

**TRAINING OF TRADITIONAL BIRTH
ATTENDANTS:
An Examination of the Influence of Biomedical
Frameworks of Knowledge on Local Birthing Practices
in India**

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ABSTRACT

Pregnancy and childbirth complications are a leading cause of death and disability among women of reproductive age in developing countries. Worldwide data shows that, by choice or out of necessity, 60 percent of births in the developing world occur outside a health institution and 47 percent are assisted by Traditional Birth Attendants (TBAs), family members, or without any assistance at all. This thesis argues that TBAs in India have the capacity to disseminate knowledge of beneficial maternal practices to the community.

Since the 1970s the training of TBAs has been one of the primary single interventions encouraged by World Health Organisation (WHO) to address maternal mortality. However, since the 1990s international funding for TBAs has been reduced and the emphasis has shifted to providing skilled birth attendants for all births due to evidence that the maternal mortality rate (MMR) in developing countries had not reduced. Researchers have observed that the shift in policy has taken place without adequate evidence of training (in)effectiveness and without an alternative policy in place. This thesis argues further that two main types of birthing knowledge co-exist in India; western biomedicine and traditional knowledge. Feminist, anthropological, and midwifery theorists contend that when two knowledge paradigms exist, western knowledge tends to dominate and claim authority over local ways of knowing. The thesis used such theories, and quantitative and qualitative methods, to assess whether the local TBA training programmes in Ahmednagar District in India have been successful in disseminating biomedical knowledge in relation to the birthing practices of local TBAs and in incorporating local knowledge into the training.

The data revealed that some biomedical knowledge had been successfully disseminated and that some traditional practices continue to be practiced in the community. There is a top-down, one-sided imposition of biomedical knowledge on TBAs in the training programme but, at the local level, TBAs and mothers sometimes follow the training instructions and sometime do not, preferring to adapt to the local perceptions and preferences of their community.

The thesis reveals the significance of TBA training in the district but queries the effectiveness of not including local TBA practices into the training programmes, arguing this demonstrates the hierarchical authority of biomedicine over local traditional practices. The thesis highlights the significance of community awareness that accompanies TBA training and makes recommendations in order to enhance training outcomes.

KEYWORDS

Authoritative Knowledge

Birthing Practices

Biomedical Practices

Developing Countries

Maternal and Child Health

Traditional Birth Attendant's Training Programme

Traditional Birth Attendants (TBAs)

Traditional Practices

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STATEMENT OF ORIGINAL AUTHORSHIP

“The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.”

Statement of Contribution by Others

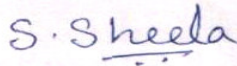
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LIST OF ABBREVIATIONS
(Also refer Glossary)

ANC	Antenatal Care
ANMs	Auxilliary Nurse Midwife (refer Glossary)
AWs	<i>Anganwadi</i> Workers (refer Glossary)
CEDPA	Centre for Development and Population Activities
CRHP	Comprehensive Rural Health Project
<i>Dais</i>	Local Name for Traditional Birth Attendants (refer Glossary)
DHS	Demographic and Health Survey
EOC	Emergency Obstetric Care
FHCS	Formal Health Care Service
FIGO	International Federation of Gynecology and Obstetrics
FRU	First Referral Unit
GoI	Government of India
HIV	Human Immunodeficiency Virus
ICDDR	International Centre for Diarrhoeal Disease Research
ICDS	Integrated Child Development Services
ICM	International Confederation of Midwives
IGWG	Interagency Gender Working Group
IHW	Illiterate Health Workers
IIPS	International Institute for Population Sciences
MCH	Maternal and Child Health
MM	<i>Mahila Mandal</i>
MMR	Maternal Mortality Rate
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare
NFHS	National Family Health Survey
NGOs	Non Government Organisations
OHCHR	Office of the United Nations High Commissioner for Human Rights
PATH	PATH is an international, non-profit organization
PHC	Primary Health Centres (refer Glossary)
PHSCs	Primary Health Sub-Centres (refer Glossary)
PMT	Pravara Medical Trust
RCH	Reproductive and Child Health
TBA	Traditional Birth Attendants
THP	Traditional Health Practitioner
TTBAs	Trained Traditional Birth Attendants
UNFPA	The United Nations Population Fund
UNICEF	The United Nations Children's Fund
USAID	United States Agency for International Development,
UTTBAs	Untrained Traditional Birth Attendants
VHWs	Village Health Workers
WHO	World Health Organisation

GLOSSARY

Anganwadi workers (AW) – AW work in *Anganwadi* which means ‘courtyard’ in the local language. *Anganwadi* runs a kindergarden program and provides afternoon meals for children. Under the Integrated Child Development Scheme (ICDS), one *anganwadi* worker is allotted to a population of 1000. An Anganwadi worker is trained in various aspects of health, nutrition and child development and her duties include regular health check-up, immunization, health education, and non-formal pre-school education.

Auxiliary Nurse-Midwife (ANM) - ANMs are auxiliary workers at the PHSC, who manage the sub-center single-handedly, covering a population of 3,000-5,000 for rural areas (GoI 2006). An ANM is expected to perform a large number of functions such as motivation for family planning, immunization, conducting deliveries, and treatment for childhood illnesses and remains available round the clock by residing in the sub-centre village (Mohan et al 2003). However studies have shown that they are often not available to the communities they serve because they do not stay in the sub-centre village or area due to the large population that each woman has to cover (Iyer 1999).

Comprehensive Rural Health Project – (CRHP) – A small non-government organisation (NGO) located within Shendi Primary Health Centre, involved in the implementation process of the TBA training programme held in the study area.

Integrated Child Development Scheme (ICDS) - The Ministry of Social Welfare, Government of India, launched 33 Integrated Child Development Services (ICDS) projects (19 rural, 10 tribal and 4 urban) in October 1975. The objectives of this programme included improving the nutritional and health status of children in the age group 0-5 years, reducing the incidence of mortality, morbidity, malnutrition and school drop-outs, and enhancing the capability of the mother to take care of the health and nutritional needs of the Child (Planning Commission of India 1982).

Infant Mortality Rate - is the probability (expressed as a rate per 1000 live births) of a child born in a specified year dying before reaching the age of one year if subject to the current age-specific mortality rate (WHO 2003a).

Literacy Rate: According to the Census of India 2001, definition of a literate person is, “a person aged 7 years and above who can both read and write with understanding in the given language”. It is not necessary for a person to have received any formal education or to have passed any minimum educational standard to be classified as literate. A person who can only read but cannot write, is treated as illiterate. Children less than 7 years are excluded from the calculation of the literacy rate in India.

Maternal Mortality - The Tenth Revision of the International Classification of Diseases (ICD-10) defines a maternal death as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (WHO 2004).

National Family Health Survey (NFHS) – The National Family Health Survey is a large-scale, multi-round survey conducted in a representative sample of households throughout India. The Ministry of Health and Family Welfare (MoHFW), Government of India, designated the International Institute for Population Sciences (IIPS), Mumbai, as the nodal agency for conducting the survey and technical assistance was provided by ORC Macro (USA) and other organizations. The funding for different rounds of NFHS has been provided by USAID, DFID, the Bill and Melinda Gates Foundation, UNICEF, UNFPA, MoHFW, and the Government of India (GoI).

Three rounds of the survey have been conducted in India since the first survey in 1992-93 and provide state and national information on fertility, infant and child mortality, family planning, maternal and child health, reproductive health, nutrition, anaemia, and utilization and quality of health. Each successive round of the NFHS has had two specific goals: a) to provide essential data on health and family welfare needed by the Ministry of

Health and Family Welfare and other agencies for policy and programme purposes, and b) to provide information on important emerging health and family welfare issues.

Pravara Medical Trust (PMT) – PMT is a non-government organisation (NGO) situated in Loni, Ahmednagar District. The Ministry of Health and Family Welfare, Government of India has assigned Non Government Organisations to implement the training for Traditional Birth Attendants. The Pravara Medical Trust (PMT), Loni is an NGO that implements this programme in certain parts of Maharashtra since 1998.

Primary Health Centre (PHC) – A PHC is the foundation of the rural health care system and forms an integral part of the national health care programmes. In India, a PHC is meant to be the first referral unit (FRU) for six primary health sub-centres and caters to a population of 27,364. It is supposed to staff a Medical Officer supported by 14 paramedical and other staff and have 4 to 6 beds for patients. In 2002, there were 22,975 PHCs in the country (GoI 2006).

Primary Health Sub Centre (PHSC) – The PHSC is a peripheral health institution and the first contact between the community and the government health setup serving an average rural population of 4,579 covering about 4 villages (Shyamala 2004). It is staffed by one ANM and one multi purpose worker (male) (GoI 2006).

Rural Area: An area that does not satisfy the following criteria will be a rural area. According to the Census of India 2001, an urban area is defined as follows: a) all places with a municipality, corporation, cantonment board or notified town area committee, etc., b) a place satisfying the following three criteria simultaneously: i) a minimum population of 5,000; ii) at least 75 per cent of male working population engaged in non-agricultural pursuits; and iii) a density of population of at least 400 per sq. km. (1,000 per sq. mile) (GoI 2000c).

Sample Registration System (SRS): The Office of the Registrar General, India under the Ministry of Home Affairs, apart from conducting population census and monitoring of registration of births and deaths, has been evaluating indirectly the impact of governmental programmes/schemes on fertility and mortality using the Sample Registration System (SRS 2006b).

Scheduled Tribe (ST) - The list of scheduled castes and scheduled tribes were notified for the first time under the Constitution (Schedule Castes) Order, 1950 and the Constitution (Scheduled Tribes) Order, 1950. These lists have been modified or amended or supplemented from time to time.

Skilled Birth Attendant - This term presently refers to a doctor, midwife or nurse. Skilled attendants must be able to manage a normal labour and delivery, recognize complications early on and perform any essential interventions, start treatment, and supervise the referral of mother and baby to the next level of care if necessary. These professionals may practise in a health-care facility or at home and their classification refers to their training rather than to the site of practice. Trained and untrained traditional birth attendants (TBAs) are not included in this category (WHO 1999).

Taluka – It is the smallest administrative level in India for administering government development programs. In some states there is an additional administrative unit smaller than the *Taluka* which is the Block.

Traditional Birth Attendants (TBAs) - A joint WHO/UNFPA/UNICEF statement defines a TBA as “a person, who assists the mother during childbirth and initially acquired her skills by delivering babies herself or through apprenticeship to other traditional birth attendants” (WHO1992: 4). This joint statement also defines other kinds of TBAs: for example, a family TBA is defined as “a TBA who has been designated by an extended family to attend births in that family” (WHO1992: 4).

Traditional Knowledge: Traditional medicine and knowledge can be defined as skills and practices of holistic health care, recognized and accepted for their role in the maintenance of health and the treatment of diseases. It is based on indigenous theories, beliefs and experiences that are handed down from generation to generation (WHO 2003).

Trained TBA: A trained TBA has been defined as “a TBA or a family TBA who has received a short course of training through the modern health care sector to upgrade her skills. The period of actual training is normally more than one month, although this may be spread over a longer time” (WHO1992: 4).

CHAPTER 1

INTRODUCTION

The continuing substandard maternal and child health situation in developing countries, especially in South Asia (Bangladesh, India and Pakistan) and Sub-Saharan Africa, has been a cause of concern for public health researchers and policy makers. The high maternal and infant mortality rates, and low uptake of antenatal and postnatal care, have been a topic for researchers in the field of medicine, public health, anthropology and sociology. Worldwide data show that, by choice or out of necessity, 60 percent of births in the developing world occur outside a health facility, with 47 percent assisted by Traditional Birth Attendants (TBAs), family members, or without any assistance at all (WHO 1997).

TBAs provide maternal and infant health care services for the women and families they assist during delivery, provide useful ongoing community care, and continue practices which are beneficial for health and well-being and culturally accepted such as the upright birthing position adopted by TBAs during delivery, particularly in India. However, there are other practices adopted by TBAs such as delays in the referral of excessive post partum bleeding and engaging in unhygienic practices during their conduct of delivery that can cause serious harm to mothers and babies (Guha 2005; 1998, OHCHR 2006, WHO 1999). As these latter practices need to be improved, the provision of a biomedical framework of knowledge for training and supervision of TBAs is a significant step forward. However, it should not be provided at the cost of losing the benefits that TBAs can and do provide for their local communities. Rather, their 'traditional' knowledge should be incorporated into TBA training programmes where appropriate.

Multilateral funding agencies such as the World Bank, World Health Organisation (WHO) and United Nations Population Fund (UNFPA) have made several attempts in developing countries to optimise the resources to improve the maternal and child health situation. Since the 1970s the training of TBAs has been one of the primary single interventions undertaken by these (and other) funding organisations, which work from the

assumption that maternal and perinatal mortality in developing countries is high because many women deliver at home and are assisted in delivery by TBAs or relatives (WHO 1999). Since the 1990s the TBA training strategy has been increasingly seen as irrelevant, ineffective or, on the whole, a failure, due to evidence that the maternal mortality rate (MMR) in developing countries had not reduced (WHO 2005). The funding for TBA training has been withdrawn by these funding agencies and moved to providing skilled birth attendants for all births (Kruske and Barclay 2004, Walraven and Weeks 1999). TBAs have been blamed for being incapable of benefiting from TBA training due to their lower level of literacy and knowledge and for causing maternal and infant health problems because of the harmful practices they adopt during home births (Butlerys et al., 2002, GoI 2000a, Guha 2005; 1998, UNICEF 2004, WHO 1998; 1998b).

However, there are several studies that have demonstrated improvement in TBA knowledge, practices and health outcomes from the biomedical framework conveyed through TBA training programmes (Jahn et al., 2001, PATH 2002, Rodgers et al., 2004, UNFPA 2004; 1996). Further, there is emerging evidence in developing countries of a reduction in perinatal mortality with TBA training intervention (Bang et al., 2005a, Jokhio et al., 2005 Sibley and Sipe 2006), which suggests that TBAs have the capacity to grasp information conveyed in training programmes and to apply newly-acquired practices in their work in their communities. Moreover, the use of maternal mortality as a primary indicator of TBA training effectiveness has been widely criticised (Kruske and Barclay 2004, Walraven and Weeks 1999). Further, researchers have expressed concern that a shift in policy has taken place without adequate evidence about the relevance and effectiveness of the TBA training programme (Kruske and Barclay 2004, Walraven and Weeks 1999). Researchers also observe that at present there is a serious shortage of professionally trained midwives in developing countries and therefore have cautioned that TBAs will continue to exist despite changes in policies (Kamal 1998). Any shift in policy needs to be supported by appropriate evidence about the effectiveness of TBA training programmes at the local level (Foster et al., 2004) but there is a lack of recent studies examining TBA training programmes, particularly in India.

This study aims to assess the ways in which the TBA training programme in Ahmednagar District in India has been successful in disseminating biomedical frameworks of knowledge in relation to the birthing practices of local TBAs. The initial plan of the study was to compare the pre- and post-training knowledge and practices of TBAs in one primary health centre. As the training had already been conducted in the study area in 2002, the study planned to use the data of the baseline survey that was administered to the TBAs by one of two non-government organizations (NGOs), before they implemented the training intervention. However, on reaching the field it was found that the data for the baseline study was not available and the information received from the two NGOs involved in the intervention was contradictory. The authenticity of the baseline study was also ambiguous. The research project therefore became a post-training assessment of the birthing practices of TBAs without using the baseline study; not an optimum approach, but necessary under the circumstances.

In this thesis a feminist theoretical critique of ‘authoritative knowledge¹’ has been applied to understand the ways in which the knowledge of rural women in India acquired through their lived experience is marginalised and how the western system of biomedical frameworks of knowledge can act to discount health care practices that are deemed ‘alternative’. Jordan (1993) states that authoritative knowledge results when one kind of knowledge gains ascendance and legitimacy, and consequently other kinds of knowledge are devalued or dismissed. There are ‘top-down systems’ of authoritative knowledge about childbirth in which the woman herself is granted no authority of knowing. There are also ‘lateral systems’, in which authoritative knowledge is communally shared between the woman and her female attendants, defined by Davis Floyd (2001) as the ‘technocratic’ and ‘holistic’ model. The thesis contributes to the contemporary public health debates about TBA training programmes. The research builds on and extends the concept of authoritative knowledge in the context of TBA training programmes in India by arguing for a recognition of the social, cultural and public health importance of trained and untrained birth attendants. The research also contributes to international programme

¹ Authoritative Knowledge: as defined by Jordan (1992, 1993), ‘authoritative knowledge’ is the knowledge that motivates decision and action.

planning for TBA training in developing countries and the ways in which it can be improved to enhance training outcomes by recognising the wealth of experience at the local level and adapting training to local communities' needs in culturally sensitive ways.

A review of the characteristics of TBAs and their role in providing maternal and child care service begins this chapter to provide a context for the discussion and data that follow. The specific TBA practices that are linked with the main maternal and child health problems are then identified, and the significant issues, the objectives, and research questions examined in the thesis are specified. A brief history of TBA training in the international context is not forgotten; it is adumbrated in section 1.2 of this chapter and provided in detail in chapter 3.

1.1. CHARACTERISTICS AND ROLE OF TRADITIONAL BIRTH ATTENDANTS

There are predominantly two kinds of TBAs: a woman who practices midwifery (full-time or part-time) by assisting anyone who calls upon her service; and the 'family TBAs' who deliver only the babies of her close relatives or friends in the community (Kamal 1998). For the purpose of this thesis TBAs are defined as a person (normally a female) who assists anyone who calls upon her service. The TBA who has received formal training through the modern health sector to upgrade her skills is defined as a 'trained TBA', whereas those who have not received any training or received training and not received any refresher course for the last ten years are defined here as 'untrained TBAs'.

1.1.1. Characteristics of Traditional Birth Attendants

Studies in developing countries reveal that TBAs are generally older, non-literate women who have learnt their midwifery skills through working with other TBAs (Carvalho et al., 1998, Fatmi et al., 2005, Hussein and Mpembeni 2005, UNFPA 1996). They consider themselves to be private practitioners who respond to requests for service (UNFPA 1996). TBAs receive some compensation for their service, mostly in kind, and some

accept whatever amount is given to them by the families (Carvalho et al., 1998, Fatmi et al., 2005, Hussein and Mpembeni 2005, UNFPA 1996). TBAs are readily available as they live in the community, their practices are acceptable because they share the cultural beliefs of the community, and they are affordable because they cost less than other health care services (Butlerys et al., 2002, Pandey 2001, Singh 1994, Syamala 2004, UNFPA 1996).

1.1.2. Role of Traditional Birth Attendants

A study comparing the practices and beliefs of TBAs in Africa, Asia and Latin America revealed that the role of TBAs generally is to provide maternal and child health care service, emotional support and advice during the antenatal, delivery and postpartum period (Lefeber and Voorhoever 1997, Replogle 2007). Most of the studies have observed that TBAs have the trust and respect of the community (Butlerys et al., 2002, Chipfakacha 1997, Pinto 2006a, Quiroga et al., 1998, Ram 1991, UNFPA 1996). However, other studies show that the main focus of the TBAs' work is only during delivery and immediately post-partum (Fatmi et al., 2005, UNFPA 1996) and their work includes cleaning, cooking as well as taking care of the mother and the newborn child (Fatmi et al., 2005, Paul 1999, Replogle 2007, UNFPA 1996, USAID 2002). Studies have revealed that TBAs also provide an important referral service during delivery by not only referring a complicated pregnancy to the formal health care centre, but also by accompanying the woman and staying with her as long as she remains in the health facility (Fatmi et al., 2005).

In India, anthropologist Sarah Pinto suggests that with the multiplicity of women who provide advice, assistance or comfort in numbers at the time of delivery, it is difficult to differentiate between the role of TBAs and other persons involved and to speak of the TBA as a prominent figure in the process (Pinto 2006). Furthermore, a recent study based in Bangladesh and another which was conducted more than 20 years ago in India, observed that TBAs have low status in the community (Jeffrey et al., 1984, Rozario 1998). Yet it needs to be noted that the socioeconomic status and reproductive health of women in general is poor in many developing countries, which has an impact on the

status of TBAs as a whole (Devi 1993, Kilaru et al., 2002, Mathews 2002, Moore 1999, Velkoff and Adlakha 1998). This is especially so in South Asia where, in some communities, caste continues to play an important role in defining people's occupation, including TBAs (Raghuram 2001). Moreover the traditional belief of childbirth associated with 'impurity' and 'pollution' is reflected in the status of TBAs (Bajpai 1996c, Jeffrey et al., 1984, Mesko et al., 2003, Rozario 1998). Recognising the important role played by TBAs in maternal and child health care in developing countries, attempts were made by international public health agencies to include TBAs in the primary health care system and to train them to provide better services to women who depend on them for childbirth.

