: The selection criteria of TBAs are: 1. conducted at least 5 deliveries during the preceding year, 2. should be within 30-35 years of age (in 1989 it was 30-50 years, min. 8-10 deliveries), 3. should be of good health, 4. must be married (may be separated, divorced, or widowed), and 5. permanent resident of the locality and interested in receiving the training. The list of TBAs are prepared by FWAs who have conducted deliveries for at least five years. After that they are selected by TBA selection committee for training.

7.2.3 NGO: Selection criteria of BRAC includes: those who have already delivered, age between 35-45 years, landlessness, and good eye sight. Exclusion criteria of BRAC includes: trained at GoB/other NGO facilities, physically handicapped, infecund women, unmarried. CCDB started TBA training programme in the late 1970s. Their selection criteria were: age between 30-50 years, at least 3 years of TBA work experience, average of 5 deliveries a year, willingness to work, good health, and literate. CCDB is providing training of TBAs in collaboration with the Bangladesh Rural Development Board (BRDB is assisted by UNICEF).

7.3 Course Schedule

7.3.1 Global: The duration of training usually vary from one to six weeks, sometimes even six months to twelve months. It has been found that TBAs who attended the short training course were generally as effective as those attending the long course, and more effective at getting high risk women to deliver in the hospital, the shorter, competency-based course has been implemented on a permanent basis (PRICOR, 1987).

7.3.2 GoB: The training course has been divided into two parts: 1) Basic training for twenty-one days, and (2) Follow-up refresher's training once a month for the next 36 months. The twenty-one day basic training course is divided into three phases: first phase 10 days, second phase 6 days, and third phase 5 days with one month interval between the phases. After completion of basic training all TTBA's meet with FWV in the FWC once a month for 36 months for follow-up training. In the follow-up sessions the trainers usually discuss the problems faced by the TTBA's during their service delivery. Training of TBAs of Sadar unions will be at *Thana* Health Complexes (THCs) or Maternal and Child Welfare Centers (MCWCs). Gradually all the unions will be brought under the training programme. It is expected that through regular meetings with FWVs, TBAs will be able to acquire practical training and skill for conducting safe deliveries.

~~**7.3.3 NGO:** BRAC gives a seven day training, with a refresher training of one day every month.~~

7.4 Course Content of Training Curriculum (job responsibilities of TBAs)

7.4.1 Global: Most of the training course curricula address the anatomy and physiology of the female reproductive system which is confined to a classroom. For better use of TBA training programme practice of what is taught is also needed, but almost inevitably never carried out. One study (Kamal,

1992) found that the course prepared lady health visitors for the maternity cycle but not how to deal with women and their sociocultural background. Another study (Kogi-Makau et al, 1992) recommended that health workers should include TBAs in nutrition education pre- and postnatally.

7.4.2 GoB: Relevant information in this area could not be found.

7.4.3 NGO:

BRAC gives training in the following major components (Ahmed, 1988 and 1989):-

1. simple prenatal care and preparation
2. identification of high risk pregnancy
3. conduction of hygienic delivery
4. simple postnatal care
5. anatomy of female pelvis: such as, reproductive organs, menstruation, fertilization and growth of foetus, human reproduction and conception.
6. *dai* kit bag: a) *Dai* kit bag consists of bag, towel, soap with box, polythene sheet, cotton, cotton thread, nail brush (or cutter), savlon, razor blade; and b) *dais* show the mothers the *dai* kit contents, so that mothers are aware and will have these readily available for use when needed.

Preparation for normal delivery and its supervision (antenatal care) (Ahmed, 1988 and 1989; Islam, 1989; Nasreen, 1994):-

- a) estimate gestation
- b) detect anaemia
- c) detect high risk mothers (e.g. detect PET)

- d) detect danger signals of pregnancy (early recognition/diagnosis of obstetric abnormalities or complications – e.g. jaundice, anaemia, severe hemorrhage, excessive vomiting, eclampsia – oedema, convulsion, hypertension, albumin in urine, prolapse (hand, foot, cord, breech), placenta praevia, prolonged labour, obstructed labour, cord around neck, and twin delivery.
- e) timely referrals of complicated cases – learn skills to know her own limitations and refer when she cannot handle the complicated situations.
- f) ante/pre-natal visit (conduct home visits)
- g) give health education (antenatal advice) for mothers: 1. dietary advice. (extra food intake, intake of nutritious food such as meat, fish, egg, etc., intake of vegetables, drinking plenty of water, nutrition of mothers in 3rd trimester, iron and folic acid intake, and understand the value of local food and how to use them), 2. restriction of heavy work, 3. careful movement, 4. general cleanliness (personal hygiene, but no specific answers mentioned in any published report), 5. sufficient rest, 6. TT vaccination, 7. regular check up, and 8. advice given on no sexual intercourse during 1st and 3rd trimester.
- h) arrange cord cutting accessories.