1.2. TRAINING OF TRADITIONAL BIRTH ATTENDANTS

In the past, TBAs were considered to be a cause of high maternal mortality and as a consequence were trained on the assumption that mortality would reduce with changes in their practices. In 1978, during an international conference on primary health care held at Alma Ata, TBAs were recognised as an important part of community health care and it was proposed to engage them in primary health care and to train them in biomedical knowledge as a vital intervention to address maternal mortality (Kruske and Barclay 2004, WHO 1978). Throughout the 1970s and 1980s, WHO promoted the training of TBAs in Asia, Africa and Latin America with biomedical knowledge to reduce the maternal mortality rate (Kruske and Barclay 2004, WHO 2005). WHO advocated for safe and clean delivery through the "three cleans" programme (hand washing with soap, clean cord care, and clean surface), promoted awareness of the importance of breastfeeding and weighing babies, and addressed some of the unhygienic and harmful practices (WHO 1993). Over a period of time the training content changed and included various other aspects of reproductive health including family planning, HIV/AIDS, oral rehydration, identification of risk, legal issues of female infanticide and referral. The success of the TBA training programme was focused on one indicator, which was a reduction in maternal mortality rates (Kruske and Barclay 2004). It should be noted however, that all

maternal mortality rate estimates are subject to many problems, as maternal death is a relatively rare event, needing survey samples of many thousand before reasonable precision can be reached (Mathews 2002, WHO 2004 & 1999). As most developing countries do not have sufficient birth and death registration with which to calculate rates accurately, survey data are generally used (Mathews 2002). Moreover, the definition of MMR has changed making comparison between two time periods unfeasible (WHO 2004).

Following twenty years of training TBAs in developing countries, it was observed in the 1990s that MMR did not reduce and the safe motherhood programme concluded that the TBA training was ineffective without a functioning referral system and backup from professionals. Many donor agencies providing funding for TBA training in developing countries subsequently withdrew their funds and reallocated it to providing a skilled attendant during delivery (Kruske and Barclay 2004, Walraven and Weeks 1999). TBAs have been blamed for causing maternal and infant deaths with their unhygienic and harmful practices (GoI 2000a, Guha 2005; 1998, WHO 1998; 1998b). They have also been blamed for not having the capacity in terms of knowledge and literacy to take advantage of the training (Butlerys et al., 2002, GoI 2000a, UNICEF 2004) and for deterring and delaying referrals (WHO 2005). However, recent studies have recognised TBAs as one of the key potential human resources in reducing neonatal mortality (Bang et al., 2005a, Jokhio et al., 2005, Sibley and Sipe 2006). A study in Pakistan using TBA training as an intervention has demonstrated a reduction in perinatal² mortality with training influence (Jokhio et al., 2005). A meta-analysis of 60 studies in developing countries has revealed small significant decreases with TBA training in perinatal mortality and neonatal³ mortality due to birth asphyxia and pneumonia (Sibley and Sipe 2006). And an intervention study in Maharashtra demonstrated a 62 percent reduction in neonatal mortality in rural India through a community based approach to control asphyxia that included training of traditional birth attendants and village health workers (Bang et al., 2005a). The findings suggest that training interventions require an understanding of

² Perinatal mortality: includes both infant deaths in the first week of life and fetal deaths (stillbirths).

³ Neonatal mortality: includes infant deaths occurring during the first four weeks after birth.

the birthing practices adopted by TBAs in terms of their local knowledge and practices, and an understanding of the cultural context in which the practices are enacted. The next section reviews some of the TBA practices that are beneficial and other practices that are potentially harmful to maternal and child health and the training outcomes on their practices.

1.3. PRACTICES ADOPTED BY TRADITIONAL BIRTH ATTENDANTS

According to the data gathered from country level sources and collated by UNICEF, it is estimated that some 529,000 women died from maternal complications in the year 2000 (UNICEF 2007). According to WHO estimates, the maternal mortality rate is highest in Sub-Saharan Africa at 940 per 100,000 live births, followed by South Asia at 560 per 100,000 live births (UNICEF 2007), which are a serious concern when compared to developed countries which enjoy a maternal mortality rate of 13 per 100,000 live births. A study of perinatal mortality in developing countries observes that the actual causes of adverse maternal and infant outcomes are inadequately treated maternal complications, inadequate neonatal care, and harmful home care practices, such as the discarding of colostrum, the application of unclean substances to the umbilical-cord stump, and the failure to keep babies warm (Zupan 2005). The presence of TBAs during delivery increases their potential capacity to improve the maternal and child health situation. For example, my research suggests TBAs adopt beneficial practices such as the upright birthing position, however there are few studies that examine these practices, which are acceptable within their social and cultural contexts.

1.3.1. The Birthing Position

In developed and developing countries globally, health practitioners and researchers have observed some beneficial practices in home deliveries, which are the presence of a supportive community available during birth, and a beneficial birthing position, both of which improve birth outcomes (Hofmeyr et al., 1991, Klaus and Kennel 1992, Odent 1984). Traditionally, women were encouraged to continue simple household work until

the labor progressed, and to walk and move about during labour, to finally deliver in a squatting or seated position (Bajpai 1996a, Mathews et al., 2005). This practice is known to reduce stress and difficulty and to improve birthing satisfaction (Bhardwaj et al., 1995, Mathews et al., 2003). Yet studies have found an increase in the use of the supine⁴ position among trained TBAs in comparison to untrained TBAs which, it can be argued, is an adverse effect of training (Jahn et al., 2001).

1.3.2. Use of Hygienic Practices During Delivery

Sepsis caused by infection is one of the leading causes of maternal and infant deaths in the world. Apart from maternal personal hygiene, sepsis can also be caused by vaginal examination with unclean hands (Asghar Rana 1999). Studies have shown that trained TBAs conduct vaginal examinations more than untrained TBAs (Jahn et al., 2001). The TBA practices that cause sepsis among infants include using unclean, unwashed hands to deliver babies and using local unhygienic material to cut, tie and apply to the cord. Hand hygiene is known to be the most important component of infection control, and can be achieved by standard hand washing with soap and water (Hussein and Fortney 2004). Studies have observed that promotion of hygienic delivery and cord-care practices and increasing tetanus toxoid coverage remain important for the prevention of neonatal tetanus deaths (Parashar et al., 1998, WHO 1998). A study examining TBA training outcomes demonstrated a fall in the incidence of low birth weight and neonatal tetanus that occurred with an increase in referral for tetanus toxoid injections by TBAs who had been trained (Lartson et al., 1987).

1.3.3. The Importance of a Delivery Kit

Delivery kits are provided to trained TBAs to promote hygienic delivery practices in developing countries. Delivery kits are pre-packaged, single use, disposable kits that contain essential items for conducting a clean delivery. The use of a delivery kit is based on WHO's six principles of cleanliness; clean hands, clean delivery surface, clean

⁴ Supine: lying face upwards (Sara Hawker and Chris Cowley (Edt.) Oxford Dictionary and Thesaurus 1997. (Also refer appendix 4, photo number 1, the nurse is standing near the delivery table that not flexible on which the delivering mother is expected to lie on during childbirth).

perineum, clean cord cutting instrument and clean cord ties for the newborn baby (Winani et al., 2005). The delivery kit usually includes a plastic sheet, a soap, a clean two-sided razor blade, and cord ties. Studies have shown a positive influence of the use of the delivery kit on sepsis among mothers and infants. A study in Tanzania evaluating the clean delivery kit intervention found that it was strongly and significantly associated with a lower incidence of cord infection among new born babies and puerperal sepsis among women (Winani et al., 2005).

1.3.4. Practices Adopted by Traditional Birth Attendants for Infant Care

According to recent estimates, about four million newborn babies in developing countries die within four weeks after birth (WHO 2005). South Asia accounts for more than one third (36%) of these deaths (Hyder et al., 2003). A recent study observes that, globally, the main direct causes of neonatal death are estimated to be preterm birth (28%), severe infections (26%), and asphyxia (23%) (Lawn et al., 2005). A recent report by the *Save the Children Foundation* observed that most of the maternal and newborn deaths could be prevented by tetanus immunizations for pregnant women, a skilled attendant at childbirth, prompt treatment of newborn infections and education about the importance of proper hygiene, warmth and breastfeeding for infants (Save the Children 2006).

1.3.4(a) Warmth for Newborn Babies: The WHO observes in a report that in developing countries there is little understanding of the thermal needs of newborn babies or of the extent and significance of neonatal hypothermia (WHO 1997b). Newborn babies are often considered to be ‘polluted’ in traditional communities and therefore almost all newborn babies are bathed within the first hour of birth, which may lead to hypothermia especially among low birth weight babies (Sreeramareddy et al., 2006).

1.3.4(b) Low Birth Weight: A recent study observes that low birth weight is an important indirect cause of neonatal deaths (Lawn et al., 2005). Low birth weight calculated at less than 2,500 grams is an indicator of the mother’s health and the newborn’s chances for survival, growth, long-term health and psychosocial development. In developing countries, many infants are not weighed at birth, with the highest rate being found in

South Asia (74%) followed by Sub-Saharan Africa (65%) (UNICEF 2007). Even among the babies weighed, the percentage of infants with low birth weight is highest (31%) in South Asia (UNICEF 2007). Moreover, new born babies are not fed on colostrum in developing countries as it is regarded as ‘dirty’ milk and as harmful to the baby (Bhale and Jain 1999, Chongsuvivatwong et al., 1991, Sreeramareddy et al., 2006). The practices of not feeding colostrum especially to underweight or premature babies and bathing all babies immediately after birth can cause serious harm to the health of newborn babies.

1.3.5. The Role of Traditional Birth Attendants in Maternal Complications

Complication during childbirth is one of the main causes of death and disability among women of reproductive age in developing countries. Some of the main maternal complications during delivery include excessive post partum bleeding, retained placenta and abnormal presentation. Haemorrhage due to severe bleeding is a major cause of maternal death worldwide (Khan et al., 2006, Costello et al., 2006). Studies have found that postpartum haemorrhage can kill within an average of two to six hours and therefore effective community awareness of treatment and first aid could prevent many of the maternal deaths (Kvåle et al., 2005). Therefore TBAs and other family members present during delivery can prevent these deaths by identifying the complication and taking appropriate action. Studies have shown an increase in knowledge of risk factors and signs of danger in pregnancy and childbirth with TBA training (Jahn, et al., 2001, Rodgers et al., 2004, UNFPA 1996). Studies in developing countries have also demonstrated increases in referral for immunization and complications with TBA training (Goldman and Gleib 2000, Smith 2002, Rodgers et al., 2004, UNFPA 2004).

1.4. THE RESEARCH PROBLEM

Childbearing women and infants in developing countries continue to experience unacceptably high rates of mortality and morbidity in spite of targeted initiatives to address the issue (Say et al., 2004, UNICEF 2007, Zupan 2005). When implementing programmes to improve MCH outcomes, there is a need to understand the limited resources and multiple priorities of developing countries. TBAs continue to assist many

deliveries in developing countries, especially among poor rural people who are unable to access medical facilities. An early effort in the 1970s to reduce maternal and child mortality led by WHO called for the integration of TBAs into public health-care systems. Many countries developed training programmes for TBAs, and several researchers have documented the potential of the TBA in improving health (Mangay-Maglacas 1990, UNFPA 1996, WHO, 1992).

More recently, in the 1990s, resources have been refocused to training skilled attendants at birth (Starrs 1998). Many people of low socioeconomic background and those with poor access to resources however continue to depend on TBAs for assistance during childbirth. As public health resources in developing countries are limited, any decision to initiate or discontinue TBA training needs to be corroborated with knowledge about TBA training content and design and outcomes including the needs of the birthing women and TBAs themselves (Foster et al., 2004, Hitesh 1996, Lettenmaier et al., 1988, Piper 1997). There are two vital components that influence the TBA training outcome: one is the ability of the TBAs to decipher the biomedical knowledge and apply it to their practices within the community; the other is the design and content used in the training. Researchers have noted that presently there is a serious deficiency of information on training design and its linkage with TBA practices. A meta-analysis summarized the available published and unpublished studies on TBA training effectiveness in Africa, Asia and Latin America and found that, except for reporting on the curriculum content, most of the studies on TBA training failed to describe the selection criteria, training approach, method, follow-up and supervision of the training programmes (Sibley et al., 2004).

1.4.1 The Research Aim

This research project aimed to assess the ways in which the TBA training programme in Ahmednagar District in India has been successful in disseminating biomedical knowledge into the birthing practices of local TBAs. Two important findings emerged from the preliminary literature review that was conducted prior to the field research. The findings suggested that:

1) there was need for a critical assessment of TBA training programme guidelines at the international level in comparison with the national level in India, and a need to examine ways in which international and national guidelines are translated and implemented at the local level; and

2) there was need for a critical assessment of the training methodology that describes how western biomedical ways of knowing become socially constructed as ‘authoritative knowledge’ that is privileged over local women’s ‘traditional’ wisdom and practices.

1.4.2 The Research Objectives and Questions

The objectives that were examined in the field were;

Objective 1: To identify the characteristics, health and social roles of trained TBAs compared with untrained TBAs.

Objective 2: To assess whether biomedical practices conveyed during the training programme are adopted by trained TBAs in the local community.

The questions that arose from Objective 1 and which were examined in the field were:

- What are the sociodemographic and professional characteristics of TBAs?
- What is the involvement of TBAs in the antenatal period?
- When are TBAs summoned during delivery?
- To what extent do TBAs convey basic postnatal advice?
- What is the role of TBAs in recognising and managing complications and making referrals?

The questions that arose from Objective 2 and which were examined in the field were:

- What is the birthing position adopted in home births?
- Are TBAs applying basic hygienic methods while conducting delivery?
- Are TBAs making use of safe practices in caring for new born babies?
- What are the practices adopted in managing maternal complications?

The overarching research question that arose from enacting the two objectives in the field and from the preliminary literature review was:

- How do western biomedical ways of knowing become socially constructed as ‘authoritative knowledge’ that is privileged over local women’s ‘traditional’ wisdom and practices, particularly in relation to TBA practices in sixteen villages in the Ahmednagar District in India?

A review of the relevant theory before entering the field suggested that a combined quantitative and qualitative methodology would be most effective to conduct the research. The objectives were addressed by comparing the characteristics, health and social roles and the birthing practices of trained TBAs with untrained TBAs and verifying these with the practices adopted by mothers assisted by trained and untrained TBAs. Trained and untrained TBAs, and the mothers who utilised their services, were selected. Quantitative structured interviews via questionnaires were administered to all TBAs (n=38) practicing within one primary health centre (PHC), and the twenty-five mothers assisted by these TBAs. The questionnaires and interviews with mothers assisted by TBAs provided a crosscheck of the information provided by TBAs. Then, semi structured, open-ended interviews were used to gather information from six TBAs and four mothers who used their services. The interviews provided qualitative insights into issues regarding training, birthing practices, and local knowledge and ‘traditional’ wisdom and practices in the particular social and cultural contexts of the sixteen villages.

1.5. THESIS STRUCTURE

This chapter has provided a brief overview of the characteristics of TBAs, the maternal and infant health situation in developing countries and the associated TBA practices and TBA training that have been considered by international public health agencies to be a vital intervention in addressing the problem of reducing maternal mortality rates. The chapter also describes the research project’s aim, problem, objectives and questions.

The second chapter introduces the characteristics of TBAs in South Asia from available literature in these countries. It is argued that the maternal and infant health situation and context of South Asia is different from the developing regions of Africa and Latin America; the second chapter therefore reviews the TBAs' role and characteristics in South Asia, with a particular focus on India. The chapter then introduces the broad issues emerging from the literature and the objective and detailed research questions investigated in this thesis.

The third chapter reviews evidence on the design and content of TBA training conducted in various developing countries. As the joint statement by WHO/UNFPA/UNICEF is used as a guideline for conducting TBA training this document is critically reviewed. A discussion in relation to the existing literature on content and design used in TBA training programmes in developing countries follows.

Chapter four reviews the evidence of the beneficial and potentially harmful and unhygienic TBA practices in developing countries in the context of TBA training interventions implemented to address these practices. The rationale for so doing is to present most of the information about TBA practices and knowledge in one chapter. The chapter then identifies the broad issues relating to TBA practices and knowledge investigated in this thesis.

Chapter five provides a theoretical basis for understanding the extent to which the biomedical frameworks of knowledge and traditional knowledge intermix at the TBA training programme planning and the implementation level and the approach adopted at the local level. This chapter examines the contest between the biomedical and traditional approach and the domination of biomedical frameworks of knowledge at the planning and implementation of the TBA training programme.

Chapter six critically reviews the design and content of the local training programme via the documents and data collected during the field visit. The chapter links with chapter three which critically reviews the international guidelines for TBA training programme

and literature evidence of training method used and content covered in training programmes in developing countries.

Chapter seven introduces the study area in India, provides a description of the theory and methodology used in the study, and explains how the dissemination of beneficial birthing practices through training was assessed.

Chapter eight presents the quantitative results of the study, addressed according to the objectives and research questions presented in Chapter one; i.e. the characteristics and role of TBAs, and the biomedical practices manifest in the TBA practices.

Chapter nine describes the qualitative results that emerge from the open ended interviews with TBAs and mothers. The Chapter also provides the main themes that emerged from the semi-structured interviews.

Chapter ten discusses the main results of the study with reference to previous research findings. The Chapter also identifies the strengths and limitations of the study.

Finally, Chapter eleven concludes the thesis with a summary of the key findings of the study and presents recommendations emerging from these findings.

CHAPTER 2

A LITERATURE REVIEW OF THE CHARACTERISTICS AND ROLES OF TRADITIONAL BIRTH ATTENDANTS

Introduction

In developing countries, the percentage of births assisted by TBAs is highest in Asia (41%) and lowest in Sub-Saharan Africa (22%) (Berer 2003). However, the maternal and infant mortality rate is highest in Sub-Saharan Africa (940 per 100,000 live births) followed by Asia (560 per 100,000 live births) (UNICEF 2007). South Asia, in particular, is an example of the complex and unique ways in which modernity is shaping local birthing practices and contexts. In turn, there are certain traditional beliefs and childbirth behaviours unique to this region that shapes the characteristics and social roles of TBAs.

This chapter reviews literature on the characteristics and social role of TBAs in South Asia with an emphasis on India. It also describes the social, occupational and educational characteristics of TBAs, and their recruitment and acceptability in the community in India and its neighbouring countries. The objective that emerged from reviewing this literature is then identified and the research questions that were examined in the thesis are specified.

2.1 CHARACTERISTICS OF TRADITIONAL BIRTH ATTENDANTS

In India, 65 percent of births take place at home and TBAs assist more than one third (35%) of home births (IIPS 2000). According to recent National Family Health Survey (NFHS) data published by the International Institute for Population Sciences (IIPS), only 41 percent of the births in India were assisted by biomedical personnel such as Auxilliary Nurse Midwives (ANMs) (11%) and doctors (30%) (IIPS 2000). However, the data reveal a wide difference between the health care seeking patterns in rural areas of India when compared to those of urban areas. The extent of dependence on TBAs for

assistance during delivery is higher in rural areas (40%) of India when compared to urban areas (20%) and higher among the poor (44%) than rich (18%) people (IIPS 2000). The percentage of home births is also considerably higher in rural areas (75%) compared to urban areas (35%) of India (IIPS 2000). In addition, the problem of unavailability of healthcare personnel and infrastructure is worse in rural and remote areas of India (Banerjee et al., 2004, Chaudhury et al., 2003, Misra et al., 2003).