General clean and hygienic practices in delivery (to prevent tetanus and other infections to child and mother or intrapartum care (Ahmed, 1988; Islam, 1989; Nasreen, 1994):-

- a) prepare patient, equipment/materials and place of delivery (preparation before delivery): hand wash with soap and water, change clothes, cut nails, clean house, cover delivery bed with polythene/plastic sheet, dress hair;
- b) aseptic precaution: sterilization of equipment (e.g. boiling of cord cutting accessories), cutting and dressing of umbilical cord, and cord tie;
- c) manage delivery; and

d) control hemorrhage (specific methods advocated were not mentioned in any report).

Postpartum (postnatal) care (Ahmed, 1988; Islam, 1989; Nasreen, 1994):

a) post natal visit

b) postnatal advice for mother:

1. dietary advice such as, to take all kinds of food by mothers and supplementary feeding

(specifically not mentioned in any report);

2. care for newborn and mother (added after 1984):-

i. knowledge or advice about importance of colostrum: increase memory, good for health,

increase power of vision, prevent communicable disease, increase immunity, act as laxative,

prevent pneumonia, prevent night blindness, prevent vitamin deficiency, increase bondage of

love;

ii. importance of weaning (specifically not mentioned)

iii. proper cord care (specifically not mentioned)

iv. advice on breastfeeding – 1. Techniques; 2. benefits of breast-feeding (good for health,

decrease body ache and breast pain, increase birth space d. close mouth of uterus, regular

menstruation, cheap, and prevent fever.

v. manage diseases (diarrhoea, fever) for newborn – 1. re-enforcement of oral rehydration

knowledge for diarrhoeal diseases; 2. prevention of diseases of children (immunization

from 6 weeks of age [TT/EPI, newborn/mother]; Cleanliness – clean cloth and bath

within 7 days, avoid cold, breastfeeding, colostrum, massage of oil, Vitamin A capsule

(VAC), nutritious good food).

The training course curricula does not include practical training. In the curriculum no post partum activities in detail were mentioned, e.g. in the Day 5 training schedule, there was no mention of a practical demonstration, but only verbal (Ahmed, 1988). Also there is wide difference between: a) the content of TBA training and the actual practices of TBAs (wide difference between what TBA is taught and what they practice), and b) between the expectations and knowledge of mothers.

7.5 Incentives for This Community Work

7.5.1 Global: The motivation for becoming a TBA is primarily pragmatic. Most acquired the trust of villagers after helping on an ad hoc basis and became TBAs. Some became TBAs to help people in the village. No other relevant information was available in this area.

7.5.2 GoB: Each TBA is given a travelling allowance (TA) of Tk. 40 per day. About 85% of the community leaders mentioned that the TBAs earned good fame after their training but their income did not increase accordingly. TBAs do not demand payment, but are usually offered money, food, sari, or invitations to birth ceremonies. Many TBAs thought that TBAs were viewed by the community as government workers and thus avoided. However, community members did not corroborate this statement. Monetary incentives could be a strategy for better outreach.

7.5.3 NGO: Similar travel and daily allowances are given to BRAC trainees. No other incentives are given.

7.6 TBA Perception of Birth Process

7.6.1 Global and 7.6.2 GoB: Relevant information in global and GoB sectors could not be found.

7.6.3 NGO: Currently there is an ongoing study at BRAC exploring the perception of trained TBAs regarding the birth process. The study is based on the 'body mapping' technique used by McCormick who investigated the perceptions of TBAs regarding female reproductive tract.

7.7 Trainers

7.7.1 Global: Relevant information in this area could not be found.

7.7.2 GoB: The TBA training is conducted by trained health workers such as, doctors, nurses, midwives, paramedics, and family welfare visitors.

7.7.3 NGO: In the BRAC TBA programme TBAs are trained by BRAC health workers, who are medical officers and paramedics (WHDP trainers).

7.8 Supervision and Monitoring

7.8.1 Global: Supervision can fail, either through poor planning, a lack of clarity about whose role it is to supervise, or logistic problems such as physical distance (Walt, 1986). Supervision efforts should provide meaningful objectives and training for supervisors and stress support of TBAs over control, ; also make use of community resources such as teachers, follow-up workshops and meetings. In 1984, WHO identified the constraints against effective supervision and categorized them into technical and administrative support including infrastructure, isolation, rapport between TBAs and health care system, community involvement, finances for training and supervision.

TBAs conducted 61% of all deliveries suggesting inaccessibility to health services (Atting et al, 1991). More infant deaths occurred from those deliveries conducted by TBAs than institutional indicating a need for appropriate supervision and health education of TBAs.