Apart from inadequacy in infrastructure and health personnel, the factors that affect the choice of TBAs over the biomedical health care service provided by the Government of India (GoI) are socio-cultural traditions, community support, familiarity, inadequate trust of the medical system, and the perception that birth is a normal phenomenon that does not need an institutional setting (Bajpai 1996a, Devanesan 2000, Mathews et al., 2005, Smith 2004). Even in the urban areas of India where emergency obstetric care is accessible, some women (19%) seek out the assistance of TBAs to deliver their babies (IIPS 2000). The biomedical health care provided by the GoI is generally used only during emergencies (Kausar et al., 1999, Mathews et al., 2001). TBAs are therefore an important component in providing maternal and child health service in India, especially to people of low socioeconomic background and those living in remote areas with less access to medical facilities.

In India, TBAs assist more than one third of the deliveries and continue to provide a significant contribution to childbirth services in local communities. A better understanding of their characteristics and social roles will enable policies to be developed that may work to further improve their services. In South Asia, TBAs are called “*Dai*”, which means governess. Every village in India has one or more TBAs who provide maternity services (Singh 1994). TBAs are usually elderly women (generally over 40 years of age), a mother themselves, a member of the community, are chosen by the community to deliver babies, and are known in the community for their good outcomes during deliveries (Kruske and Barclay 2004, Singh 1994). TBAs are locally accessible as they normally reside in the village or the community (Singh 1994, Syamala 2004) and

they are more affordable, as they cost less than the formal health care services (Banerjee et al., 2004a, Chirmulay and Gupte 1997, Hitesh 1996, Singh 1994).

The majority of TBAs are non-literate and learn their skills through experience (Singh 1994, UNFPA 1996). Wyatt (2001) defines this type of learning through apprenticeship as a process used to acquire 'tacit knowledge'. This is in contrast to the didactic process of learning adopted by western biomedical ways of learning (Kruske and Barclay 2004). As TBAs are members of the community, they share cultural and health beliefs with the women they serve and have strong ties with the community (Bulterys et al., 2002, Pandey 2001, Singh 1994). They speak the local dialects and their practices are consistent with those of the community and provide cultural consistency in the childbearing process (Lang and Elkin 1997, Lefeber and Voorhoever 1997). Several studies have shown that TBAs generally have the trust and respect of the community (Bulterys et al., 2002, Chipfakacha 1997, Isenalumbe 1990, Pinto 2006a, Quiroga et al., 1998, Ram 1991, UNFPA 1996). TBAs therefore have an exceptional local capacity to inform and assist women and their families in preparing for birth (Paul 1999, Ram 1991).

2.1.1. Recruitment

TBAs are mostly recruited within their own communities (Bulterys et al., 2002). Some women become TBAs in the community by working with and beside their mothers, other female relatives, or other TBAs (Singh 1994, Syamala 2004). Jordan (1989) explains the natural process by which young girls within the community are recruited as TBAs after working alongside their mother/relative for several years. Singh (1994) observes that some women are selected as TBAs by the community because of the characteristics that members of the local community perceive are required for assisting women with deliveries. These characteristics are good delivery outcomes, a strong personality along with the warmth and patience that will enable the birthing woman to move through the event with courage, and power and ease (Bajpai 1996b, Smith 2006). Studies have noted certain qualities that women should preferably possess to attend a delivery in India; they should be women who themselves have given birth to several children, are good-hearted,

are engaged in serving others, possess a strong personality, are experienced in child-birth, are affectionate, are free from grief, have endurance, and are capable of making the birthing mother happy (Bajpai 1996a, Ram 1991).

2.1.2. Source of Learning Skills

Syamala's (2004) study in India revealed that TBAs learn their skills from various sources: senior family members such as their mother, other relatives, formal health care personnel, and/or through their own experience. Their learning pattern involves both observation and imitation, in contrast to the instructive style of education of professional midwives, which is utilised more in western biomedical systems (Kruske and Barclay 2004, Syamala 2004). Through experiential learning TBAs also acquire the knowledge of traditional herbs and local materials that ease the pains of birth and help the mother towards quick recovery (Rai 2005, Singh 1994, Smith 2006). Jordan (1989) explains the process of acquiring midwifery knowledge by the young girls in their daily life by listening to stories and helping their mothers and grandmothers assisting births. These young girls then go on to become accepted as TBAs in the community. Some studies found that TBAs learn their skills for several years before they practice alone (Rogers and Solomon 1975, Singh 1994), although the study by Jeffrey et al (1984) observed that TBAs did not have any skills or previous experience before assisting their first delivery.

2.1.3. Occupation

Generally, TBAs assist births as a secondary occupation as it is difficult to earn a living by working only as a TBA because it is a lowly paid job (Singh 1994, Unnithan 1999). TBAs consider themselves to be private practitioners who respond to requests for service and receive some compensation in return (Singh 1994, UNFPA 1996). As they receive compensation in cash or in kind from their client's family, they do not cost much and generally accept whatever is offered to them (Jeffrey et al., 1984, Singh 1994). Given the cost involved in accessing the formal health care service in India, TBAs are much more affordable for impoverished people (Banerjee et al., 2004a, Chirmulay and Gupte 1997, Hitesh 1996). As described above, TBAs provide a variety of services to birthing mothers

and their families; the following section reviews their social roles in providing antenatal, delivery, postnatal and infant care.

2.2. THE SOCIAL ROLES OF TRADITIONAL BIRTH ATTENDANTS IN PROVIDING HEALTH SERVICE

TBAs are sought out for advice before delivery and play important health and social roles in the delivery process and in taking care of the woman and the infant for at least one week after birth. Although somewhat dated, a literature review covering six countries in South Asia observed that TBAs provided many related services in addition to birth delivery, such as massage, herbal medication, magical/religious ceremonies, postpartum care, and advice about traditional methods of family planning and fertility assistance (Rogers and Solomon 1975). Recent studies note that the function of these services includes psychological as well as physiological healing and care to birthing mothers and babies (Bajpai 1996a, Bang et al., 2005, Pinto 2006a), and a study in North India observed that TBAs and mothers-in-law have an equal role to play in the birthing process (Sethi et al., 2005). The studies suggest that “the social role of a TBA, like that of a traditional healer, is profoundly rooted in the local culture. It is not confined to the care to be provided for a particular pathology: it is all-embracing, and reinterprets the patient’s suffering in its cultural context” (Singleton 1994, cited in WHO 2005: 70).

2.2.1. Antenatal Care

Several studies in India have noted that during the antenatal period TBAs provide advice to pregnant women in relation to food intake, to take tetanus toxoid injections and iron and folic acid tablets from the health centre, and the need for rest (Bajpai 1996b, Kumar et al., 2000). Other studies in India and Bangladesh have found that TBAs have limited social roles in terms of antenatal care (Mathews et al., 2001, Rozario 1998), yet another study in India observed that TBAs have little to offer in the way of treatment for antenatal problems and have no medicines so they refer women to health centres (Shariff and Singh

2002), while the Indian NFHS study data reveals that only 0.2 percent of women receive antenatal advice from TBAs (IIPS 2000).

2.2.2. Delivery Care

Most of the studies in South Asia and India observe that delivery care is an important time when TBAs are involved in providing their services (Bajpai 1996b, Bang et al., 2005, Kumar et al., 2000). TBAs are generally called for at the onset of strong labour pains and remain a part of the birthing process by receiving the baby, cutting the cord, disposing of the placenta, bathing the baby and mother, and cleaning the birth place (Bajpai 1996b, Bang et al., 2005). Some other studies have observed that although TBAs are called for when the head of the baby is crowning, the TBA has an important role to play in soothing, massaging and holding the birthing mother to ease her pain during delivery (Bajpai 1996b, Pinto 2006a), an aspect of community support that women do not receive if they give birth in hospitals (Bajpai 1996b). However, some other studies have observed that TBAs are mainly involved merely in cutting the cord and the cleaning process that follow after delivery (Jeffrey et al., 1984).

The notion of 'pollution' attached to birth is a strong characteristic of South Asian cultures and some studies have noted that women of lower socioeconomic status consequently are called to clean after delivery (Bajpai 1996c, Jeffrey et al., 1984, Mesko et al., 2003, Rozario 1998). In addition, while some studies have shown that TBAs are involved in decision making during delivery, recognising complications and making referrals (Bajpai 1996a, Bang et al., 2005, Rogers and Solomon 1975), others have observed that TBAs do not have any decision-making power and it is the family members who identify complications and make decisions regarding potential referrals (Jeffrey et al., 1984, Rozario 1998).

2.2.3. Post Partum and Infant Care

In India in general there is inadequate coverage and provision of the post natal care that is sought by women. The NFHS data shows only 20 percent of women received any post natal check-up for two months following birth (IIPS 2000). At the local level TBAs have multiple social roles in caring and advising women about infant care after delivery. Studies have shown that apart from recognising complications in infants, the TBAs social role in caring for the mother and baby can include giving a massage, bathing and taking care of all their needs for a certain period of time, which varies according to the family's requirements (Bajpai 1996c, Singh 1994). Some researchers such as Rozario (1998) have mentioned that postpartum care is part of the concept of exclusion and pollution but anthropological research suggests that the postpartum healing of the body parallels the social reintegration of the person and has a symbolic, physical and social value in the community (Pinto 2006a).

Evidence published in 2007 has emerged in relation to the potential role of TBAs in reducing perinatal mortality⁵. A systematic review concluded that “the potential of TBA training to reduce peri-neonatal mortality is promising when combined with improved health services” (Sibley et al., 2007: 1017). An earlier study in Bangladesh, noted that although trained TBAs may have more knowledge and willingness to disseminate information about breastfeeding and immunization than untrained TBAs, the mother's health practices were independent of the suggestions provided by the TBAs (Mahbubur et al., 1999). Smith (2002), a Canadian midwife who has worked in rural areas of India for several years, observes that TBAs have a complex status in Indian society; on the one hand she may be perceived as someone with a low status and as associated with pollution but on the other hand she is very much needed and required by the community.

⁵ Number of Perinatal deaths per 1000 total births. These deaths include those occurring during pregnancy (at 22 completed weeks of gestation and over) during childbirth and up to seven completed days of life (WHO 2006).

2.3. EMERGING RESEARCH ISSUES

The literature review suggests that the characteristics and social roles of TBAs not only change from place to place but also alter from time to time with the constantly transforming dynamics of particular societies and cultures. There are few recent studies on the role of TBAs in contemporary India and thus there is a lack of current information about the changing role of TBAs in general. Therefore the first objective of this thesis was to identify the contribution of the TBAs in providing maternal and infant health care service at different stages of pregnancy and after delivery. The questions that arose in relation to Objective 1 and which were examined in the field were:

- What are the sociodemographic and professional characteristics of TBAs?
- What is the involvement of TBAs in the antenatal period?
- When are TBAs summoned during delivery?
- To what extent do TBAs convey basic postnatal advice?
- What is the role of TBAs in recognising and managing complications and making referrals?

2.4. CONCLUSION

A review of the literature, evidence presented, and a range of studies over time revealed that TBAs have a changing, localised but nonetheless significant health and social roles in antenatal, delivery, postnatal and infant care in India. The literature and studies suggested that my research needed to consider whether, and if so how, TBAs need to be included and involved in the planning and implementation of MCH programmes. The literature review and studies also revealed that apart from TBAs, there are various other people involved in caring for and making decisions about the welfare and health of the birthing mother and new born baby such as mothers-in-law, close friends, and relatives.

The studies described TBAs generally as women, and often as older women, who are non-literate, are easily and locally accessible, are affordable, who live within the community, have learnt their skills through experience, and are recruited by the community because they have certain qualities that the community recognises as necessary for performing the task of midwifery. Therefore the literature review shows that the learning process and the recruitment pattern of TBAs is different from the didactic ways of learning known in the biomedical approach.

In general TBAs are more sought after by people of lower socio-economic status in India but the strength of the TBA is that they are part of the cultural and social life of the community in which they live and hence are well accepted as having a key role in the birthing process, even among some urban, wealthier and better-educated communities. TBAs have knowledge of the birthing process learnt through their lived experience, which they bring into their practice and which they can use to explain events in their local context. TBAs therefore learn their skills through apprenticeship by working with their mothers/relatives. The roles and characteristics of TBAs are therefore rooted in their socio-cultural context.

The health and social roles of TBAs have been constantly changing with training interventions. To gain a better understanding of the TBA training process and the present situation of training, Chapter three discusses the history of TBA training and the changing policy paradigm in which it is encompassed, as well as the present rationale and the content and design of the training. The chapter critically reviews the rationale and objectives of the TBA training programme formulated at the international level which is implemented in developing countries. The chapter is also an introduction to the history of TBA training planning and guidelines that are meant to be implemented in developing countries. Chapter three is also linked with Chapter six, which critically reviews the TBA training programme planning at the country level in India and its implementation at the local level in the study area.

CHAPTER 3

A LITERATURE REVIEW OF THE TRAINING PROGRAMMES FOR TRADITIONAL BIRTH ATTENDANTS

Introduction

TBA training has been an important component of policy interventions to improve maternal and child health in developing countries. In many developing countries where there is often a shortage of trained biomedical personnel, maternity care is usually provided by TBAs (O'Rourke 1995, WHO 2005). They are accessible and culturally acceptable and are known to influence women's decisions about using biomedical health services (WHO 2005). In the 1970s and 1980s training TBAs in modern medical methods was seen as a progressive step towards reducing high mortality rates (WHO 2005, see also Replogle 2007). As a consequence TBAs were trained to recognise the warning signs of a complicated pregnancy, treat basic problems, and refer risky cases to a skilled medical practitioner (Replogle 2007). Training TBAs, however, was not a new intervention to improve maternal health. In India, there have been reports of attempts to train TBAs since 1902 (Guha 1998, Jeffrey 1982). TBA training became widespread after the WHO recognized the importance of TBAs in primary health care in the international conference held at Alma Ata in 1978. This chapter details the history of TBA training policies and the concerns about the changing policy paradigms. The chapter also critically reviews the design and content of TBA training programmes, as per the guidelines of the WHO, UNICEF and UNFPA joint statement and in relation to evidence of programme implementation in developing countries and in the context of biomedical and traditional knowledge.

3.1. HISTORY OF TRADITIONAL BIRTH ATTENDANT'S TRAINING

Efforts to train TBAs in developing countries have been in practice since the 1920s in the Sudan and in the 1950s in Thailand and the Philippines (Bayoumi 1976, Brey 1971, WHO 2005). In the 1970s and 1980s the training of TBAs became more widely accepted

as an integral component of maternal and child health interventions (CEDPA 2005, Kwasth 1996). Recognising the importance of TBAs in providing reproductive health care, the Alma Ata conference in 1978 initiated the training of TBAs and their involvement in primary health care. Throughout 1970s and 1980s, WHO actively promoted the training of TBAs, which was manifest in the increase in the number of countries having some form of TBA training from 24 to 52 countries between 1972 and 1982 (Kruske and Barclay 2004, Leedam 1985). The success of the TBA training programme was focused on one indicator which was a reduction in maternal mortality rates (Kruske and Barclay 2004). However, the measurement of maternal mortality is problematic; large scale studies are required to calculate maternal mortality rates accurately and they cannot be compared between two time periods due to changes in definition (UNFPA 2003, WHO 1999, see also Hill et al., 2007).

In the 1990s, it became evident that maternal mortality rates globally had not reduced as expected and, according to estimates, had actually increased slightly (UNFPA 2004, WHO 1999; 2004; 2005). In 1999, a WHO report stated that:

“there is no evidence that TBA training alone leads to reductions in maternal mortality, although there continues to be a recognition that TBAs can provide culturally-appropriate nurturing in the community setting, offer a first-line link with the formal healthcare system, and provide some simple services such as the distribution of nutrition supplements” (WHO 1999: 26).

The 2005 World Health Report published by WHO mentions that there are no elements to demonstrate that TBA training is cost-effective, instead the most effective measure is to provide professional skilled care, including the possibility of reaching a well-equipped hospital (WHO 2005). Some public health studies have also proposed that TBA training has little impact on maternal health and suggested diversion of funds to more effective interventions such as support for referral and essential obstetric services at first-level referral facilities (Goodburn et al., 2002, Hyppolito 1987). Other researchers have

extreme viewpoints and opine that TBAs serve no purpose and therefore their services need to be eliminated, as Berer suggests: “*Where the resources for and access to a more skilled level of care are available, women are seeking that care, and TBAs are slowly but surely being consigned to history—which is where they belong*” (Berer 2003: 37),

Since the 1990s, WHO and other major health policymakers moved funding away from ‘training TBAs’ towards encouraging and providing ‘skilled attendants during delivery’ (Kruske and Barclay 2004, Replogle 2007). A joint WHO/UNFPA/MCH statement in 1992 declared that TBA training be considered only as an interim measure until all women and children have access to acceptable, professional, modern health services. UNFPA no longer promotes the training of TBAs to recognize or treat complications related to pregnancy (UNFPA 1999). However, several concerns have been raised about this changing paradigm, which are discussed in the next section.

3.2. CONCERNS OVER THE CHANGING PARADIGM OF TRADITIONAL BIRTH ATTENDANTS’ TRAINING PROGRAMME

Researchers have expressed concerns that the conclusion to withdraw funding for TBAs was arrived at hastily and without sufficient evidence (Chawla 2006, Costello et al., 2006, Kruske and Barclay 2004, Smith 2006, Walraven and Weeks 1999). Following several years working in an NGO in India, Janet Chawla observed that although TBAs are blamed, it is poverty and malnutrition that lead to high maternal mortality and morbidity, whereas TBAs actually save lives in conditions where health facilities are inaccessible (Chawla 2006). Furthermore, from working for several years on the effectiveness of community programme trials to improve maternal and newborn care in Nepal, Anthony Costello and other researchers observe that the current emphasis on skilled attendance during delivery and institutional delivery is missing the poorest populations, where most mothers deliver at home with the assistance of TBAs (Costello et al., 2006). In a literature review on TBA training policy Kruske and Barclay observe that using maternal mortality rates as an indicator to assess the success of TBA training is

problematic due to the absence of reliable mechanisms to measure maternal mortality (Kruske and Barclay 2004). On the shifting policy emphasis, Walraven and Weeks (1999) voice their concern that by withdrawing support for TBA training, there is a danger of wiping out the useful work of two decades along with the weaknesses, whereas the approach should be to build on the existing strengths and correct shortcomings (Walraven and Weeks 1999).

“It seems as if the international health community finds it necessary to jump from one strategy to another – first training traditional birth attendants, but discovering its limitations; then changing track to only training professional midwives. If we are not careful, the baby will be thrown out with the bath water by sweeping aside the benefits along with the flaws of past efforts, without having a better strategy in place.”
(Walraven and Weeks 1999: 528)

Recent studies also observe that there is a shortage of trained medical personnel in developing countries (O’Rourke 1995, WHO 2005). A survey conducted by IIPS⁶ in India highlighted the serious shortfalls in physical infrastructure, staff and supplies at public health institutions. The survey notes that in many remote areas there were no functional Primary Health Centres (PHCs) (IIPS 2005). Furthermore, the study found that only 36 percent of the PHCs in India had adequate physical infrastructure such as building, water and electricity supply, laboratory, labour room and vehicle, 38 percent had adequate staff in position, 31 percent had adequate supplies of kits, drugs, vaccines and contraceptives, and 56 percent had adequate functioning equipment such as a weighing machine, vaccine carrier, BP instruments and autoclave. In India, Auxiliary Nurse Midwives (ANMs) are assigned the task of conducting deliveries, immunisation, treatment for childhood illness and family planning and are expected to reside in the place of appointment and be available round the clock (Mohan et al., 2003). However, a study conducted by the Indian

⁶ The facility survey undertaken as a part of the Reproductive and Child Health Programme-I covered a sample of 7,959 PHCs, 886 Community Health Centres, 760 First Referral Units and 210 district hospitals and considered a health institution as adequately equipped if it had 60 percent of the critical inputs.

Council of Medical Research in 1997 revealed that in 23 districts of India only 57 percent of all ANMs stayed at their place of posting (ICMR, 1997).