7.8.2 GoB: Relevant information in this sector could not be found.

7.8.3 NGO: According to Ahmed, 1988, there was absence of systematic supervision and follow-up system of BRAC programme activities: BRAC should initiate another programme component within the current one to supervise the activities of TBAs, use FWVs, rethink the strategy of refresher courses, and supervise TBAs when they actually handle deliver cases.

8. OUTCOME OF TBA TRAINING PROGRAMMES

8.1 Impact on Maternal and Infant Mortality and Morbidity Indicators

8.1.1 Global: Several studies show that TBA training lead to an effective way of reducing infant mortality, specially through reduction of neonatal tetanus. Training of TBAs have impact on reduction of infant mortality even in areas without radical manpower (Okora, 1987). In 1975, it was observed that many rural women in Brazil come to the city with very simple obstetrical and gynecological problems, or they arrived so late that nothing could be done to prevent maternal and foetal death. After integration of the TBA services with the rural maternity services, IMR decreased by 40% within four years (Hyppolite, 1991).

A study conducted in Gambia on the impact of TBA training in the PHC project showed that after TBA training, maternal visits to antenatal care centres rose from 34.2% to 39.9% and acceptance of TT vaccines rose from 15.8% to 22.2%. Maternal mortality decreased significantly from 2716 to 1051 per 100,000 live births. Neonatal death rate was significantly lower (46.6/1000) in the intervention area than in the non-intervention area (69.6/1000) (Greenwood et al., 1990). A study in Zimbabwe found that community level maternal waiting homes (MWH) having community health workers (CHW) and highly trained TBAs and reduced the MMR and IMR by 50% and 66% respectively. Nevertheless

occasionally the TTBA's returned to their unsafe delivery practices due to lack of medical supplies (Jacobson, 1991).

Another study found that the maternal mortality rate decreased from 101/1000 in 1979 to 4/1000 in 1985 due to referral of high risk pregnancies by TTBA's (Brennan, 1988). In Burkina Faso TBAs were effective in detecting maternal morbidity and mortality, but they did not go beyond onto what to do after detection (Wollast et al, 1993) which was the more critical issue.

In 1988, Bailey et al tried but could not determine whether the TBA network has had an impact on mortality outcomes, but their activities have served as an important link between the established medical system and the community. According to another study (Mangay-Angara, 1981) the benefits appeared to accrue more in terms of the principles of asepsis, antenatal and postnatal care, and FP than in the actual handling of obstetrical complications. There is no question of the beneficial effects of the training. However, the impact of the programme on maternal mortality is not evident; there continues to be room for improvement, particularly in regard to including actual experience with deliveries in the training sessions.

In Sierra Leone, obstacles to referral were transportation and loss of TBA's fee. In Nigeria, the beneficial aspects of TBA training include observing the principles of hygiene, early referral of patients to hospital, encouraging village children to come for vaccinations and generally using their influence in the cultural, ritual and religious life of traditional society to become good health educators (Brennan, 1988). TBA evaluations suggest that training has been effective, but the impact on infant and maternal mortality is unknown (Yabundi, 1994). Many expectations have been placed on TBAs: for child survival, FP, and primary health care (PHC).

8.1.2 GoB: The TTBA's have positive impact than the UTBA's in terms of providing antenatal, intranatal and postnatal care of mothers, child immunization, family planning and advice on preparation and use of ORS (Hossain et al, 1989). Other than this no relevant information was available.

8.1.3 NGO: TBA training has positive impact on maternal and child mortality and morbidity, immunization of mothers by TT, family planning and ORS, as TT immunization, use of ORS and family planning methods increased. A study found that 23.3% of untrained TBAs (UTBA's) and 47.1% of TTBA's conducted deliveries following the three cleans. 26.9%, and 26% post-partum infection was found 2 weeks after delivery conducted by UTBA's and TTBA's respectively. Even 2 weeks after clean delivery, post-partum infections was recorded in 25.8% cases while in case of less clean delivery practice it was 27.6% (BRAC, 1994). Both the TTBA's and UTBA's knew that additional food intake was essential during pregnancy but few TTBA's provided such advice. Regarding TT vaccination, all trained and untrained TBAs advised mothers for vaccination (Islam et al, 1989).

But according to different studies by Goodburn and Gazi 'not only did the training of the birth attendant have no significant association with the development of postpartum infection, but the practice of clean delivery factors relevant to maternal infection had no significant association with infection diagnosed at either two weeks or six weeks after delivery.