There are two main reasons given for the ineffectiveness of the TBA training programme; one is the inadequacies of the TBAs and the other is the design and content of the training programme. The quality of the content and design of the TBA training is vital to the effectiveness of the programme. Several researchers have described the drawbacks of the content and design of the TBA training programme, some of which are inadequate baseline studies (Guha 1998, Kruske and Barclay 2004, UNFPA 1996), insufficient information on selection criteria (Sibley et al., 2004), inadequate evaluation (Bhutta et al., 2003), inappropriate training content (Kamal 1998, UNFPA 1996), inadequate monitoring and supervision (Kamal 1998, UNFPA 1996) and lack of integration with maternal and child health programmes (UNFPA 1996). The following section critically reviews the rationale and objectives of the TBA training programme according to the guidelines laid by the joint statement on TBA training by WHO, UNICEF and UNFPA in 1992.

3.3. RATIONALE AND OBJECTIVES OF TBA TRAINING PROGRAMME

In 1992, WHO, UNICEF and UNFPA, jointly issued a statement on TBAs to reflect common goals to contribute to the global effort aimed at improving reproductive health (WHO 1992). The present TBA training programme is meant to follow the goals and objectives defined in this statement. The goals included:

- a) reduction of the maternal mortality rate by half,
- b) access by all couples to information and services to prevent pregnancies that are too early, too closed, too late, or too many; and
- c) access by all pregnant women to prenatal care, trained attendants during childbirth, and referral facilities for high risk pregnancies and obstetric emergencies (WHO 1992).

The joint statement clearly affirms that the future goal of the training programme is to train TBAs in simple focused and limited functions that “will help in the transition to providing professional care for all” (WHO 1992: 16). Over a period of time the programme envisages that the utilization of TBAs will diminish as the goal of safe motherhood is approached (WHO 1992). Thus the aim of the programme is to attain the goal of safe motherhood based upon the assumption that the contribution of TBAs in maternal and child health care will eventually diminish. This is despite evidence that TBAs continue to be accessed by people even in places where medical facilities are easily available and accessible (Bajpai 1996a, Devanesan 2000, IIPS 2000, Kausar et al., 1999, Mathews et al., 2005; 2001, Smith 2004).

“For a long time to come, even when women have access to modern health care and the services of a professional midwife or physician, they will also seek the care of the traditional healers and birth attendants for advice and complementary care until the modern health care system can meet all the needs of its clients”. (WHO 1992: 17)

The objectives of the TBA programme written in the joint statement by WHO/UNICEF/UNFPA and followed as a guideline by developing countries are to:

- a) enhance the links between modern health care services and the community;
- b) increase the number of births attended by trained birth attendants; and
- c) improve skills, understanding and stature of TBAs (WHO 1992, UNFPA 1996).

To achieve the objectives the intermediate objectives identified were to;

- a) improve the understanding of the community of what the modern health care system and trained TBAs can offer to improve the health of mothers and children;
- b) involve the community in making choices and implementing programmes to improve maternal and child health;
- c) train trainers, health care staff and TBAs in targeted technical skills and team building; and
- d) improve technical support systems for provision of supplies, supervision and referral (WHO 1992).

The future of the TBA programme detailed in the joint statement refers to “keep what is best in TBA care: the sense of caring, the human approach and the response to cultural and spiritual needs” (WHO 1992: 16). However, there is no indication that the concept of preserving these positive aspects of TBA care is incorporated in the present training objectives. The following section details the design of the TBA training programme as written in the joint statement and provides evidence of the design used in training programmes in developing countries.

3.4. DESIGN OF TRADITIONAL BIRTH ATTENDANTS TRAINING PROGRAMMES IN DEVELOPING COUNTRIES

“The WHO encouraged health planners in 1990 to promote the provision of trained birth attendants for all women. Unfortunately, there was, at least in some countries, little quality control in the design or content of these programs.” (Kruske and Barclay 2004: 307)

Every element of the programme design has an impact on the outcome and effectiveness of the training. This section reviews the guidelines for TBA training design in a joint statement by WHO/UNFPA/UNICEF on needs assessment, baseline studies, selection criteria, evaluation and supervision, monitoring and supervision, remuneration and expectations, training methodology, training duration and training approach against the evidence of the design used in TBA training programmes in developing countries.

3.4.1. Needs Assessment and Baseline Studies

The importance of needs assessment is to understand the diversity of the existing problem and to incorporate ethnic, social and cultural issues in the training, and the importance of a baseline study is to assess knowledge, attitudes and existing practices (Roost et al., 2004). The needs assessment shapes the design of a training programme while the baseline study forms a base for assessing the impact of the training and progress achieved (USAID, IGWG 2003). This stepped implementation helps in understanding the extent of

knowledge of TBAs, the local needs and available resources before developing specific training programme plans. As it is known that the social roles, characteristics, knowledge and practices of TBAs vary depending on local cultural characteristics, it is important that a baseline study is conducted to provide an important context to develop the training. The joint WHO/UNFPA/UNICEF statement asserts that an initial assessment of local needs and resources should be undertaken before developing specific programme plans and policies (WHO 1992). The intermediate objective detailed in the joint statement aims to involve the community in making choices and implementing programmes to improve maternal and child health.

An evaluation of a TBA training programme in seven developing countries observed that there was a lack of baseline data conducted in the programme design (UNFPA 1996). A recent literature review on TBA policies observes that consultations with the TBAs and the community before the training programme were rarely conducted and therefore modifications to the programmes were limited (Kruske and Barclay 2004). As a result the training was frequently out of context as effective local knowledge as well as harmful local practices were generally not included nor addressed.

3.4.2. Selection Criteria

Other public health interventions at the community level have observed that appropriate selection criteria should be decided by the resource persons within the community (Muhe 2002). In the case of TBA training, the community is meant to select TBAs as they are in a better position to identify and recommend them for training (Kamal 1998). The joint statement by WHO UNICEF and UNFPA mentions that, regardless of the conditions of selecting TBAs, the decision should be made by or with the community (WHO 1992). The possible criteria mentioned in the joint statement include motivation of TBAs, their caseload, respect in the community, age, literacy, or other factors that may suit the local situations and the local communities' needs and desires (WHO 1992). A study reviewing TBA training documents in some countries observed that generally age, sex, marital status, years of practice in delivering mothers and the caseload were basic considerations for selecting TBAs (Kamal 1998). However, a recent meta-analytical review of TBA

training evaluations in developing countries observed that the documentation of selection criteria used in the training was insufficient (Sibley et al., 2004). As a consequence, data are patchy when trying to assess what selection criteria were used and whether they were effective.

3.4.3. Evaluation

Monitoring and evaluation is an integral part of every implementation programme with specific budget allocations reserved for these activities (USAID, IGWG 2003). Monitoring activities should include feedback from supervisors, clients, and care providers so as to make necessary adjustments in future training programmes (USAID, IGWG 2003). The joint statement published by WHO contends that programmes should conduct periodic evaluation with the community to assess weaknesses and accomplishments (WHO 1992). The statement further asserts that adjustments should be made to TBA programme plans based on programme evaluation and changing needs (WHO 1992).

A study evaluating the TBA training programme in seven developing countries observed that inadequate attention was paid to developing follow-up evaluations to assess behaviour change and to support and supervise trained TBAs (UNFPA 1996). Despite the spending of a significant amount of donor funds on TBA training, there is insufficient evaluation published on the programmes (Bhutta et al., 2003). It is observed that the wide variability in the characteristics of TBAs and differences in training curriculum, approach, duration and follow up service further presents challenges for assessing the impact of and making comparisons between training programmes in different areas (Goodburn et al., 2002). A review of evaluation documents in some developing countries observed that evaluation consists of verbal assessment of the pieces of information gathered from TBAs during the training period (Kamal 1998). A recent meta-analysis noted that there are serious deficits in our understanding of the effects of TBA training in relation to safe motherhood programme evaluation and research, planning, and policy and that there is an urgent need to improve capacity for evaluation (Sibley et al., 2004).

3.4.4. Monitoring and Supervision

The essential elements of maternal care required together with effective TBA training include supervision and availability of emergency care. UNFPA, in an evaluation report, observes that TBA training programmes should necessarily include arrangements for post training supervision along with adequate logistical support (UNFPA 1996). Public health researchers emphasise the need for supervisory back-up and claim that TBA training programme ineffectiveness partly lies in inadequate supervision and support (Sai and Measham 1992 cited in WHO 2005, see also Lartson et al., 1987). With poor supervision, TBAs are more likely to slip back into the methods they had adopted before their training (Kamal 1998). The joint statement contends that supportive supervision should be provided by the formal health care personnel and implemented at regular intervals at the site of TBA practice, focusing on problem-solving and improvement of practice and also to ensure timely and appropriate referral of complicated cases (WHO1992).

A meta-analysis on TBA programmes however, found that only some studies specify some form of follow-up supervision by health staff or TBA trainers (Sibley et al., 2004). Another literature review observes that although every project has a section on supervision, most of the supervisory mechanisms are not well planned, keeping in view the constraints of regular supervision, and overall concluded that the supervision was weak (Kamal 1998). A programme evaluation of seven developing countries conducted by UNFPA concluded that trained TBAs were seldom supervised (UNFPA 1996). Even if supervision did occur it focused primarily on checking supplies, records and discussing general issues. Where very limited supervision of TBAs did occur it covered specific techniques taught, discussion of delivery cases and issues related to handling emergencies (UNFPA 1996).

3.4.5. Remuneration and Expectations from TBAs

The issue of remuneration is important in any formal training programme. In the context of community health workers, public health researchers have noted that selection criteria, remuneration, supervision, and logistical support of the training programme must be in place so that the selected health workers are competent, motivated, and accepted by

communities thereafter (Pearson et al., 2006). However, evidence reveals that incentives given to TBAs differ from country to country and sometimes within each country. Even reimbursement of travel costs incurred for attending a training programme was found to be seldom implemented (Kamal 1998). It has been noted in Bangladesh, India and Pakistan that remuneration has been provided to TBAs for referral in order to motivate them to refer their clients to health care centres (Kamal 1998), while in Loa another study observed that the TBAs did not receive any form of financial remuneration (Perks et al., 2006).

The joint statement mentions that “decisions to pay TBAs a wage may be based on how such an innovation will influence the interactions of the TBAs with their clientele as well as financial ability to sustain such a system” (WHO 1992: 11). In India, the TBAs are generally left to function as private practitioners after training and yet they are expected to make certain voluntary contributions (Singh 1994). They are expected to conduct deliveries as taught in the training, and to seek help in case of complications (Syamala 2004). However, studies have shown that there is very little emphasis given on whether help is accessible and available (Kamal 1998, UNFPA 1996). Further, some programmes expect TBAs to attend monthly meetings and report their activities although a review of research has shown that TBAs are not reimbursed for their travel costs and moreover may receive a cold welcome from health care personnel when they take women to health centres (Kamal 1998). TBAs are also expected to undertake several additional health care functions apart from maternal health (Kamal 1998, UNFPA 1996). There are several studies that try to explore the role of TBAs to understand how they can contribute in helping achieve the aims and objectives of the formal system. However, there are no studies conducted that query TBAs about their needs and expectations from the formal health care system.

3.4.6. Training Methods

A literature review of TBA training programmes showed that lectures, demonstrations, role plays, practical experience in ante and post natal care and explanations of safe delivery techniques are the range of methods used for training TBAs (Kamal 1998). The

joint statement does not specify the inclusion of practical training in the programme (WHO 1992). A meta-analysis of TBA training evaluations noted that only one author had reported that the training involved a combination of theory and practice (Sibley et al., 2004).

The joint statement contends that due to illiteracy among the TBA population, curricula and training material should be developed that are appropriate for adult learners and specific for the TBA functions in the local area (WHO 1992). A review observes that TBAs learn their skills through an apprenticeship that involves both observation and imitation, in contrast to the instructive style of education of professional midwives typical of western systems (Kruske and Barclay 2004). Therefore, specific training materials and methods are required to train non-literate adult learners (Kamal 1998). In some training programmes films on various aspects of the maternity cycle were shown to TBAs (Shangase et al., 2004), in others record keeping and referrals were taught with the help of pictorial cards (Neumann et al., 1974), and in yet other situations the TBAs gained hands-on experience in biomedical care by spending a specified period in a hospital's maternity unit (Koblinsky et al., 1999). Some training programmes have mentioned the use of picture cards containing advice about various aspects of antenatal, delivery and postpartum care (Jokhio et al., 2005).

3.4.7. Training Duration

Literature reviews of TBA training have observed that the training duration varied widely between four days to three months in the studies that were reviewed (Jokhio et al., 2005, Kamal 1998, Rodgers et al., 2004, Sibley et al., 2004). Literature reviews have noted that studies of TBA training outcomes do not mention the training duration (Sibley et al., 2004, Smith et al., 2002). In some training programmes, there is a mention that the duration of courses is determined by the content to be covered, the background of the trainers, and the availability of the visiting instructors (Sibley et al., 2004). Another important aspect of TBA training programmes that impacts the health outcome and relevance of the training is the content covered in the training. The next section reviews the content covered in TBA training programmes in developing countries.

3.5. CONTENT OF TRADITIONAL BIRTH ATTENDANTS TRAINING PROGRAMME

The World Health Report (2005) observes that as the experience, knowledge and function of TBAs vary from one place to another, it is not technically valid to frame a general training strategy without taking into account these variations. Therefore the content of the training programme has been kept open to be developed and adapted at the local level (WHO 1992). The joint WHO/UNFPA/UNICEF statement only mentions that the content should be directed at upgrading skills for simple and focused tasks to combat a particular problem (WHO 1992).

3.5.1. Training Content

TBAs are generally taught biomedical ways to conduct a clean delivery such as; use of the disposable delivery kit; when to refer women for emergency obstetrical care; and care of the newborn (Jokhio et al., 2005). TBAs in many developing countries have been trained in basic biomedical practices as part of a safe motherhood initiative aimed at reducing maternal mortality (Butlerys et al., 2002, Walraven and Weeks 1999). TBAs are taught methods of conducting hygienic delivery comprising the ‘three cleans’ that is; hand-washing with soap, clean cord care and clean surface (Chongsuvivatwang et al., 1991, Fatmi et al., 2005, Goodburn et al., 2002, PATH 2002, Sibley and Sipe 2006), and to manage hypothermia by keeping the baby warm after birth (Daga et al., 1997).

TBAs are supplied with a delivery kit after training to conduct clean deliveries (Butlerys et al., 2002, Jokhio et al., 2005). The material in this kit includes a piece of soap for cleaning the birth attendant’s hands, a plastic sheet about one square meter for use as a clean delivery surface, a clean string for tying the umbilical cord (usually two pieces), a clean razor blade for cutting the cord and a pair of sterilised disposable gloves (PATH 2002). TBAs are also taught methods to weigh babies soon after birth or refer them to be weighed at the health centres. One study in India has evolved improvised methods of weighing babies using local materials (Kumar and Walia 1981). To promote feeding of

babies with colostrum, TBAs are taught to breastfeed babies immediately on birth (Fatmi et al., 2005, Mahbubur et al., 1999, Sibley et al., 2007). The TBAs are asked to visit each woman at least three times during the pregnancy (at three, six, and nine months) to check for dangerous signs such as bleeding or eclampsia, and to encourage women with such signs to seek emergency obstetrical care (Jokhio et al., 2005).

3.5.2. Context of the Training Content

Several researchers have raised criticisms about the content of the TBA programme conducted in developing countries. Kruske and Barclay, in a literature review of TBA training policies, observe that the TBA training content was often “simplified versions of the professional midwives’ own training or direct translation of WHO guidelines, irrespective of the appropriateness to the local situation” (Kruske and Barclay 2004: 308). Another evaluation study in seven developing countries observed that the TBA training curriculum was developed using biomedical evidence of what works in the developed countries but that it ignored local cultures (UNFPA 1996).

Paul (2004) argues that although the need to strengthen health systems in developing countries is under the spotlight, the activities that take place in the community that have an impact on health receive insufficient attention. Moreover, effective strategies in delivering medical interventions to the needy in the prevailing socioeconomic, cultural and health system situation are different in developing countries. Therefore more investment in relevant research in developing countries to find local solutions to health problems and new opportunities for sharing of experiences between developing countries in the delivery of health care is needed (Paul 2004: 1118).

Research has also shown that the TBA strategy and content has not appreciated the immense cultural gap between modern methods of care and the activities of TBAs (WHO 2005). Smith (2006) observed that government training programmes in India do not present to the TBAs any modern practical ways of handling childbirth problems that are meshed with tradition. Furthermore, it has been observed that certain useful traditional

practices have changed with training; the squatting and sitting positions generally used by TBAs during labour are now well accepted as advantageous to positive birth outcomes (Arube-Wani 2006, Bajpai 1996a, Bhardwaj et al., 1995, Odent 2001, Mathews et al., 2005) but, with training, TBAs are changing their practices to use of the supine position with their clients. Mathews et al (2005) argue this is because the trainers in the TBA training programmes are generally medically trained professionals and advocate the use of the supine position.

A literature review on TBA programmes and changing policy emphasis showed that the training programmes continue to rely on a western-style education system that is meant for a literate audience, but which can act to hinder the effectiveness of the training programme in low socio-economic and non-literate communities (Kruske and Barclay 2004). Indeed, some studies have shown that TBAs found the content of the training incomprehensible and a waste of time (Guha 1998). A meta-analysis noted that the content of training focused typically on biomedical knowledge of health promotion, disease prevention, and clean safe birth practices (Sibley et al., 2004). And an evaluation of seven developing countries found that TBA programmes were often vertical, focused almost exclusively on training activities, and were conducted in an uncoordinated manner and outside of the broader strategy to improve maternal and child care (UNFPA 1996).

3.6. CONCLUSION

The emphasis on training TBAs that had increased during the 1970s has declined since the 1990s and, in the 21st century, the emphasis is now on increasing skilled attendants at birth, which does not include TBAs (trained or untrained) in its definition. The criticism and blame relating to the ineffectiveness of the TBA training programme has been laid on the TBAs' characteristics and their inability to change their practices with training. But researchers have raised concerns that the shift in policy emphasis has taken place without adequate evidence of training ineffectiveness. Research suggests that TBAs continue to be an important source of maternal and child health care service provision especially

among lower socio-economic communities and for people living in isolated and rural areas with limited access to other health care resources or transport facilities.

Existing literature on TBA training design demonstrates several drawbacks such as; lack of baseline data, insufficient documentation of selection criteria used, inadequate attention on follow-up evaluations, very limited supervision of TBAs, inadequate combination of theoretical and practical training and training materials that are irrelevant to train non-literate adult learners. Similarly researchers observe that the TBA training content has not appreciated the cultural gap between the traditional and modern methods of care and that the content reflects a translation of WHO guidelines.

This thesis reveals the extent to which the local traditional and biomedical knowledge are synthesized in the training content. The critical review of TBA training methodology guidelines recommended at the international level in this chapter is linked further in Chapter six where the design and content of the local training programme in the study area has been critically reviewed. The TBA training programme aims to change certain harmful practices adopted by training TBAs with beneficial biomedical knowledge. The next chapter reviews the literature on TBA practices in relation to training in developing countries with a special emphasis on South Asia and India.

CHAPTER 4
A LITERATURE REVIEW OF TRADITIONAL BIRTH ATTENDANTS
BIRTH PRACTICES IN RELATION TO TRAINING

Introduction

A review of the literature revealed that some beneficial traditional birthing practices such as the use of the upright birthing position and community support have been acknowledged and attempts have been made to incorporate these into health institutions in developed countries and also in some private institutions in India. However, a review of the literature generally noted that other traditional practices have been widely criticised for potentially causing harm to mothers and infants and attempts have been made to train TBAs to learn from progressive biomedical research and knowledge. This chapter reviews some of the important practices, the criticisms and the apparent impact of training on TBA practices in developing countries, with an emphasis on South Asia and India. In these ways the chapter provides an overview of the traditional practices adopted in South Asia and their potential impacts on maternal and infant health. It also provides some evidence of training influences on TBA practices and further potential to build the capacity of TBAs in terms of knowledge and practice. The chapter concludes with the emerging research issues and the objectives addressed in this study.

The main recognized benefits of traditional home births are the community support and the effective birthing positions adopted during birth. Although traditional childbirth is based on a natural and holistic approach its disadvantages lie in certain beliefs and practices that can be potentially harmful and unhygienic to mothers and babies. There are two main criticisms about practices adopted by TBAs: 1) that unhygienic practices at home births causes sepsis among mothers and babies, and 2) that harmful traditional practices cause maternal and infant morbidity and mortality. The following section discusses the significance of the safe and clean delivery practices, the criticisms raised about traditional practices, the TBA training interventions, and a review of evidence of these practices in developing countries.

4.1. BIRTHING POSITION

TBAs encourage women to walk and move about during labour to finally deliver in a squatting and seated position (Bajpai 1996a, Mathews et al., 2005). However, formal health institutions in India continue to largely adopt the supine position during delivery (Gulati 1999, Van Hollen 2003). The negative effects of delivering in the supine position have been well documented (Bhardwaj et al., 1995, Gupta and Nikoderm 2000, Keen et al., 2007, Odent 2001). The supine position is advised against for childbirth for a number of reasons such as that it defies gravity, it places pressure on the *venae cava* and thus prevents adequate blood flow to the fetus, and it delays second stage of labour (Roberts and Hanson 2007). One of the concerns expressed about adopting the supine position in the context of developing countries is the embarrassment felt by women. Studies have shown that women feel embarrassed at delivering while lying facing the health provider. They feel exposed in every way, feel humiliated, and the position violates their desire for privacy (Arube-Wani 2006). These are key reasons why they would rather be delivered by TBAs who allow them to squat or kneel while delivering (Arube-Wani 2006, Bajpai 1996a, Mathews et al., 2005).

Studies in India have observed that delivering in the traditional upright positions was associated with less fetal stress, less labour pain, shorter delivery time, less perineal trauma, less discomfort and difficulty when bearing down, and overall women were more satisfied with the birthing experience (Bhardwaj et al., 1995, WHO 1996, Mathews et al., 2005). Clinical studies have found that the squatting position is the most effective position for pushing in the second stage of labour as it enables the woman to bear down force in the direction of the birth canal (Gupta and Nikoderm 2000). Further studies have shown that even in developed countries women who had given birth in the supine position would prefer the option of an upright position in the future (Stewart and Spiby 1989, Waldenström et al., 1996).

Davis Floyd (2001b) describes the lithotomy position as the most graphic demonstration of the power of 'doctors' choice', not because this position is sound, but because it is

comfortable for them to maneuver. In recent times the supine position has penetrated into traditional approaches. There is evidence that TBAs learn to assist births in the supine position during the training programme and some then give up the traditional upright birthing positions and encourage the supine position during delivery (Bajpai 1996b, Mathews et al., 2005). In a study covering seven states of India, it was found that almost all TBAs mentioned the lying-on-back position for childbirth, probably reflecting a change due to TBA training efforts (Bajpai 1996a).

4.2. COMMUNITY SUPPORT

Research in the disciplines of Anthropology, Midwifery, Sociology, and Feminist Theory describe the birthing experience as not only a biological or medical event but a rich personal event where the quality of relationships between a woman giving birth and those assisting her can define the outcome of the experience (Armstrong and Feldman 1990, Begay 2004, Baer and Davis Floyd 2005, Dalmiya and Alcott 1993, Kitzinger 2000, Smith 2006). An experienced medical person working in a maternity home in France comments that the presence of a supportive community can make the birthing mother feel happier and more secure (Odent 1984). The authors of the book *A Wise Birth* illustrate with examples from Latin America that home based deliveries within women's comfort zone can be more graceful and comfortable with better outcomes for both mothers and babies (Armstrong and Feldman 1990). And studies in India have found that mothers prefer to birth at home because of the community support received (Mathews et al., 2005).

WHO observes that in developing countries some large hospitals are generally overcrowded with low-risk deliveries and therefore personal support and privacy is inadequate (WHO 1996). Similar to the inclusion of the traditional upright birthing position in medical institutions, there have also been attempts to include 'community support' in health institutions in developing countries. However, a randomized pilot study in South Africa studying the effect of companionship on maternal outcomes found that although many women were treated very badly in government hospitals, childbirth

companionship was difficult to be implemented in under-resourced health care systems with frequent staff changes, and the researchers were unable to determine if the presence of a traditional carer impacted on the humanity of care provided by health professionals (Brown et al., 2007). The variability in the studies suggests that local analyses should be made with good baseline studies of women's needs in their communities, and where possible, training should be adapted to their needs. Local knowledge should be incorporated into TBA training and TBAs should be advised that biomedical knowledge is constantly changing so that they are made aware of the flux in 'authoritative' knowledge systems. Nonetheless, where local practices are problematic for the health of mothers and infants, TBAs should be advised of simple techniques to mitigate the problems but in culturally sensitive ways so they can be incorporated into the broader community's understanding of childbirth.

4.3. BIRTHING PRACTICES AND SEPSIS AMONG MOTHERS AND BABIES

A key example of one of the problems facing TBAs is the birthing practices that cause sepsis. A recent large study in India conducted by the Sample Registration System (SRS⁷) assessing the causes of maternal mortality rate shows sepsis as the second main cause accounting for 11 percent of the maternal deaths (SRS 2006b). Other smaller studies have shown that sepsis is one of the main causes of mortality and morbidity among mothers and neonates in India (Chhabra and Sirohi 2004, Khan et al., 2006, Costello et al., 2006, UNICEF 2007). The modes of transmission of puerperal sepsis are categorized into nosocomial, exogenous, and endogenous factors. Nosocomial infections are acquired from health institutions or from the patient's own flora. Exogenous infections come from external contamination, especially when deliveries take place under unhygienic conditions. Endogenous organisms consist of mixed flora colonizing the woman's own genital tract (Hussein and Fortney 2004). There are claims that deliveries assisted by relatives and TBAs take place in unhygienic conditions and often lead to infection in

⁷ SRS: Sample Registration System is the largest demographic sample survey in India and is being used to provide direct estimates of maternal mortality through a nationally representative sample. The study 'Maternal Mortality Rate in India: 1997-2003- Trends, Causes and Risk Factors', has investigated 4,484 maternal deaths among over 1.3 million births (SRS 2006b).

mothers and newborn babies (Dadhich 2004, World Bank 1996). TBAs have been accused of creating or even compounding problems of infections at home deliveries (Adamson 1996, Barns, 1991, Boerma 1987, Feyi-Waboso, 1989). However the claims are not based on scientific studies analysing the cause-effect relationship between unhygienic traditional practices and mortality or morbidity among mothers and babies. To improve hygiene in home deliveries, since the 1970s WHO has advocated for beneficial biomedical practices such as safe and clean delivery through the “three cleans” programme (hand washing with soap, clean cord care, and clean surface) and promoted the distribution of delivery kits to TBAs (WHO 1993). The delivery kit distributed to TBAs contains materials that are designed to help make deliveries cleaner and safer (Lettenmaier et al., 1988).

However, an intervention study in Bangladesh established that following the three clean methods alone does not control sepsis among mothers (Goodburn et al., 2002). The study observed that TBAs are only one of the sources of infection among mothers and the other main source includes the health and hygiene of mothers themselves (Goodburn et al., 2002). Another study in Ghana found that TBA training was actually protective against postpartum fever (Smith et al., 2002). Apart from this, there is little data and evidence about the effect of TBA practices on the occurrence of sepsis among mothers or babies. The following section reviews the evidence of clean delivery practices adopted by TBAs including hand washing, clean cord management and use of the delivery kit to obtain a general sense of their potential helpfulness to TBAs.

4.3.1. Hand Washing

Hand hygiene is known to be the most important component of infection control and can be achieved by standard hand washing with soap and water (Hussein and Fortney 2004). Hand hygiene is not a new concept; the success story of reducing sepsis by hand washing was established in 1846, when Ignaz Semmelweis observed that maternal mortality was mainly caused by physicians due to their unclean hands (Bencko and Schejbalová 2006). This was the first evidence indicating that cleansing heavily contaminated hands, especially among physicians handling several patients, may reduce healthcare-associated

transmission of contagious diseases. In the context of TBAs however, they deal with only one delivery at a time and therefore this kind of cross-contamination is unlikely to happen.

TBAs have been criticised for not undertaking measures of cleanliness while providing care for mothers and newborns such as washing their hands (Fatmi et al., 2005): the practice is perceived as a possible means of reducing the risk of infection (Saeed Ali et al., 2007). However, a study in nine states in India showed that TBAs generally washed their hands and feet before entering the house of labor (Bajpai 1996a). In contrast, a study in Uttar Pradesh and another in Bangladesh found that TBAs generally washed their hands only after finishing the task of delivery, due to local beliefs that the act of giving birth was polluting (Jeffrey et al., 1989, Rozario 1998). Indeed, studies in India have noted that babies were generally received with unwashed and ungloved hands by TBAs (Syamala 2004), in some cases alcohol was used to wash hands in Gujarat and Maharashtra (Bajpai 1996a).

TBAs are taught, as part of their training, to clean their hands with soap and use gloves during delivery and one of the expected beneficial effects is that the improved hygienic practices of TBAs will reduce postpartum infections among mothers and babies (Goodburn et al., 2002). An intervention study in Tanzania, examining the cause-effect relationship between hand washing, use of gloves and maternal infections found that washing hands by birth attendants before the delivery and the use of new gloves were not important factors affecting rates of infection in mothers (Winani et al., 2005). Apart from this latter study there is little other evidence about the relationship between washing hands and infection among mothers and babies, suggesting that there is debate about the efficacy of hand washing and that local practices may differ for reasons of belief rather than associations with cleanliness in relation to infection.

4.3.2. Cord Management

Research worldwide shows that sometimes blades of grass, bark fibers, reeds, fine roots, scissors, knives, broken glass, stones, sickles, or used razor blades are employed to cut the cord, which is potentially harmful because such materials often harbour tetanus spores from the soil and thus increase the risk of neonatal tetanus (WHO 1998). The items used to cut the cord are generally easily available in the house, or related to the father's trade. They are rarely cleaned or boiled before use and can be a potential source of infection. Studies in India have shown that non-sterilised materials for cutting the cord are used both by TBAs and formal health personnel (ANMs) (Khandekar et al., 1993, Mathews et al., 2005, Nandan and Mishra 1996). WHO notes in a report on umbilical cord care that the current recommendations for cord care are chiefly based on research in hospital nurseries in developed countries, which may not apply in developing countries where resources are scarce, most deliveries take place at home and different sources of bacteria can cause cord infections (WHO 1998).

WHO observes that ash, oil, butter, spice pastes, herbs and mud are substances that are often used to apply to the cord in home deliveries, and they may be contaminated with bacteria and thus increase the risk of infection (WHO 1998). A newborn baby can become infected with tetanus if the umbilical cord is cut with unclean instruments and treated with unhygienic applications (Bhutta et al., 2003). WHO suggests that these practices are dangerous and should be discouraged or replaced with safer alternatives (WHO 1998). However, there are no studies examining the effects of these materials on infection in mothers and infants (WHO 1998). Studies in India have shown that some materials that may cause contamination, such as *ghee* (clarified butter), mustard oil, cow dung, and betel nut, are applied on umbilical cords (Dadhich 2004, Nandan and Mishra 1996). A study in Nepal found that infection risk was 29 percent higher in infants receiving cord applications of mustard oil and 62 percent higher for other potentially unclean substances (Mullany et al., 2006). Other materials used for dressing the cord also include talcum powder, ash and turmeric (Khandekar et al., 1993, Mathews et al., 2005). Turmeric however is known to have analgesic, antibacterial, antiseptic and many other qualities according to Ayurvedic literature (Mashelkar 2001, Menon 2007). Use of

turmeric in wound healing is well known and is patented in the US (Lak 1999, Mashelkar 2001). The most common reasons given for applying these substances to the cord is to prevent bleeding from the stump, to promote separation of the stump, and to keep spirits away, however the effect of these practices on bleeding and separation has not been studied (WHO 1998). The literature suggests that, once again, there is debate about the efficacy of application of unguents to the umbilical cord and that local practices may differ for reasons of belief (for example, to deter spirits) rather than associations with cleanliness in relation to infection.

4.3.3. Delivery Kit

Since the 1970s, TBAs have been provided with a delivery kit at the end of the training program. The purpose of supplying the kit is to ensure that TBAs observe the clean methods taught during training. In India, the material usually provided in the kit includes a piece of string, half a razor blade, a piece of cotton, a plastic sheet and gauze (Chaturvedi 1978, PATH 2002). The safe delivery kit is meant to help TBAs with maintaining safe and clean delivery, however some studies show that the midwives and TBAs rarely used sterile cord care kits (Kamal 1998, Mathews et al., 2005). Studies indicate that use of the clean delivery kit has had a positive effect on reducing both cord infection and puerperal sepsis (PATH 2002). A study in Tanzania found that newborn babies were 13 times less likely to develop cord infection and mothers were 3 times less likely to develop puerperal sepsis when a delivery kit was used in comparison to those who did not use the kit (Winani et al., 2007). However, a review of medical literature to identify new and underutilized technologies to reduce maternal mortality related to puerperal sepsis in developing countries states that the safe delivery kit primarily prevents cord infections in the newborn rather than puerperal infections in the mother (Hussein and Fortney 2004). And a study in Nepal found that trained TBAs viewed the plastic sheet as the most helpful in the kit (PATH 2002).

Nonetheless, despite the efficacy of delivery kits, an evaluation study of seven developing countries shows that most programmes had difficulty maintaining adequate supplies for TBAs to conduct clean deliveries as replenishment of supplies was often

planned in conjunction with supervision visits which were generally irregular (UNFPA 1996). The same study also observed that some TBAs depended on the programme to restock supplies, whereas others tried to replenish them themselves. It was observed that locally produced kits seem to be more cost effective and sustainable (UNFPA 1996). Therefore in Nepal and Bolivia, simple, locally made home delivery kits had been developed with the aim of making them more appropriate, functional and inexpensive (UNFPA 1996). The studies and evaluations suggest that while delivery kits can be effective in reducing infection, they must be replenished frequently, or be filled with items that can be replenished and/or repaired locally. Again, an understanding of the local context in which TBAs are operating is vital to enhance their capacities and to optimize their training.

In sum, existing literature about unhygienic practices shows mixed results. Some studies show that TBAs continue to engage in potentially unhygienic practices (Bang et al., 2005, Rama Rao et al., 2001), whereas others have shown that TBAs have a lesser role to play in causing infection in mothers and babies (Goodburn et al., 2002, Winani et al., 2005). An important finding that emerges from the literature is that TBA practices and personal and community health and hygiene are equally important in preventing sepsis among mothers and babies. This shows that generation of awareness about cleanliness and hygiene is very important not only for TBAs and women but also the community as a whole in order to reduce the known potentially harmful infant care practices that are adopted in home deliveries. The next section reviews some of these practices.

4.4. INFANT CARE

The main criticisms about the potentially harmful infant care practices for home births include bathing the baby soon after delivery, discarding colostrum and not weighing babies on birth. These practices are criticised for causing morbidity and mortality among babies (OHCHR 2006, World Bank 1996). This section reviews these infant care practices in developing countries and specifically in South Asia and India.

4.4.1. Bathing Babies soon after Birth and Hypothermia

One viewpoint is that bathing babies soon after delivery, even if the water is warm, increases the risk of hypothermia (Mathews et al., 2005). The subsequent evaporation of moisture on the skin is said to cause hypothermia, especially in small babies, which can set in any time during the first week of life, usually during the night (John and Bodhankar 2001). Another point of view is that bathing has physiological benefits as it is an excellent and agreeable way to stimulate the baby's skin and that babies can and are being bathed with lukewarm water in institutional births in France even before the placenta is expelled (Odent 1984). In recent times babies are born in bathing tubs emerging from the womb directly into water and this practice is known to have positive effects (Odent 1984). Other than these inferences, there are no research studies that draw any cause-effect relationship between bathing babies and incidence of hypothermia. Traditional attendants and family members in India tend to bathe the infant soon after birth (John and Bodhankar 2001, Mathews et al., 2005, Sreeramareddy et al., 2006). Even in health institutions in India, babies are bathed soon after delivery with lukewarm water (Mathews et al., 2005). Recent medical journals published in India mention that babies can be bathed immediately on birth even with the cord still attached (Sandipan 2007). For home deliveries this practice may take a dangerous course when premature or underweight babies not receiving special care are bathed immediately on birth thus exposing them to potential health risks such as hypothermia.

The known methods of preventing and managing hypothermia (low body temperature) are to dry and wrap the baby soon after birth, breastfeed immediately, delay the baby's first bath, provide close contact with the mother, and keep the room warm and the baby properly clothed or wrapped (Bhutta et al., 2003, WHO 1997b). WHO suggests the 'warm chain' procedure to maintain warmth in new born babies which includes; immediate drying and wrapping, skin-to-skin contact, immediate breast-feeding and postponed bathing. WHO asserts that bathing should not be carried out before six hours after birth, and preferably on the second or third day of life, as long as the baby is healthy and its temperature normal (WHO 1997b). WHO recommends that after birth the baby should be immediately dried with a dry towel, including its head, while the cord is still

attached. However, the usual practice observed in developing countries is to wait for the placenta to deliver before cutting the umbilical cord and wrapping the baby. Researchers observe that the skills of TBAs need to be upgraded with the biomedical knowledge available to the research community so that they can provide improved services to their clients (birthing mothers and infants) (Asghar Rana 1999, ICDDR 2006, Neumann et al., 1974, OHCHR 2006, WHO 1978). One intervention study developed a simple method by which TBAs can detect hypothermia by touching (Ellis et al., 2006). Another study in North India examined the diagnostic accuracy of human touch (HT) method in assessing hypothermia against axillary digital thermometry (ADT) by a trained non-medical field investigator and hypothermia assessed by HT showed a high diagnostic accuracy when compared against ADT (Agarwal et al., 2007). However, the study noted a need to assess whether with training and supervision even the less literate mothers, traditional birth attendants and community health volunteers can accurately assess mild and moderate hypothermia. This intervention needs to be researched further to assess the possibility of its wider use, especially among TBAs and other community workers.

4.4.2. Weighing New Born Babies

Newborn babies need immediate medical attention if prematurely born or underweight. However, most of the babies in India are not weighed immediately after birth thus potentially exposing the babies that need immediate care to complications. According to NFHS-2 data, most (79%) of the babies in rural India were not weighed after birth (IIPS 2000). Among children for whom birth weights were reported in rural areas of India, 24 percent were of low birth weight (less than 2.5 kilograms). Evidence shows that institutional birth does not necessarily assure weighing of babies on birth. A study conducted in India shows that even in the PHCs and the government hospital, only 11 percent of the babies were weighed on birth (Mathews et al., 2005). The reason given was that the room containing the weighing scale at the PHC was reportedly often locked for fear of theft (Mathews et al., 2005). There are criticisms that TBAs cannot record information because of their inadequate literacy level. However, an intervention programme in India demonstrated that even illiterate health workers can help in identifying 'at risk' newborns by using simplified methods and low cost improvised

technology in recording birth weight (Kumar and Walia 1986). These interventions that have proven effectiveness need to be identified and tested further with TBAs and included in TBA training programmes. This signifies the importance of TBAs having access to weighing instruments and knowledge about special care for babies of low birth weight. This section also highlights the importance of community awareness for the significance of weighing newborn babies immediately after birth and subsequently at specific intervals.

4.4.3. The Practice of Discarding Colostrum

Colostrum, the yellowish, sticky breast milk produced at the end of pregnancy, is rich in vitamins and antibodies and provides natural immunity to the infant, is recommended by WHO as the perfect food for the newborn, and feeding should be initiated within the first hour after birth (WHO 2003a). According to WHO, initiation of breastfeeding within the first hour of birth is a vital step towards reducing infant and under-five mortality. There are arguments that delay in initiation of breast feeding may lead to hypoglycaemia, hypothermia, and acidosis especially among low birth weight infants (Prasad and Costello 1995). However, there are counter-arguments that mention that although the practice of discarding colostrum raises alarm for development observers who are screening for 'harmful practices', it is not known if this practice actually causes harm (Pigg 1995, Reissland and Burghart 1988).