8.2 Client Satisfaction

8.2.1 Global, 8.2.2 GoB and 8.2.3 NGO: Relevant information in these sectors could not be found.

8.3 Evaluation of TTBA's Performance and TBA Training Programmes (change in KAP)

8.3.1 Global: found that TBAs exhibit better KAP than UTBAs regarding most issues in MCH care (Sujpluem, 1979). Preliminary results from evaluating the training programme of Burkina Faso indicate that TBAs could play a vital role in sensitizing the population to FP activities (Population Council, 1993). Experience with TBAs in FP used to be nonexistent, but the truncated experience proved the TBA programme to be feasible, but its effectiveness is not known (Nicaragua, 1993).

There is a need to work with TBAs to identify safer methods they could use among their clients (Dangoji, 1992). Presern (1992) found that the ongoing training of TBAs can be effective, provided that it is accompanied by better referral facilities, improved literacy of women, and access to contraception. It was found that TBAs could significantly improve maternal health, unless there was poor training or inadequate recall. In high caste areas, the polluting activities of childbirth and menstruation prevent the birth from taking place in the house.

In Yemen, it was seen that remuneration is the promise of rewards in the afterlife, providing an image of professionalism and specialization and the bag of instruments has led to inequality and confusion (Scheepers, 1991). It is suggested that training be given to midwives and that research into the local situation occur prior to training activities in order for objectives to be achieved. In this situation less sophisticated training should be given to all women assisting in deliveries.

In Zimbabwe, several components contributed to programme success. These were: developing a sense of self esteem and pride among TBAs for their work, using creative ways to teach the largely illiterate TBA population through role plays and songs, and providing involvement in the health care system which reaffirms the TBA's importance (Jacobson, 1991). However, there are still problems to

solve. Unsafe practices are resorted to when TBAs forget their training. Disruptions of medical supplies handicap TBAs in carrying out their work. According to Feyei-Waboso (1989) African style of medicine does not encourage referrals from either TBAs or physicians.

8.3.2 GoB: Knowledge of TTBA on antenatal care, immunization, use of boiled new blades and thread for cord cutting and tying, hand washing with soap and water, and FP methods are encouraging. But in practice, the uses of their knowledge is yet to attain the expected levels. A study (Hossain et al, 1989) measured the effect of the TBA training programme/intervention on TTBA's performance. Both the TTBA and UTBA provided services on antenatal care, delivery and postnatal care, child immunization, FP and also helped community members educating them on the preparation and use of ORS for diarrhoea. TTBA's were found to be more knowledgeable, more skilled, served more persons than UTBA's, which indicated positive impact of the TBA training programme.

One observational study showed that 73.8% of the TTBA's washed their hands with soap, brush and water during delivery conduction (Hossain, 1992). But the findings of another study show that all TTBA's and 92.5% of UTBA's wash hands during delivery prior to conduction. 75% also reported that they wash hands more than twice. Besides, only 1.8% of TTBA's and 7.5% of UTBA's washed hands before per-vaginal examination. Both the TTBA's and UTBA's showed strong preference for using new blade for cord cutting. In case of delayed placenta delivery, 18% of TTBA's mentioned that they gave pressure on the abdomen, 15% massages on abdomen (Hossain, 1990). More than 63% of the trainees and 65.2% of the TTBA's knew that incomplete placental delivery may even result in mothers death (Akter et al, 1995). 91% of the TTBA's provided services on family planning, 72% on ORS and 64% on vitamin "A" capsule (Hossain, 1992). Very few studies had actually observed actual delivery cases by TTBA's.

A recent study found that only 1% of the mothers received antenatal checkup by government TTBA's. 28% of the mothers had some complications during pregnancy such as oedema, abdominal pain, headache and vomiting. One quarter of pregnant mothers reported complications such as convulsion, hemorrhage, prolonged labour, delayed placenta delivery, and only a few percentage of TTBA's were called for management of these complications. 62% TTBA's arranged necessary materials needed prior to delivery. Physical examination including insertion of hands through birth canal was done by 84% TTBA's and 42% UTBA's. Again, 74% TTBA's boiled cord cutting instruments for 30 minutes or more but 12% of the UTBA's did it only once (Akhter et al, 1995).

8.3.3 NGO (findings of different BRAC evaluations) (Ahmed, 1988 and 1989; Islam, 1989; Nasreen, 1994; Goodburn, 1995):

1. Definite improvement in delivery practices by TTBA's.
2. Had no knowledge → now definitely have higher knowledge and though some are practicing change in practice is not adequate → need more practice.
3. The following are at most at 70% performance level (some quite low):
 - a) increased use of new blades & cotton;
 - b) increase in tying umbilical cord with new thread;
 - c) increase in practice of wearing new (or clean) clothes during delivery by mothers and TBAs;
 - d) increase in giving advice to mothers;
 - e) increase in knowledge of cutting nails, but few practiced;
 - f) increase in knowledge of personal hygiene but little practice;
 - g) few washed hands with soap & water before delivery, or while doing p/v examination, with soap and water;
 - h) colostrum feeding;

- i) boiling cord cutting accessories (but not clear on how long to boil for effectiveness);
- j) only 50% did physical examination;
- k) had knowledge but did not give advice on nutritious food;
- l) had knowledge but did not advice or disseminate to mothers about supplementary diet/weaning;
- m) had knowledge but did not advice about child immunization and TT vaccination of mothers;
- n) confusion remains about the following activities: technique and time of cutting umbilical cord after delivery, such as how long to wait (till cord is white?), how long it takes for placenta to be delivered after expulsion of foetus, and how to do it.

4. Had knowledge but did not practice pre & postnatal visits:

- a) TTBAAs made some antenatal trips;
- b) some postnatal (single time) visit, but reason unclear (to see well-being of mother and newborn, or take part in feast);
- c) ante and post natal services not sought by mothers (1987 RED survey), only intranatal services sought after;
- d) antenatal care should be given only if there are problems, not if everything is going well with the pregnancy (all TTBAAs, UTBAAs, and mothers believe this).

5. Harmful and unhygienic practices still being practiced by TTBAAs otherwise gruesome practices absolved except in case of prolonged labour:

- a) facilitate delivery of foetus by putting hair into mothers throat to induce vomiting, press on abdomen, put oil into birth canal, internal manipulations and massage, introduction of oil in vagina, use of fundal pressure or tight abdominal bands during labour;

- b) method of placenta delivery: spontaneous, otherwise facilitate delivery of placenta by abdominal massage, hot water compression, put onion or hair into mouth, choking or inducing vomiting, remove manually by pulling on the umbilical cord, press on abdomen, press and/or touch navel of the mother or refer.
- c) 76% of the TTBA's claimed that they did not advise the application of substance (oil, savlon, cowdung etc.) on umbilicus but 56% of the mothers claimed that the TTBA's told them to do so; half of the mothers followed the advice and the remaining followed their traditional practices.
- d) TTBA's asked mothers to procure honey and 'mish' (this may lead to diarrhoea);
- e) not using uterine massage to prevent and treat postpartum hemorrhage;
- f) leaving home after delivery is restricted due to cultural reasons, so more reasons for TBA to make home visits after delivery (not just before or during delivery);
- g) a large number of TTBA's did some harmful practice, such as trying something around abdomen (45.5%), per-vaginal examination (40.4%) and pouring of lubricant (such as oil) into birth canal (68.4%). Similar percentages of UTBA's also did the same practices.

6. When TTBA's told mothers to buy blade, cotton etc. they did, but when UTBA's requested the mothers to do the same they did not (but mother's denied this). There is wide variation between what TBA's said and what was corroborated by the mothers. It may be due to TBA's' exaggerating or mothers' under reporting. Only a few TTBA's knew that mothers should be told to defaecate before delivery.

7. There were regional variation within the BRAC working areas:

- a) average attended deliveries were lowest in Dinajpur & highest in Mymensingh;

- b) in Dinajpur still births were less and referrals were higher;
- c) in Bogra and Mymensingh still births were more and referrals were low;
- d) proper cord cutting technique practiced only in Bogra, not in Mymensingh or Dinajpur (5);
- e) only 3% were referred;
- f) no still birth recorded at WHDP region;
- g) overall utilization for all areas low and incidence of complication before, during and after delivery very high. May be due to – mismanagement of labour, or/and deficiency in training curriculum, or/and iii. TBAs not practicing what they learned.

8. Reasons behind non-referral:

- a) only 20% TTBA were able to identify high risk pregnancies. and of them only 30% high risk pregnancies were referred to hospitals (nowhere in the report was it mentioned what happened to those outcomes that were not referred, and even the outcomes of those which were referred were unknown);
 - b) 12% did not advice hospitalization on detecting complication in pregnancy; why they did not need to be explored;
 - c) all the participants concurred that TBAs make the best birth attendants, but even TBAs wait a long time and try to take care of problems for a long time before making referrals. This stems from professional pride, fear of poor quality of hospital services, financial difficulties and transport problems.
-

9. Postpartum complications were identified as:

- a) postpartum illness was common in this community; these problems were identified as – breast problems, perineal problems, infections, and prolapse;

- b) apparent need, currently unmet, for postpartum health care to be made available to rural women;
- c) a common complication mentioned was postpartum convulsion – were TBAs/mothers/interviewers clear about the difference between convulsion or rigor (because chill and rigor following delivery was more usual and post partum convulsion was less common);
- d) postpartum complications were identified as: excess hemorrhage, retained placenta/bits of membrane, placenta torn off or torn cord, uterine prolapse, fever, tetanus, convulsion, anaemia, tear in reproductive tract.