Breastfeeding in India is generally considered to be a positive experience from which mothers and babies gain both physically and emotionally (Smale 2003). However, research has identified that due to a lack of awareness and misconceptions in India, the mother's first milk, the colostrum, is discarded without it being administered to babies (Basu and Stephenson 2005, Dadhich 2004, Nagadeve 2002). According to NFHS data, only 16 percent mothers in India initiate breastfeeding within the desired one-hour after birth and only 37 percent do so by the end of the first day; as many as 63 percent of women do not feed the colostrum to their babies (IIPS 2000). Smaller studies throughout India have shown varying degrees of discarding colostrum. A study in urban areas of Chandigarh found that only 43/270 mothers (15.9%) discarded colostrum (Kumar et al.,

2006), another in urban and rural areas of Bihar, India shows that about one third mothers discarded the colostrum on the advice of their elders (Yadav and Singh 2004), and yet another in Patna (Bihar State of India) found that colostrum was discarded by 83 percent of mothers (Sharma and Kanani 2006). TBAs have therefore been trained to convey the knowledge about the significance of colostrum and exclusive breastfeeding to people. There have been no recent studies in India identifying the influence of TBA training on breastfeeding practices.

Breastfeeding is strongly influenced by cultural and religious factors and the family plays an important role in the decision making regarding when to initiate breastfeeding (Kumar et al., 2006, Laroia and Sharma 2006, Sharma and Kanani 2006). The colostrum is discarded because of the general understanding that it is “heavy, stale or unhealthy for the child” (Khan 2000, Sharma and Kanani 2006). As the colour of the initial breast milk is not pure white, it supports the perception that during the first 1-2 days after delivery, mother’s milk is impure and could harm the child (Sharma and Kanani 2006). The need to discard colostrum is a widespread belief in India and is followed even in formal health institutions, for example, studies in Maharashtra and Bihar States in India have found that deliveries in formal health institutions do not necessarily ensure early initiation of breastfeeding (Nagadeve 2002, Srivastava et al., 1994). Hence, the practice is not the fault of TBAs; it forms part of a more strongly and widely held belief system in India. Yet TBAs are held accountable by international health agencies for their ‘ignorance’. The next section discusses another criticism directed towards TBAs in relation to their inadequate knowledge to identify risk and make referrals during delivery.

4.5. RECOGNISING AND MANAGING MATERNAL COMPLICATIONS

According to recent estimates, the leading cause maternal death in India is postpartum haemorrhage (38%), followed by sepsis (11%), and abortion (8%) (SRS 2006b). Studies in India have revealed that the postpartum period is the riskiest period and maternal deaths occur mainly at home because of delay in recognising complications due to inadequate awareness and availability of transport, medical facilities or personnel (Maitra

2001, Murthy and Barua 2004). The delay in recognising complications due to inadequate awareness signifies the importance of making TBAs and women in general aware of the main signs of complications and the simple means of managing these.

Postpartum hemorrhage is the leading cause of maternal deaths in India, accounting for 38 percent of women who die in childbirth (SRS 2006b). Most of these women enter pregnancy usually in already anemic conditions (UNICEF 2004). Hemorrhage can happen when the placenta, a pouch the shape of a mushroom that holds the fetus, is detached from the uterus too early, or when parts of the placenta do not come off after the baby is delivered, or when the uterus ruptures (UNICEF 2004). Medical research instructs to pull very gently downward on the cord for 30 to 40 seconds with the strong uterine contraction to deliver the placenta (Lalonde et al., 2006, Pfitzer and Sanghvi 2004).

It is also now known that feeding the baby breast milk helps in the placenta delivery. This information can be helpful when passed on to TBAs and other people in the community assisting birthing women. TBAs have been criticised for pulling on the cord during the delivery of the placenta and causing hemorrhage in mothers. However, there are no studies recently showing any evidence of such practices existing in India. TBAs are instructed during training to refrain from forcefully pulling on the cord in order to deliver the placenta but there are no studies assessing the influence of this message passed through training on the practices of TBAs.

The importance of managing complications is in identifying risk and provision of effective emergency care and thereby preventing death. Thaddeus and Maine (1994) identified three delays that occur in complication management: 1) delay in recognising a complication and decision making to seek care; 2) delay in reaching the appropriate health centre; and 3) delay in the provision of care. TBAs are generally involved in the first two kinds of delays. The criticism is that TBAs are illiterate and therefore do not have skills or scientific knowledge to identify high risk women (Bulterys et al., 2002, GoI 2000a). UNICEF indicates that the majority of women who deliver babies at home are

attended by a family member or TBAs, who often lack the knowledge to detect danger signs or respond skillfully to complications with drugs (UNICEF 2004). The World Health Report 2005 states that TBAs delay and deliberately discourage women with complications from going to the hospital (WHO 2005). The third delay occurs when, after reaching a health facility, there is a lack of staff or equipment to attend to the emergency (UNICEF 2004).

There are no studies that examine the relationship between the delays caused by TBAs and deaths of mothers and babies. An evaluation study covering seven countries in Asia, Africa and Middle East found that the health centres visited had no assessment record of the condition of the patient upon arrival. Thus, it was not possible to conclude whether the trained TBAs had made a proper assessment of complications and timely referrals (UNFPA 1996). On the contrary, it is observed that in locations where referral is feasible, TBAs can potentially save lives through identifying risks and conducting required preventive measures even before arrival at the referral site (UNFPA 1996). TBAs are therefore taught in training programmes to recognise signs of complications among mothers and babies and make referrals (GoI 2000a). Recent studies have revealed that excessive post partum bleeding can be controlled with misoprostal medicine (Chandhiok et al., 2006, Carpenter 2001, Lalonde et al., 2006). Unlike oxytocin, misoprostol does not require refrigeration, costs as little as 14 cents a tablet and is easy to use for semi-skilled birth attendants. A recent study in rural India found that the administration of oral misoprostol to women resulted in significant decreases in the rate of acute postpartum haemorrhage and mean blood loss (Derman et al., 2006). The study therefore highlights the significance of such drugs that are low cost, can be easily administered, and have a positive safety profile, which makes them a good option in resource-poor settings (Derman et al., 2006).

There are criticisms that “even trained traditional birth attendants cannot, in most cases, save women’s lives effectively because they are unable to treat complications, and are often unable to refer” (Carlough and McCall 2005: 201). Several studies, however, demonstrate the capacity of TBAs to recognise complications and make referrals, putting the knowledge gained in training into their practice despite their lower literacy rate. A

recent study by the Department of Pediatrics, Institute of Medical Sciences in Varanasi, India, for example, on testing the reliability of information obtained by illiterate health workers (IHW) including TBAs on risk pregnancy, found that IHWs recorded the risk indicators with a fair degree of reliability and accuracy (Das et al., 2000). Another exploratory study in India found that TBAs were able to recognize the condition of birth asphyxia, an important cause of perinatal mortality, but mostly could not deal with it (Raina and Kumar 1989). Researchers suggest that this deficiency could be overcome if suitable training was provided to TBAs (Raina and Kumar 1989).

A programme evaluation study in South India noted that with training there was an improvement in risk identification; however TBAs tended to manage certain complications of retained placenta and prolonged labour by themselves (Lartson et al., 1987). The study emphasizes the need for supervisory back-up along with training (Lartson et al., 1987). Studies in other developing countries such as Honduras and Tanzania have also shown that knowledge about risk factors and signs of danger in pregnancy and childbirth increased with TBA training (Jahn et al., 2001, Rodgers et al., 2004). UNFPA (1996) in an impact assessment study covering seven countries notes that trained TBAs identify signs of risk and make referrals. Studies have also provided evidence that referral for immunization and complications have increased with training (Rodgers et al., 2004, Smith et al., 2002, UNFPA 2004). A study in Guatemala found that the TBA training programmes appear to have had a substantial impact on the frequency of referrals, with trained TBAs being much more likely to refer their patients than their untrained counterparts (Goldman and Gleib 2000). These studies demonstrate that TBAs not only have the capacity to absorb the knowledge imparted to them by training, despite their low levels of literacy, but also to apply acquired knowledge in their practices by increased referrals, demonstrating that they are potentially a vital human resource in communities accessing their services. The next section provides a summary of research findings of TBA training on their practices.

4.6. TRADITIONAL BIRTH ATTENDANTS: TRAINING OUTCOME

Since the 1990s the policy emphasis shifted to providing skilled birth attendants for all births. The basis of this shift was that the TBA training strategy has been a failure due to evidence that the maternal mortality rate (MMR) in developing countries had not reduced (WHO 2005). Researchers have observed that the use of maternal mortality as a primary indicator of TBA training effectiveness (Kruske and Barclay 2004, Walraven and Weeks 1999). Extending this debate further is the recent evidence in developing countries demonstrating that TBA training has been effective in decreasing maternal mortality. A cluster-randomized, controlled trial study in seven sub-districts (*talukas*) of rural Pakistan found that a reduction in MMR by training TBAs was achievable and effective (Jokhio et al., 2005). A literature review in Africa, Asia and Latin America of 15 maternal mortality interventions demonstrated a decline in maternal mortality ratios through training of midwives and TBAs (Ray and Salihu 2004). A study also showed reductions in neonatal mortality in rural India through a community based approach that included training of TBAs and local women to treat sick newborn infants at home (Bang et al., 2005). The intervention involved training of TBAs, health education and a new cadre of supervised village health workers (VHWs) who visited newborn infants at home, identified warning signs, and managed sepsis with antibiotics (Bang et al 2005). The study documented a 62 percent reduction in the neonatal mortality rate after 3 years of programme implementation (Bang et al 2005). The success of this programme was replicated in Makwanpur district, Nepal covering a population of 28,931 women (Manandhar et al 2004). This intervention too involved training of essential newborn care for all cadres of government health staff and for female community health volunteers (CHVs) and TBAs. Another community study in Nigeria demonstrated a reduction of maternal mortality rate (MMR) of 50 percent from 1983 to 1986 by training TBAs (Brennan 1988).

Several other studies have demonstrated positive outcomes in the practices of TBAs who have received training. Studies have shown that training TBAs has resulted in an increase

of referral for immunization (Rodgers et al., 2004, Smith et al., 2002, UNFPA 2004; 1996), referral for complications (Rodgers et al., 2004, Smith et al., 2002, UNFPA 2004), attendance rates of ante natal care (ANC) (Sibley et al., 2004), referral for family planning (UNFPA 1996), knowledge about risk factors and signs of danger in pregnancy and childbirth (Jahn et al., 2001, Rodgers et al., 2004), and has proven to be a protection against postpartum fever and retained placenta (Smith et al., 2002). A study in Guatemala has revealed that training resulted in positive change during the postpartum period, especially in cases of hemorrhage or infection (Bailey et al., 2002). Other studies have shown that practices of trained TBAs were better than untrained TBAs after training as they were more than twice as likely as untrained TBAs to perform a 'clean' delivery (Goodburn et al., 2002), more likely to wash their hands before touching the mother than untrained TBAs (PATH 2002), and more likely to practice clean delivery, advise mothers on basic pre-natal care, identify risk signs and make referrals (UNFPA 1996).

On the other hand, some studies have observed adverse impacts of the TBA training, for example, an increase in babies delivered in the supine position, increasing vaginal examination, and longer hours of labor (Goodburn et al., 2002, Jahn et al., 2001, Smith et al., 2002). Some other studies have shown that there is no impact of the training on the practices of trained TBAs as compared to the untrained in the manipulation of the baby during delivery, and active removal of the placenta (Goodburn et al., 2002), clean management of umbilical cord (Jahn et al., 2001), referrals (Smith et al., 2002) and symptoms of maternal infection (Goodburn et al., 2002). There are certain harmful TBA practices observed in studies that have changed to beneficial ones with training. On the other hand there are harmful practices introduced into the community with TBA training. Certain studies have shown no impacts of training of TBA practices. An appropriate understanding of useful and harmful practices in both biomedical knowledge frameworks and traditional ways of being is therefore important background information that trainers need to be made aware of before conducting a training programme in a local arena. Inclusion of known harmful biomedical practices such as the supine position can be unnecessarily introduced into local communities.

4.7. EMERGING RESEARCH ISSUES

From the broader literature review there are several criticisms raised about TBA practices, however a critical analysis of the studies suggests there is a lack of recent evidence in relation to many practices and the influence of training in developing countries, particularly India. As there are certain practices that are beneficial, such as the birthing position and community support traditionally adopted in India, research and implementation efforts need to investigate how these can be included in the formal health system so that it is more conducive for people who want to maintain beneficial local practices while they access these services. Equally, there are certain unhygienic and harmful practices that need to be addressed with appropriate TBA training programmes together with community awareness programmes. The context of the existing practices and the applicability of the new methods to be taught to TBAs need to be understood before conducting training programs. The objective that emerged from the literature on the TBA knowledge and practices was to assess whether biomedical practices conveyed during the training programme are adopted by trained TBAs in the local community. The questions that arose from the second objective of this study and which were examined in the field were:

- What is the birthing position adopted in home births?
- Are TBAs applying basic hygienic methods while conducting delivery?
- Are TBAs making use of safe practices in caring for new born babies?
- What are the practices adopted in managing maternal complications?

4.8. CONCLUSION

In India women prefer to birth at home with community support and to deliver in comfortable upright positions. Materials known within biomedical knowledge frameworks to cause neonatal tetanus continue to be used to apply to and cut the cord and the few studies on materials used to apply on cord and infant health show that application of oil increases infection risk among infants. Yet materials and unguents are used within local belief systems where they are considered to be beneficial and where beliefs in their

efficacy may have a strong spiritual component. Certain traditional practices such as bathing babies immediately after birth, not weighing babies after birth, and not feeding with colostrum are adopted in home births as well as health institutions in India. Similarly home births assisted by TBAs or medically trained assistants such as ANMs adopt these traditional practices. There is therefore a thin precarious balance between the biomedical and traditional knowledge. The literature therefore highlights the importance of community involvement in adopting beneficial practices. Research findings also show that the use of the delivery kit reduces infection risks among mothers. TBAs, however, are not the only source of infection caused among mothers and babies. Unhygienic practices and potentially detrimental beliefs within the community as whole need to be addressed along with the TBA training programme, signifying the importance of community based programs along with appropriate TBA training to improve maternal and child health outcomes.

With suitable training and supervision certain dangers during delivery can be minimised and the TBAs' potential can be drawn on to improve the health outcomes of mothers and babies. There are research interventions that have effectively implemented simple methods of identifying hypothermia and recording birth weight that can be used by TBAs. More research is needed on these interventions and the research should frame and where relevant be included in TBA training programmes. Maternal complications require immediate recognition and action to be taken. There is research evidence that TBAs can recognise risks and studies have shown an increase in referrals with training. This chapter has highlighted the importance of TBA training to improve maternal and infant health, the need for evaluations of training on TBA practices, but also the need to recognise TBAs' skills, knowledge and practices as they are enacted within local communities and to work with their knowledge where possible. The next chapter provides a theoretical basis for understanding the different kinds of processes involved in the making and acquisition of biomedical and traditional knowledge. The chapter also provides an understanding of Jordan's concept of 'authoritative knowledge' to assess the extent to which there is a synthesis of biomedical and traditional knowledge in TBA training programme planning and implementation.

CHAPTER 5
THE THEORETICAL FRAMEWORK:
CONTESTING KNOWLEDGE AND EXPANDING FRAMEWORKS OF
AUTHORITATIVE KNOWLEDGE

Introduction

There are two fundamental approaches of knowledge influencing the health sector in the developing world: ‘explicit knowledge’, which is largely used in the biomedical approach, and is based on technological and research evidence; and ‘tacit knowledge’ which is largely used in the traditional approach and is based on cultural processes. This chapter provides a theoretical basis for understanding the two kinds of knowledge and the processes involved in the making and acquisition of traditional and biomedical knowledge. Feminist, anthropological, and midwifery theorists contend that when two knowledge paradigms exist, western biomedical knowledge tends to dominate and claim authority over local ways of knowing. The chapter explores the contestation between the traditional and biomedical approaches and the problems of dichotomizing any one kind of knowledge and examines the need for a synthesis of tacit and explicit approaches. In this thesis, I draw on Jordan’s concept of authoritative knowledge to assess the extent to which there is a synthesis of biomedical and traditional knowledge in TBA training programme planning and implementation.

The following section provides a brief introduction to the concept of knowledge and its role in public health research. The second section describes the explicit and tacit knowledge. The third section understands the distinct ways of learning process involved in acquiring tacit and explicit knowledge. The fourth section examines the contest between the biomedical and traditional approaches and how the former type of knowledge has come to dominate over the latter. The fifth section discusses the intermixing of traditional and biomedical knowledge in childbirth practices at the local level. The chapter concludes by identifying issues emerging from this discussion that are explored in this study.

5.1. DEFINITION OF KNOWLEDGE

The concept of 'knowledge' in public health has received great attention in recent literature. Landry et al (2006:598) state that "knowledge is an intangible resource that takes multivariate forms". Though there is no consensus about the concept, researchers from diverse disciplines of anthropology, sociology, public health, midwifery and business management conceptualise knowledge largely by its characteristics. Blumentritt and Johnston (1999) explain that 'core knowledge' of a person or organisation consists of 'common knowledge', 'social knowledge' and 'embodied knowledge'. The widely used categorisation of knowledge is into 'explicit' and 'tacit' knowledge according to its documentation attributes and its holders (ASTHO 2005, Landry et al., 2006, Wyatt 2001). Knowledge, and the information management of knowledge, can be valuable tools for public health professionals as they rely on these to identify causal and determining health factors and suggest policies to address health problems (ASTHO 2005). This requires expertise and skills to transform data into information and finally into knowledge in order to identify appropriate implementation programmes.

5.2. TYPES OF KNOWLEDGE

Knowledge is generally divided into two types: explicit (written, spoken, electronic) and tacit (held by individuals, insight) (ASTHO 2005, Landry et al., 2006, Wyatt 2001). Explicit knowledge is knowledge that is available in a written form such as research materials, books, journal articles, guidelines and electronic records (Landry et al., 2006), whereas tacit knowledge is knowledge that may or may not be available in a written form but exists among individuals, communities or organisations. Tacit knowledge includes personal skills and its process involves face-to face contact or apprenticeship (Wyatt 2001). Table 5.1 presents the characteristics of explicit and tacit knowledge.

Table 5.1. Fundamental characteristics of Tacit and Explicit Knowledge

Tacit Knowledge Approach	Explicit Knowledge Approach
Knowledge is personal/embodied in nature.	Knowledge can be articulated and codified.
Exists in the form of intuitions, stories and hands-on experience among individuals, communities and organizations.	Available in a written form such as research materials, books, journal articles, guidelines and electronic records.
Knowledge must be transferred by people through face to face contact or apprenticeship.	Knowledge can be disseminated in a written format using various information technologies.
Largely adopted in the traditional approaches.	Largely adopted in biomedical approaches.

Adapted from Sanchez (2005).

Explicit knowledge is skills acquired through didactic learning and comprises scientific information that can be made available in data form and be codified, interpreted, analysed and used as knowledge in public health programmes (Larsen and Wactlar 2003). On the other hand, tacit knowledge is information that individuals, communities and organisations gather through apprenticeship, observation and imitation and transform it into knowledge based on their local contexts and beliefs (Jordan 1989). The biomedical approach largely utilises explicit knowledge to understand health problems and policy making. The traditional approach on the other hand is largely based on tacit knowledge adopted by individuals and organizations. ‘Knowledge’ therefore extends beyond data and information. Knowledge sharing is a social process that may lead to the emergence of communities with similar practices (Blumentritt and Johnston 1999). However, as knowledge is defined as a process, it is difficult to measure, value and assess its cost-effectiveness in public health programmes and implementation (Landry et al., 2006).

Pan and Scarbrough (1999) explain the distinction between transmission of tacit and explicit knowledge as:

"Explicit (knowledge) is systematic and easily communicated in the form of hard data or codified procedures. It can be articulated in formal language including grammatical statements. This kind of knowledge can thus be transmitted across individuals formally and easily. Tacit knowledge is not available as a text and may conveniently be regarded as residing in the heads of those working in a particular organisational context. It involves intangible factors embedded in personal beliefs, experiences, and values." (Pan and Scarbrough, 1999: 362)

Tacit knowledge has been largely referred to by researchers as personal skills of public health professionals, biomedical personnel and the research community (James and Lucardie 2003). In the context of this thesis traditional knowledge of birthing largely exist in the form of tacit knowledge among individuals, mothers, TBAs, community health workers, communities and organisations. In contrast, 'biomedical knowledge' of appropriate birthing practices exists in the form of articulate explicit knowledge among researchers and policy makers functioning in the disciplines of public health, biomedicine, midwifery and social sciences.