It is questionable whether food taboos during the puerperium have that great an impact on nutrition, as do endemic food shortages, coupled with nutritional demands of lactation, e.g. most women do not have meat anyway, or only rice once a day so in reality not much effect on nutrition. Furthermore, even though women had knowledge about what they should or should not do regarding the physical activities to be avoided after birth, as advised by health workers, they could not comply with them. e.g. If rice needed husking they did it, if husbands desired sexual intercourse they submitted.

TTBAs are not well motivated for changing their previous behavior of delivery conduction during apprenticeship with relations and family TBAs. Practical training with adequate supervision of TBAs ~~may have positive impact on training. In some studies, no difference was observed between the~~ TTBAs and the UTBAs regarding the examination of birth canal during delivery with or without hand washing. It is frustrating for the programme, and the reasons need to be further studied. Almost equal number of mothers reported about post-partum infection two weeks after delivery who was delivered with three cleans and without three cleans. Though it is surprising, many cultural and social

behaviors may be responsible for this even after hygienic delivery conduction, such as, use of dirty rags as sanitary napkins, use of dirty water for bathing, wearing dirty clothes, poor hygiene and nutrition. The actual reasons may be explored by in-depth intervention study (Goodburn et al, 1995).

Evaluation of TBA training programmes have shown that the performance of TTBA is much better than UTBA in terms of referral of high risk mothers, clean delivery practices and use of sterile instruments for cutting umbilical cord. Evaluation of TBA training focused on the performance of TBA activities and their knowledge, attitude and practice. Very few studies looked into the impact of TBA training in terms of reduction of maternal and infant morbidity. Nevertheless, the people's perception regarding trained TBA activities was not adequately evaluated.

CCDB: About 86% of the TBAs who were trained by CCDB paid antenatal visits and they asked the mothers for restriction on heavy work, slow or careful movement (69%), immunization (88%), procurement of cord cutting accessories. After delivery, 79% of the TTBA visited the mothers but they did not give any advice to the mothers (Hai, 1988).

8.4 Utilization of TTBA

8.4.1 Global: TTBA in Nepal had been used at least once by 74% women in a area compared to 56% of the women where TBAs were not trained (Levitt, 1988). In India, 39.2% deliveries were conducted by TTBA, 25.9% by UTBA, 16.7% by midwives, and 3.4% by doctors. According to professional category labourers used UTBA, farmers TTBA, and business and service classes midwives (Joshi et al, 1987).

A study (Akpala, 1993) aimed to determine whether utilization of prenatal services and awareness of the need for institutional delivery affected pregnancy outcome. The findings indicate the need for health education programmes to improve awareness of rural women and their husbands of the adverse health effects of lack of prenatal care and unsupervised home deliveries. Other needs were integration of TTBAAs into the MCH services, improved rural feeder roads, and adequately staffed and equipped health facilities. In Gambia there was no change in the rate of delivery conducted by the TTBAAs at 65% throughout the three years after training.

8.4.2 GoB: Studies found that only 6% of the deliveries were conducted by TTBAAs (Royston et al., 1989; BIRPERHT, 1994). Despite efforts only 18% of all deliveries were performed by BRAC TTBAAs; 19% spontaneous or by family dais or other NGO TBAs, 59% by UTBAAs, and 4% at hospital. This low coverage may be due to:

- a) TTBAAs are unknown in community, i.e. lack of awareness among community about availability of TTBAAs, and as such there are no regular communication between TTBAAs and community;
- b) lack of credibility of TTBAAs,
- c) lack of time to call TTBAAs,
- d) far distance
- e) unwillingness of woman and her guardians; [poor so unclean, unpopular, may be not taken seriously because they are poor]
- f) TTBAAs do not have incentive to pay frequent visits to mothers. Incentives such as special credit/loans, NFPE schooling, etc. can be given.
- g) problems with the selection criteria for TTBA (Ahmed, 1988; Ahmed, 1989; Nasreen, 1994) --
 - i. age 35-45 (may be this can be modified to 20-55);
 - ii. why can't they be selected if unmarried (e.g. unmarried older woman in her 40s, should be abolished);
 - iii. why landlessness is required

- [why, wouldn't this limit # of TBAs available to be re-utilized, should be abolished]; iv. why good eye sight is a criterion; v. most are illiterate and average age 49, prone to forget training.
- h) BRAC should try to harness this so far untapped human resource of UTBAs.
- i) how to give recognition & credibility (how to raise status to the TTBAs).

8.4.3 NGO: It was found that status of education similar in target and non target group which may be an indication as to why utilization of TBAs was not high. A study (ICDDR, 1994) showed that TBAs had delivered only 6% of all births in 1991. Another study (Afsana et al, 1994) showed that most of the deliveries were assisted by UTBAs. In non-pilot areas, 25% of the TG and 18% of the NTG women received assistance from BRAC TBAs, because most of the mothers were ignorant about BRAC TBAs. In the pilot areas these percentages were respectively 16% and 18%. It was also pointed out at the end of the study that steps needed to be taken to increase the TBA's participation through advanced training, follow-up and supervision, and sufficient remuneration.

The reasons for not going to health facilities and under utilization of TTBAs (Ahmed, 1988):

- a) do not know that such services were available, and lack of both awareness and information;
- b) bad reputation of GoB centre – physician, medicine and supplies not available;
- c) distance was too far
- d) unwillingness to use modern services which were alien to their culture (Goodburn et al, 1995)
 - i highly medicalized nature of pregnancy services, a model that is alien to the belief systems of village women;
 - ii. concepts of antenatal care for a normal pregnancy and risk of detection according to Western medical practitioners terms are alien to women;
 - iii. Tenacious belief in the supernatural causation of disease (the availability of wide range of local remedies reflect this);
 - iv. most TBAs despite having government training holds onto traditional beliefs

regarding pregnancy and child birth and issues related to these, and training of TBAs did not substantially alter either their belief systems or their practices. v. More participatory training techniques might be able to help TBAs to reconcile their traditional beliefs with modern thinking, e.g. i. placental delivery, ii. despite training TBAs are afraid to cut the cord after delivery and wait for the expulsion of the placenta before cutting the cord; vi. did not study local government services but model used by health workers are typically allopathic in nature.

8.4.4 Decision Making Process: Decision making is an important factor in using TTBA. In rural community and sometimes in urban areas the in-laws are the key persons to decide by whom and where the pregnancy will be terminated. Traditionally, the TBAs are called after onset of labour for conduction of delivery only. The TBAs have virtually no role during pregnancy and after delivery. These situations were not evaluated critically before development of training module. The TBA training programme is rather a vertical one in many developing countries as the training programme was mainly focused on how to conduct safe deliveries for prevention of infection particularly maternal tetanus. Under such constraints, only TBA training might not be enough for their effective utilization. The decision makers may be involved in the process of TBA training. Moreover, all the TBAs need to be trained, and it is expected that at least they will not oppose the government TBA training programme.

In rural areas of most developing countries TBAs are called after onset of labour. In a BRAC study it was found that 18% of the deliveries were conducted by TTBA (Nasreen et al, 1995). The rest of the deliveries were conducted by untrained or family *dais*. Eighty seven percent of the community leaders reported that the TTBA are conducting more deliveries than before (Hossain, 1992).

In Mexico, after 8 years of observation and analysis of both TBA conducted and hospital obstetrics (Jordan, 1987) a study concluded that the reasons for continuing failure of the official TBA training courses as: duration of course was too long, UNICEF provided delivery kits were not given, lack of application of the medical concepts to their practice, did not understand the anatomy of the reproductive tract, instructors devalued or ignorant of the indigenous practices.

8.5 TTBA's linkage with other health worker (government/non-government)

8.5.1 Global and 8.5.3 NGO: Relevant information in these sectors could not be found.

8.5.2 GoB: More than 98% of the TTBA's mentioned having linkage with family planning and health staff, such as with FWA (61.4%), FWV (68.4%), Medical Assistant (5.3%), Family Planning Inspector (7.0%) and untrained TBAs (15.8%). These TTBA's expressed that, they exchange their views with them about delivery (63.2%), maternal complications and child delivery (28.1%), training (19.3%), Vaccination (35.1%) and family planning method (55.1%). 87% of FWVs, 76% Senior FWVs, 69% MDs and 79% FPDs reported that TTBA's practiced safe delivery with care (Hossain, 1992).

9. COST EFFECTIVENESS OF TBA PROGRAMMES

9.1 Global

There have been only a handful of studies which evaluated the cost effectiveness of TBA training programmes, and even fewer which actually compared its cost effectiveness to other interventions of safe delivery. Contradictory statements are apparent in different studies. Some say that it is very cost-effective and some say it is very costly. In developing countries TBAs are the most economical and effective methods of improving maternal and child health (Giri, 1990).

Belsey (1985) claimed that TBA training is probably one of the most cost effective approaches to reducing maternal and infant mortality and morbidity. In addition to TBA training, WHO suggests strengthening the referral and support system and improvement and wide spread use of appropriate technologies. In 1988 a study done by Kwast found that hospital care costs US \$50 for each delivery, where MCH centres are free.