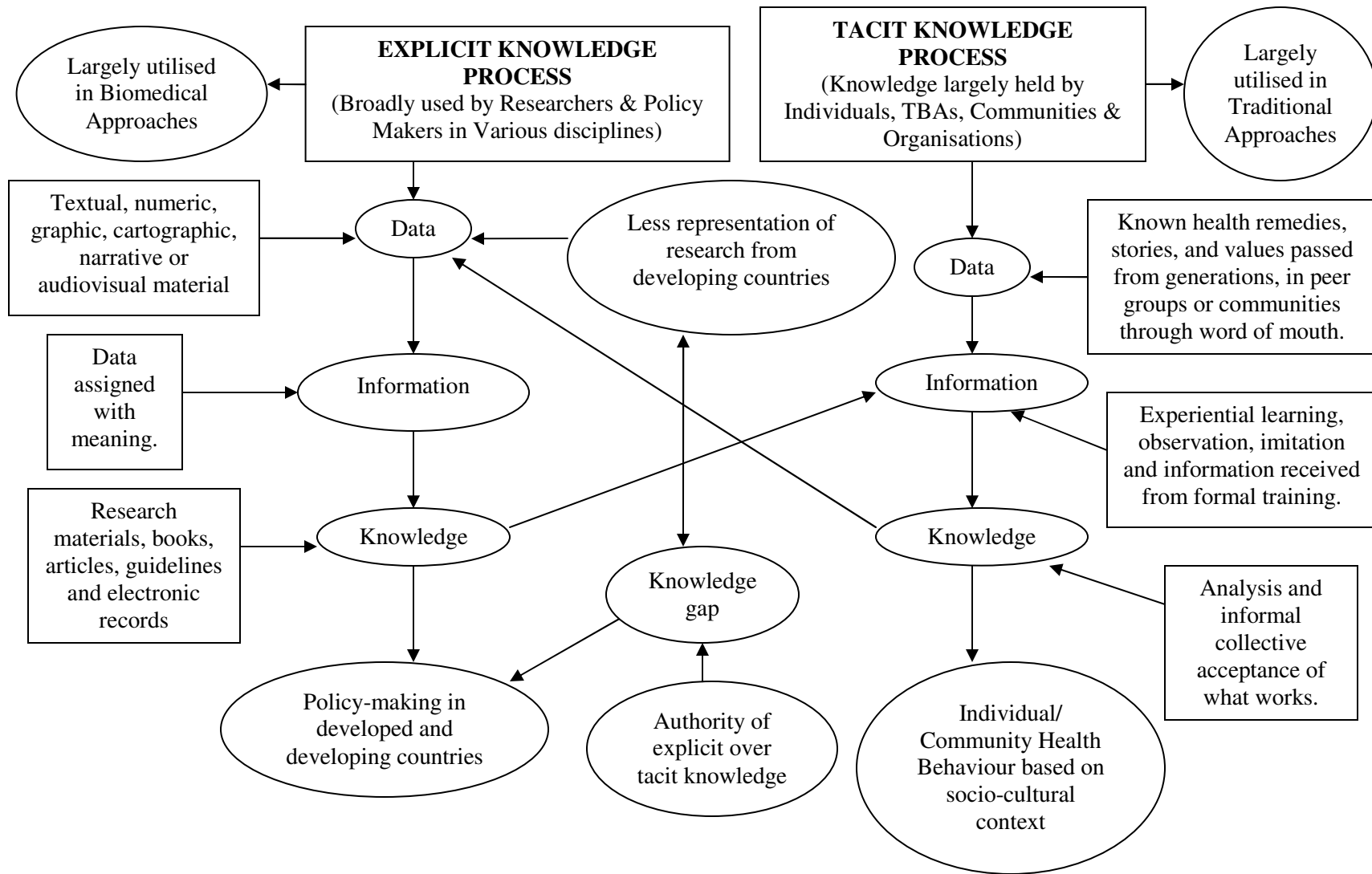
However there is an intermixing of tacit and explicit knowledge in the traditional and biomedical approaches. Researchers may hold tacit knowledge within their own disciplines and, visa versa, there may be some explicit knowledge existing among the individuals and communities adopting the traditional approach. The next section discusses the process used in transforming explicit and tacit information to knowledge.

5.3. KNOWLEDGE PROCESSES

This section explains the methods and processes used in translating information to knowledge in the biomedical approach as compared to the traditional. There are three main stages described by several theorists in relation to the knowledge process; the first stage is data acquisition, the second is organising the data into information, and the third stage is information transformed to knowledge (Lee and Yang 2000: 783; see also ASTHO 2005, Landry et al., 2006). Figure 5.1 for a diagrammatic representation of these processes and their interrelationships.

Public health researchers define ‘data’ as unprocessed raw facts, concepts, or instructions that can be communicated, interpreted, or processed by humans or electronic means (ASTHO 2005). According to this definition, ‘data’ can be available in the form of textual, numeric, graphic, cartographic, narrative, or audiovisual material. Public health professionals define ‘information’ as data assigned with meaning. According to this process, information is created when data are given value by categorising, filtering, or indexing. This information becomes knowledge when critical thinking, evaluation, structure or organization is applied to support decisions or understand concepts. The definition of ‘knowledge’ therefore is sometimes interchanged with that of ‘information’ (Pablos-Mendez et al., 2005). It has been noted that while ‘information’ is factual, ‘knowledge’ is processed information (Blumentritt and Johnson 1999, Landry et al., 2006, Marshall 1997). Landry et al (2006) describe the explicit transformation of data to knowledge in three sections. The first includes the collection and storage of discreet facts about reality; the second involves the processing and organization of the data to create information; and the third is the interpretation of the information to derive knowledge based action.

Figure 5.1. Theoretical Framework: Knowledge Processes and Inter-linkages



However, the transformation of tacit or traditional knowledge includes apprenticeship, embodied knowledge, narration of stories and invisible learning from teachers as they perform their work. Jordan (1989) describes the process of recruitment of TBAs and the process of knowledge based on her research in Yucatan. She explains the day to day process of learning midwifery skills from childhood within their homes by quietly listening to stories of difficult births, by running errands, and helping with their mothers or grandmothers with getting supplies and assisting births. She explains the natural process in which young girls accompany TBAs and are eventually involved in assisting births based on each girl's capacity. This form of learning is described as a way of participation in the social world through everyday mundane activities (Gherardi and Nicolini, 2002, Lave and Wenger 1991). The skill of bodily performance and embodied narration is explained by Jordan (1989) as involving "the ability to do rather than the ability to talk about something". The tacit process of teaching involves more touching, feeling and knowledge truly transferred from hand to hand. Jordan (1989) explains this kind of teaching effectively through her practical attempts to learn from and with TBAs.

Jordan's explanation shows that the ways of learning and processing knowledge within the traditional and biomedical systems vary from each other. However, there is a lack of appreciation between the traditional and biomedical means of learning (Jordan 1989). Jordan (1989) observes that the didactic or biomedical means of learning is taken for granted as the given and most efficient way of teaching and learning; a contestation that is discussed in the next section following the diagram.

5.4. THE CONTEST (COMPETITION) BETWEEN BIOMEDICAL AND TRADITIONAL KNOWLEDGE

The contest between the biomedical and traditional knowledge is evident in the differences in the approach and practices adopted and the tendency to dichotomise the respective approaches. Remarkable advances in modern medicine have proven to save lives, but the perils of over-medicalisation are not unknown (Smith 2004). Similarly,

there are benefits and disadvantages with traditional ways of birthing. Although traditional childbirth is based on a natural and holistic approach, its disadvantages are in certain practices that can be potentially harmful and lead to ineffective healing patterns. Both traditional and biomedical models of birthing have advantages and disadvantages and thus a balanced approach is required to bring about the best in the use of both approaches. The tendency to dichotomise biomedical and traditional approaches prevents appropriate policy implementations and creates a knowledge gap between the developed and developing countries. This section presents the positive and negative features of biomedical and traditional approach to birthing.

5.4.1. Features of a Traditional Approach

The main benefits of a traditional approach to childbirth are the natural and holistic approach and community support provided to women in home births. A traditional approach to birth “is based on the belief that a natural approach to childbirth and the power of faith are integral to health and well being” (Smith 2004: 73). Holistic, as a health term, refers to health care that is not confined to care for a particular pathology, but aimed at treating health problems that interprets and considers the patient’s problems in its cultural context (Singleton 1994 cited in WHO 2005; see also Elder 2004). The other advantage in a traditional approach is the use of the effective upright birthing position. Studies have shown that adopting an upright birth position can result in positive outcomes for both mothers and babies and overall satisfaction among women (Bhardwaj et al 1995, Mathews et al., 2005). Positive outcomes have also been observed among home based deliveries for low risk women⁸ birthing within their comfort zone (Armstrong and Feldman 1990, Kamal 1998, Odent 1984, 2004, Smith 2002).

However, there are some drawbacks about a traditional approach to childbirth. Researchers have criticised the unhygienic and harmful practices adopted by TBAs and other persons assisting home deliveries, which can cause maternal and infant health

⁸ High-risk cases, include women with high blood pressure, severe medical problems, small bodied women who seemed to be carrying big babies, twins, babies in odd position and mothers having their tenth (or more) child (Armstrong and Feldman, 1990).

problems (GoI 2000a, Jacobson 1991, OHCHR 2006, Paul and Rumsey 2002, Reedzu 2005, World Bank 1996). The criticisms are use of unclean hands during delivery, cutting of the cord with crude local items, and forcibly pulling on the umbilical cord to remove placenta and unclean surroundings. Nonetheless, these practices can be addressed with pragmatic training and creating awareness among TBAs through training.

5.4.2. Features of the Biomedical Approach

The primary strength of medical interventions is the provision of emergency obstetric care (EmOC) during delivery. Basic EmOC includes antibiotics, anticonvulsants, skill for manual removal of placenta and assisted vaginal delivery. Comprehensive EmOC functions require an operation theatre for caesarean section and blood transfusion (UNFPA 2003). Biomedical developments have several positive features such as the use of penicillin, blood transfusion, and improved obstetric care in general (Bannerman et al, 1983, Loundon 1992,).

Some of the negative signs of over-medicalisation include an increasing rate of caesarean sections in some countries compared to WHO's recommended rate, and an increase in maternal mortality in the USA where deliveries are highly doctor-centred thus causing increase in maternal mortality (Green 1996, McCarthy 1996, Berg et al, 1996, Chang et al, 2003) and over use of inducement drugs like oxytocin in institutional births even in normal deliveries (Sharan et al., 2005). Davis Floyd (2001b) describes the technocratic model within the biomedical system as mechanising the human body as an object of medical treatment. She observes that this mechanization is a mode of physical alienation that is taught to physicians in medical schools to protect themselves from becoming emotionally involved with patients.

The drawback of modern research and policy-making can also be seen in its lack of understanding and presumptions based on research in developed countries, which are socially, culturally, economically and politically different from the countries that are grouped together as the 'developing world'. Criticisms of the western biomedical

approach have been directed at policy interventions that worked in the context of developed countries but that are implemented in developing countries without adequate evidence and prior needs assessment, and policy makers seeking a single vital intervention to reduce maternal mortality rate and the ills of over-medicalisation.

Research in medicine and other disciplines continues to be conducted to investigate the causes of maternal deaths in developing countries and appropriate interventions to prevent these causes (AbouZahr 1998b, Costello 2006, Freedman et al, 2005, Khan et al, 2006, WHO 2002). Since the early 1990s, international development agencies such as the World Bank, WHO and Safe Motherhood have been promoting investment in health as a productive investment in human capital. The Safe Motherhood Initiative has implemented a variety of programs in an attempt to reduce maternal mortality worldwide. These include a range of interventions such as antenatal care, training of TBAs, provision of micronutrients, improving girl's education to prevent maternal deaths, and empowerment of women. Nonetheless, despite all these efforts, maternal mortality ratios have not declined in many developing countries (AbouZahr 1998a).

Mendez et al (2005) observe that morbidity and mortality among mothers and children in developing countries occurs despite available cost effective interventions partly because a gap exists between knowledge (what is known) and its application in policy and practice. Harris and Tanner (2000) note that global health programmes rely on biomedical scientists and public health workers to solve health problems, whereas investigators in developing countries face several obstacles such as scientific isolation, insufficient technical training and research tools, a lack of up-to-date scientific information, and limited financial, material, and human resources. Pablos-Mendez et al (2005), stress the need for more research in developing countries to strengthen health systems.

AbouZahr (1998a) observes that interventions that seemed to be effective in developed countries were applied in developing countries without systematic evaluation of their effectiveness. An evaluation of TBA training based on a sample of UNFPA supported projects in seven countries, i.e. Bolivia, Ghana, Iran, Malawi, Nepal, Syria and Uganda,

found that the TBA training was out of context (UNFPA 2003). The evaluation noted that most TBA programmes did not undertake any needs assessment to derive an information base for developing an appropriate curriculum for TBAs (UNFPA 1996). Instead, curriculum was developed on the basis of what the programme managers thought TBAs should know. Kruske and Barclay, after reviewing more than 200 documents on TBA training, concluded that the training courses were in most cases simplified versions of the 'professional midwives' training or direct translation of WHO guidelines, ignoring its local appropriateness (Kruske and Barclay 2004).

Indeed, Pablos-Mendez observes that developing countries are under-represented in research, which "contributes to the mismatch between best evidence and what is relevant, applicable feasible and affordable in such countries" (Pablos-Mendez, 2005; 723). Inspired by the success of the control of diarrhoea disease, the safe motherhood programme sought a single vital intervention to solve the problem of maternal mortality. These interventions in the past included antenatal care and TBA training, and now it also includes the provision of skilled attendants for all deliveries. In the 1970s, tens of thousands of TBAs were trained in Asia, Africa and Latin America, but without any understanding of the diversity among local cultural contexts. After twenty years of training TBAs in the developing countries, the Safe Motherhood programme has concluded that the training is ineffective without a functioning referral system and backup from professionals, but in so doing it has effectively diminished if not made invisible the work of women with traditional knowledge. The result is that TBAs are now trained mainly to guide women through the formal health sector when necessary rather than acting to enhance their skills and to build their capacities within their local communities.

Belizan et al (1998) comment that developing countries should avoid the influence of the developed countries as research conducted in these countries is mainly based on the needs of their populations and that such policies will only be appropriate for the smaller more advantaged populations. They argue that research and policy in developing countries should look for innovative solutions that are more contextual and more likely

to, at least partially, alleviate the poor outcomes of health care provision for deprived populations in developing countries. Jordon (1990) questions whether the developing countries should follow the pattern of western countries where normal childbirth is absorbed into the medical domains. Jordon (1990) further argues that planners in developing countries could develop alternatives wherein traditional ways of caring could provide the basis for safer, more humane, less hierarchical, and more participatory primary health care.

As discussed earlier, both biomedical and traditional models have positive features to offer birthing mothers and babies. However, advocates of the biomedical modern system argue that medical intervention is a sign of progress (FCI 1998; 2002, UNFPA 1996, WHO 1998) and researchers working on traditional approaches tend to romanticise them as flawless (Guha 2005). Proponents of the biomedical system claim that a hospital is the safest place for birthing and institutionalization of childbirth is the key to reducing maternal mortality (UNFPA 2003). The tendency to dichotomise birthing and mothering as 'traditional' versus 'biomedical' has led to several criticisms of both kinds of approaches (Davis-Floyd et al., 2001, Lukere and Margaret 2002) and prevents the implementation of satisfactory solutions for the key problems of childbirth management (Steinberg 1996). However, the danger lies in the pervasive nature of the biomedical system which is leading to a slow decline of some of the beneficial traditional birthing approaches in developing countries (Smith 2004). The dominance of the biomedical framework of health knowledge in public health programme planning is discussed in the next section.

5.5. AUTHORITATIVE KNOWLEDGE: THE DOMINATION OF BIOMEDICAL FRAMEWORKS TO KNOWLEDGE IN PUBLIC HEALTH PROGRAMMES

The problem arising from the conflict between traditional and biomedical knowledge is the claim to and unquestioned authority of the biomedical framework of health knowledge and, as a consequence, devaluation of the existing traditional ways of managing childbirth (Jordan 1990). Advocates of the biomedical approach regard

traditional practices as harmful, based on ignorance and superstition, and dismiss the importance of cultural values such as privacy or the gender of the service provider (Kruske and Barclay 2004).

Jordan (1993) uses the term ‘authoritative knowledge’ in her book *Birth in Four Cultures*, to emphasize her point that knowledge is fluid, and the holders of authoritative knowledge maintain their dominance to convince others of the correctness of their knowledge as opposed to other forms of knowledge. Jordan (1993) states that authoritative knowledge is the result of one kind of knowledge gaining ascendancy and legitimacy over another, and consequently other kinds of knowledge are devalued or dismissed. Jordan (1992; 1993; 1978) defines authoritative knowledge as one that motivates decision and action. Davis-Floyd explains the reason for the superiority of one kind of knowledge approach over the other and says:

“For any particular domain several knowledge systems exist, some of which, by consensus, come to carry more weight than others, either because they explain the state of the world better for the purposes at hand (efficacy) or because they are associated with a stronger power base (structural superiority), and usually both”

(Davis-Floyd & Sargent 1996: 111).

Other researchers have used Jordan’s concept of authoritative knowledge to provide insights into the process of medicalisation of childbirth and the strengthening of biomedical dominance (Browner and Press 1996, Davis Floyd and Sargent 1996). Kildea (2006) uses the same concept to argue that the authoritative knowledge driving the provision of birthing services in Australia needs to be contested, and should incorporate Indigenous knowledge around birthing. The concept of authoritative knowledge has been further developed by Davis-Floyd (1997) who devised an analytical framework to describe the different motivations that guide decisions associated with birth. Davis-Floyd states that the consequence of legitimating one kind of knowing as authoritative is the devaluation of other kinds of knowing; a process in which alternative knowledge systems

then tend to be seen as backward, ignorant, and naive, and their practitioners sometimes as troublemakers. The constitution of authoritative knowledge is an ongoing social process that both builds and reflects dominance in such a way that all participants come to see the current social order as a natural order (Lave and Wenger 1991; Wenger 1990).

Based on her fieldwork on TBAs in Yucatan, Jordan (1993) describes the various attempts by governments and international aid agencies to 'upgrade' TBAs in their attempt to address the high infant and maternal mortality rates attributed to the practices of the TBAs. She relates the Western obstetrics' disregard for the local or traditional knowledge as one reason for the lack of success of TBA training. She notes that the TBA training programme utilise the western model of didactic training whereas TBAs use their experiential learning to understand the process of birth. She suggests that meaningful learning can only take place if there is mutual accommodation of knowledge with a two-way teaching and learning approach that makes use of local knowledge, equipment and expertise, instead of a complete replacement or an imposition from outside. Similarly Wall (2006), researching on ecological implementation programmes, suggests that the introduction of 'external technologies' must be a two-way process and should take into account the local knowledge of the community.

Jordan (1990) discusses the problems of the social distribution of knowledge and authority in policy implementation. The conflict between the traditional and biomedical ways of functioning leads to resistance to western style of health care. Studies have found that women in developing countries generally give birth in the comfort zone of their home assisted by family friends and TBAs and go to hospitals only when faced with emergency situations (Kausar et al., 1999, Mathews et al, 2001). The western style of care includes certain practices that cause discomfort among birthing mothers such as supine birthing position, male attendants, routine episiotomies, and lack of privacy (Arube-Wani 2006, Bajpai 1996a, Mathews et al., 2005). In India, the government system of health care through programmes aim at coercing women to leave the home and all that is traditional to give birth in health institutions (GoI 2000a). Smith (2006) observes that such an approach will produce the degradation of social respect for TBAs and their ways

of caring for birthing mothers. The ideology that biomedicine brings about progress however seems to be a desirable option in countries with substandard maternal health indicators and to a large extent is also shared by people in developing countries.