9.2 GoB:- Relevant information in this area could not be found.

9.3 NGO:- A BRAC study showed that there was more cost effectiveness in raising status (Ahmed, 1989). According to another study (Brenzel, 1994), the then WHDP programme was found to be cost-effective in most of its components. Another study done by at BRAC (Karim, 1994) found that the RDP health programme components were more cost effective than the WHDP ones.

10. CONCLUSION

Research Issues Not Yet Addressed

From this literature review it was clear that though plenty of research have been conducted, many of the issues of TBA programmes are still unexplored. More than three decades after the initiation of TBA programmes worldwide there are still little or no information available on the following issues: service providers, service recipients, structure of TBA programmes, type of service to be given (focused or integrated; no studies available on which strategy gives better outcomes), service giving process, incentives for this kind of community work, TBA perception on birth process, trainers of TBAs, supervision and monitoring of TBAs, client satisfaction, utilization of TBA services, linkage of TBAs

with other health personnel, cost of TBA programmes. But plenty of studies have covered the issues of birth practices, birth attendants, evolution of the programme, KAP of TBAs. In future qualitative research methods can be used to identify what traditional practices might be amenable to change, and those which should be encouraged to adopt in further detail (Goodburn et al, 1995). Descriptive monitoring with quantitative data is not sufficient to draw a precise conclusion (Karim et al, 1992). Another research question should be investigated further is: why trained TBA services do not have impact on post partum infections.

It is obvious that qualified personnel have very low involvement in delivery conduction. Due to poor accessibility and inadequacy of health care services, most of the mothers are reluctant to deliver at government health care facilities. In this situation a safe delivery home is an unmet need of the community (the BRAC Health Centres can serve as one). Antenatal care services available from different health care facilities are either inadequate or inaccessible to all mothers. Moreover, national programmes in developing countries attempt to improve the health of rural mother and children to reduce the maternal and child mortality and morbidity by establishing rural health centres, but the rural women seldom use the institutional services for childbirth and antenatal care (Bhatia, 1981).

The TTBA's have enough opportunity to contribute. Considering all the above situations WHO suggested that health of mothers and babies can be improved by giving special training to TBAs, and support to enable them to practice their activities with greater safety (Belsey, 1985). **One solution may be "to train all TBAs without any restriction on recruitment"**. The main reason being that the length required for training is very short. Even though some of them may be too old or inactive, they should still be added. The reason being that at least they will not act against the programmes, whether government or NGO.

Another solution to retain the trained personnel in the programmes may be to supply low cost delivery kit-box according to need. Training materials may combine allopathic, social, cultural, and religious doctrines. BRAC should create such a situation so that when referrals are made, hospital staff render the services to the pregnant women. Knowledge of some of the beliefs of local women (both TBA & mothers) should be encouraged and incorporated in the training to make them more relevant and acceptable to local women, as some traditional beliefs are beneficial (Goodburn et al, 1996), e.g.

- adopting upright position and walking during labour
- delivery in squatting position (currently this is being promoted in the developed countries)
- non-interference with membranes
- having psychological support from attendants and being in familiar surroundings.

TBAs will continue to exist, and they cannot be gotten rid of even if someone wanted to at this point in time. because:

- within the next 50 years no developing country will have enough health personnel to cover the entire population;
- TBAs are illiterate but not stupid;
- not all TBA practices are dangerous;
- TBAs enjoy greater trust within the community than modern health practitioners;
- a friendly TBA can provide entry to homes and communities, while a hostile TBA can undo months of efforts by the trained health care provider;
- if properly trained and supervised TBAs can be valuable in promoting breast feeding, immunization, FP, and healthy eating habits (Kamal, 1992).

TBAs exist in different cultures and they are paid in traditional means and do not require salaries. But results of TBA programmes are often disappointing. Problems in the design and execution of TBA programmes account for their poor performance. For example, there is no effective system of replenishing the delivery kits, lack of supervision, TBAs are taught to refer but in countries where there is lack of access to effective modern health care facilities. TBAs are not given the means to treat pregnancy complications. Thus, in many countries TBAs have been given substantial responsibility for saving the lives of women and infants, but have not been given the training, supplies, support and backup to do so (Maine, 1986).

There are over 6 million *dais*/TBAs in India and to most of them this is a part time job. TBAs are blamed for high maternal, perinatal, and early neonatal mortality rates by the medical professionals, yet the services the TBAs provide should be acknowledged with gratitude since they cater to a need in the community in the most adverse conditions of physical and social environment (Mathur, 1983).

The application of a consumer-based research methodology illustrates that it is the consumers who ultimately determine whether a health programme can be a success or a failure. **The lessons learned were the political will and support are important determinants in the adoption and expansion of innovative strategies. Plans to advance women's status are closely linked to improving reproductive health and health facilities in developing countries** (Davidson, 1985).

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