Davis-Floyd (2001) and other writers have observed that male physicians either replaced or overthrew midwives in the modernist medical hierarchy, leaving them with relatively little autonomy. Concerns also have been raised about the devaluation of midwives' knowledge, which is not restricted only to western professionals, but spreads to professionals within the non-western world working within the western biomedical framework who also are shown to have similar attitudes towards traditional practitioners (Kruske and Barclay 2004). Further, the opposition and attitudes of biomedical staff such as doctors, nurses and midwives have been a barrier to the effective implementation of a TBA training and referral network (Asghar Rana 1999, Berer 2003, Kruske and Barclay 2004). Similar concerns have been raised by those arguing that traditional knowledge has been devalued in TBA training programmes (Guha 2005, Pigg 1973). Pigg (1973) has raised concern regarding TBA training about aims to spread biomedical health knowledge in places where other idioms of care and healing exist and has questioned how Indigenous practices are to be respected when the international development establishment's explicit goal is to alter them (Pigg 1973).

Feminist writers have argued that medicalisation of pregnancy and childbirth by men is rooted in a patriarchal model and reflects women's social position (Campbell and Porter 1997, Cahill 2001). Indeed, Jordan (1990) argues that the domain of pregnancy and birth, previously occupied by women, are now occupied largely by a male-identified top-down power structure. Davis-Floyd (2001) observes that the technocratic, humanistic and holistic are the three paradigms of health care that influence contemporary childbirth and argues that a combination of these three paradigms is required for effective childbirth management. Carvalho et al. (1998) suggest that TBAs can contribute to the movement toward a more woman-centered birth via a concept of birthing based on a profound respect for women's dignity and freedom, as the conductor of their own birth process, allowing her to choose where, how and with whom to give birth. The human and material

environment of birth influences its outcome, and can contribute to a healthy birth, without violence, simultaneously preventing maternal and neonatal mortality and morbidity (Carvalho et al., 1998, Page 2001). However, at the local level, the boundary between the traditional and biomedical approach is not well defined. A precarious balance is being kept between the biomedical and traditional paradigms of care in which it can be noted that health centres often use traditional methods and home births often use modern biomedical practices. The next section discusses the intermixing between the two approaches and shows that knowledge is constantly changing.

5.6. THE INTERMIXING OF TRADITIONAL AND BIOMEDICAL KNOWLEDGE AT THE LOCAL LEVEL

Fox and Worts (1999) reconcile between the critiques of biomedical and the traditional approach to childbirth by considering the social context in which women give birth. They argue that the social context and circumstances that women give birth influences how women approach and experience childbirth. They explain that:

“The material and social conditions in which women live influence the impact of motherhood in their lives; these circumstances shaping women's lives also affect how women approach and experience childbirth” (Fox and Worts 1999; 328).

In India, traditional practices and culture are interwoven in the community and there are evidences of traditional approaches being practiced in medical health institutions. Knowledge is a process and it is constantly changing within and between different approaches. In many situations, people operating within different kinds of knowledge move between them for particular purposes. Sometimes the people adopting the two kinds of approach contest each other for recognition or status. Although institutional births largely adopt biomedical practices, some of the traditional practices are also adopted in health institutions. Studies have shown that in home births in India, traditional

practices are mainly practiced not only by TBAs, but also by Auxiliary Nurse Midwife (ANMs)⁹ who are medically trained midwives (Mathews et al 2005). The study also shows similarities in the practices of ANMs and TBAs in that both rarely used sterile cord care kits. Furthermore, a study in tribal Andhra Pradesh recommended an urgent need to reinforce the training of TBAs to improve their ability to perform safe deliveries based on the finding that TBAs and ANMs were both lagging behind in the correct knowledge and safe practices required in conducting deliveries (Syamala 2004). This shows that childbirth within the community environment is likely to be influenced by traditional practices and is adopted not only by TBAs but also by skilled birth attendants. One study observed that TBAs tended to slide back into old ways without supervision (USAID 2002).

On the other hand, some traditions have been altered due to the influence of knowledge of modern practices. TBAs have been constantly changing their practices over a period of time depending on information they gather from the formal health care systems and due to changes in the society. There is evidence that the traditional upright birthing position encouraged by TBAs is gradually changing with more and more TBAs delivering babies in the supine position. Other detrimental practices introduced with TBA training include an increase in vaginal examinations and longer hours of labor (Goodburn et al., 2000, Jahn et al., 2000, Smith et al., 2000). With training, TBAs are expected to provide several other services that may not have been provided traditionally including advice referral, resuscitation, weighing babies, advice on family planning, HIV/AIDS, tetanus toxoid injections, iron and folic tablets and diarrhoea management (Bang et al., 2005, Daga et al., 1996). The additional tasks have changed the TBAs' role from its traditional one to that of a multi-purpose community health worker (UNFPA 1996). However, due to inadequate research evidence about the role of TBAs before their training commenced, the extent of the role change due to training is not known. The study conducted as part of this thesis attempts to understand the intermixing of the two kinds of knowledge that is

⁹ Auxiliary Nurse-Midwife - ANMs are auxiliary workers employed by the District administration to occupy the lowest rung of the public health bureaucracy. They are generally posted at the PHSC. The basic qualification required of an ANM is to have passed grade 10. They receive 18 months training from Government training centers. As ANMs are only paraprofessionals by training they do not enjoy the same status as fully trained nurses.

reflected in the practices adopted by TBAs and birthing mothers in India. The research aims to identify the basic characteristics of TBAs, their motivation, recruitment and acceptance in the community and to examine whether the biomedical practices conveyed during the TBA training programme are adopted by TBAs in the local community.

5.7. CONCLUSION

In this chapter I have described the different kinds of processes involved in the making and acquisition of knowledge from both a biomedical and a traditional perspective. The manifest difference in the processes results in a lack of mutual appreciation between the various groups adopting these two perspectives. The dominance and authority of the biomedical perspective in programme planning in developing countries is evident in the lack of context in the TBA training programmes. I draw on Jordan's concept of authoritative knowledge to assess the extent to which there is a synthesis of biomedical and traditional knowledge in TBA training programme planning and implementation. I also assess whether the dissemination of the benefits of biomedical frameworks of health knowledge into the birthing practices of local TBAs has been successful; and also examine whether the knowledge garnered by TBAs through their lived experience can be acknowledged and, where possible, integrated into training programmes that are conceptualized for TBAs by international agencies.

The next chapter critically reviews a particular TBA training programme conducted in a primary health centre in India in relation to the international guidelines laid down by WHO and the national guidelines published by the government of India, which is distributed to local NGOs for conducting TBA training in villages. It reveals the extent to which the biomedical information and knowledge of managing maternal and infant health problems is manifest in the content of a local level training programme conducted in rural India.

CHAPTER 6
A CRITICAL REVIEW OF A TRADITIONAL BIRTH ATTENDANTS
TRAINING PROGRAMME IN INDIA

Introduction

TBAs provide maternal and infant care for birthing mothers, infants, and the families they assist during delivery; and they provide important ongoing community care and continue some health-benefiting practices such as the upright birthing position during delivery. However, there are other practices adopted by TBAs such as mismanagement of excessive post partum bleeding and engaging in unhygienic practices during delivery that can cause health problems to mothers and babies (Guha 2005; 1998, OHCHR 2006, WHO 1999). The significance of adequate and ongoing training for TBAs in improving the latter practices therefore cannot be ignored from a public health perspective. The influence of training on TBA practices shouldn't be examined in isolation from the design and content of the training programme. Researchers have noted that presently there is inadequate reporting of the design and content quality used in TBA training programmes (Sibley et al., 2004, UNFPA 2004). One of the aims of this thesis is to assess whether biomedical practices conveyed during the training programme are adopted by trained TBAs in the local community.

In this chapter the design and content of a local training programme in India is critically reviewed in the context of; providing appropriate training and supervision by integrating traditional and biomedical practices, involving the community in programme planning processes, and providing adequate ongoing support to TBAs. While chapter 3 reviewed the international guidelines of the TBA training programme, this chapter critically reviews the implementation of a local training programme conducted in India with reference to the national (Government of India) and the international (World Health Organisation) guidelines.

The chapter reveals the extent to which the community has been involved and consulted at the programme planning stage and whether there is evidence of mutual respect between the biomedical frameworks of knowledge and the local, traditional ways of functioning. The WHO guidelines on TBA training emphasises a need to enhance the links between modern health care services and local communities (also refer Chapter 3). The guidelines therefore aim to involve the community in making choices and implementing programmes to improve maternal and child health. Further, the guideline also asserts that the local community should select and recommend TBAs for training as they are in a better position to so do. This chapter reveals the extent to which this guideline is followed at the national and local level.

The implementation of the Government of India (GoI) TBA training program is mainly undertaken through NGOs. In this case, the training was conducted on behalf of the GoI by Pravara Medical Trust (PMT). PMT conducted the training in collaboration with a smaller NGO, namely, the Community Rural Health Project (CRHP). The latest training was conducted in Ahmednagar district in the year 2002 jointly by PMT and CRHP, however most of the implementation work was assigned to CRHP. PMT is a medical institute and most of the resource persons and organisers involved in providing training to TBAs were from a medical or health background such as medical officers¹⁰ (MO), pediatricians, gynecologists and trained midwives (Appendix 4).

The documented evidence reviewed in this chapter includes the Reproductive and Child Health (RCH¹¹) programme published by the GoI, the GoI rationale for TBA training programme, the local training manual distributed to TBAs (Appendix 3), the final training programme report submitted by PMT, and other training materials provided by the local NGO. The chapter is divided into two sections: the first section discusses the

¹⁰ Medical Officers in India are formal health care personnel appointed at the Primary Health Centre.

¹¹ Reproductive and Child Health (RCH) programme: In order to effectively improve the health status of women and children and fulfill the unmet need for Family Welfare services in the country, especially the poor and under served by reducing infant child and maternal mortality and morbidity, the government of India during 1997-98 launched the RCH programme by integrating the Child Survival and Safe Motherhood (CSSM) Programme with other reproductive and child health (RCH) services (GoI 2000a).

design of the TBA training programme and the second reviews the content covered in this programme.

6.1. TRAINING DESIGN

The training design aspects examined in this section include the rationale and objectives, baseline study, selection criteria, evaluation, supervision, remuneration and the expectations of the formal health care system from TBAs. The significance of each of these aspects in enhancing the applicability of a training programme was discussed in Chapter 3.

6.1.1. Rationale and Objectives of the TBA training program

The RCH document published by the GoI in 2002 describes India as being in a transitional phase from home-based deliveries to institutional deliveries, and from unskilled birth attendants to skilled birth attendants. The RCH document states that unsafe deliveries conducted at home by relatives and TBAs are an important cause of maternal mortality. The document also states that in order to ensure the health of the mother and child and to reduce infant and maternal mortality it is necessary to encourage institutional deliveries.

On the other hand the GoI also recognises that “presently the health care system in India is not in a position to provide all pregnant women services of a trained health functionary at the time of delivery” (GoI 2000a: 3). It also recognises that there are many states in India where deliveries by TBAs would continue to take place in the next few decades and therefore it proposes to continue with TBA training programmes (GoI 2002). The RCH-II document recognises that in many inaccessible areas TBAs are the primary reproductive and child health care provider. Therefore the document states that TBAs need to be identified, trained, equipped and supported as a human resource. Since 2001, the RCH-II

program has initiated TBA training in 142 districts of 17 states with safe delivery rates¹² of less than 30 percent. The GoI TBA training objectives include enabling TBAs to provide antenatal check-ups, identify high risk pregnancies, give counseling on nutrition and safe delivery, conduct safe normal deliveries, identify danger signals and give advice for appropriate referral (GoI 2000a).

The rationale of TBA training therefore emphasises a shift from home deliveries to institutional deliveries. The objectives reflect the obstetric viewpoint that progress in maternal and child health can be achieved only through institutionalisation of birth. It disregards the traditional ways of birthing as having the capacity to provide any positive contribution or participation in this perceived progress. Any step towards institutionalisation will therefore be at the cost of diminishing traditions. It is evident from the rationale and objectives that the government acknowledges the inadequacy of the present health system in India to provide trained professionals to all birthing mothers and that TBAs will continue to be a primary health care service provider to birthing mothers. However it aims to change this situation by providing trained health personnel in all births in the future.

6.1.2. Baseline Study

A baseline study has been given emphasis in the GoI guidelines for TBA training (GoI 2000a). At the local level, PMT, the NGO responsible for the training in Ahmednagar district, claimed to have conducted a baseline study in the implementation villages assessing knowledge of clean delivery, breastfeeding and postnatal care. According to PMT, in this study 100 TBAs and 100 mothers with babies less than one year of age were included in their baseline study. However, during discussions with the Comprehensive Rural Health Project (CRHP) personnel responsible for programme implementation, contradictory information emerged about the baseline study. CRHP personnel assert that the PMT did not conduct any baseline study in the villages. Ambiguity about the existence of a baseline study and any knowledge that may have been gained from it

¹² Safe Delivery Rate: Institutional deliveries and deliveries attended by skilled birth attendants, which according to recent WHO definition does not include trained TBAs (GoI 2005).

therefore restricts the inclusion of local knowledge and practices into the programme context.

6.1.3. Needs Assessment

The WHO/UNICEF/UNFPA joint statement emphasises a “complete initial assessment of local needs and resources before developing programme plans and policies” (WHO 1992: 8). The purpose of assessing the needs of the community, according to the guidelines given by WHO, is to incorporate those needs in the training. It is observed that to change the behaviour of TBAs it is necessary to have a clear understanding of the potentially harmful practices the TBAs are adopting (Brouwere et al 1998). However, it is also necessary to understand the health-benefiting practices conducted in the community so that TBAs can be encouraged to continue adopting those practices. Neither the Government of India RCH-II document, nor the TBA training rationale document given to NGOs mentions the requirement of conducting a needs assessment before the training. The PMT report claims that a baseline and community needs assessment were combined, and therefore the ambiguity that characterised the baseline study is also evident in the needs assessment. The following table (Table 6.1.) is a summary of the review comparing the TBA training design and content at three levels, international, national documents and local implementation documents.

Table 6.1: A Comparison between the International Guidelines, National Documents and Implementation at the Local Level of TBA Training Design

	Training Design	WHO Guidelines	Indian Government Guidelines- TBA Training Rationale	Local TBA training conducted in Shendi PHC
1	Need Assessment	Emphasises an initial assessment of local needs and resources to include in developing programme plans and policies	Need Assessment not mentioned in RCH-II document or the training rationale provided to NGOs.	Inadequate information about the need assessment included in the training
2	Selection Criteria	States the criteria can be motivation, caseload, respect in the community, age, literacy or any other locally appropriate factor.	Emphasis on providing at least one trained TBA per village. The criteria may include higher caseload and TBAs from isolated villages, but it is left open for the State to decide.	The validity of the selection criteria used by the local NGO was unclear because of contradictory information from the two NGOs involved.
3	Training Material	Emphasises on the use of multiple materials for non-literate trainees.	Does not mention about training material to be used.	The training material used was; flip charts, paper cut dummies, cloth posters, books and video films.
4	Training Content	TBAs need to acquire simple focused skills and that TBAs are ineffective in many primary health functions.	A range of primary health care functions needs to be included in the content of TBA training.	Covers a wide range of primary health care functions and inadequate information on each of those functions covered.

Table 6.1. (Continued)

	Training Design	WHO Guidelines	Indian Government Guidelines- TBA Training Rationale	Local TBA training conducted in Shendi PHC
5	Evaluation	Emphasises on periodic evaluation	Left the choice of evaluation open to be decided at the state level. A second phase of training recommended 2 to 3 weeks after the 1 st phase to help TBAs with the practical problems faced but the final decision was left open to the States.	The only evaluation that was conducted was immediately post-training. The second phase to be held after 2 to 3 weeks was not conducted at the local level training.
6	Training Methodology and duration	The WHO document does not mention the duration of training nor practical training for TBAs.	The GoI rationale mentions hands-on-experience for TBAs to be included. A 2 nd phase of training recommended 2 to 3 weeks later.	The local training conducted a theoretical and practical training. Training for 6 days - 3 days were theoretical and 3 days of practical training.
7	Follow up and Supervision	States regular, supportive supervision at the TBA's practice site for problem-solving, improving practices, appropriate referral of high - risk and complicated cases.	The GoI document states that the supervision of TBAs is the responsibility of the ANMs. There is a change of hands of responsibility and no accountability for supervision of TBAs.	The TBA training was conducted by local NGOs and ANMs were meant to supervise them thereafter.

6.1.4. Selection Criteria

The WHO/UNICEF/UNFPA joint statement clearly states that the TBA selection criteria may include “motivation, caseload, respect in the community, age, literacy or any other factor deemed appropriate given the local circumstances and desires” (WHO 1992: 11). However, the GoI training document leaves the choice of selection criteria open to the state, giving emphasis to providing at least one trained TBA per village, which is one of the objectives of the programme (GoI 2000a). It makes mention of preference to be given to TBAs who have attended a larger number of deliveries and those from remote villages with poorer access to sub-centres (GoI 2000a).

According to the RCH-II document, a list of practising TBAs must be prepared by every primary health sub-centre (PHSC) and the persons responsible for making the list include Medical Officer (MO), Block District Officer (BDO), Community Development Program Officer (CDPO), Panchayati Raj Institution (PRI) representative, Auxiliary Nurse Midwife (ANM), Anganwadi Worker (AWW) and Mahila Mandal (MM) representatives. Discussion with PHC personnel revealed that there was no list existing on the practicing TBAs in villages of Shendi PHC. NGOs on the other hand are required to list TBAs for conducting the training.

6.1.4(a) Selection Process used in the local TBA training programme: In order to conduct the training of TBAs in the study area, the Pravara Medical Trust (PMT) was required to list the suitable TBAs along with the local NGO, the Comprehensive Rural Health Project (CRHP). According to the final report of the programme submitted to the GoI by PMT, the list of TBAs were prepared with the help of Gram Panchayat members, Primary Health Centre (PHC) staff, Integrated Child Development Services (ICDS) functionaries and Mahila Mandals in the villages. However, discussion with CRHP personnel revealed that the selection and listing of TBAs was done solely by CRHP personnel. According to the CRHP personnel, they visited the villages and enquired about women who were interested in TBA training and those who showed interest were

included in the training. Some of those who showed interest were the VHWs¹³ who were already working in the ongoing health and hygiene programme conducted in the area by the CRHP. It was noted during interviews with TBAs that some of them who assisted a large number of births per year had not obtained any training and had been omitted from the training program, while others with lesser workload and experience had been included. While conducting the structured interviews, TBAs from the community approached me with their dissatisfaction about the training selection process.

Further, some TBAs also spoke about the conflict between the trained and untrained TBAs. In another village similar conflict was seen between a VHW trained as a TBA and an untrained Anganwadi Worker. The Anganwadi Worker (AW) assists several deliveries in a year and had not been selected for the training. In turn a younger and inexperienced VHW had been selected for training in that village. However, women in the village seek the assistance of the AW, and the trained VHW has been struggling to find acceptance and the trust of the women. The trained VHW has started accompanying the untrained AW to gain goodwill in the community. Moreover some trained TBAs did not make use of their training and were not practicing as TBAs during the time of the study. Informal talks with the PMT and CRHP personnel also revealed that during the practical sessions when TBAs were posted in maternity wards, some TBAs were unable to watch the delivery and had fainted. This is possibly because some of the TBAs were younger and inexperienced in assisting deliveries. Therefore the review the local TBA training documents reveal inappropriate selection criteria used in the training resulting in struggle between the trained and untrained TBAs.

6.1.5. Evaluation

The GoI document on TBA training mentions a simple verbal assessment of the trainees at the end of the six day course to identify weaknesses and provide support to TBAs. PMT conducted an evaluation immediately post training on the basis of the GoI guidelines. The TBA training document published by GoI states that “training will be

¹³ VHWs: Village Health Workers are the local personnel from the villages working in the health and hygiene project conducted by CRHP in the study area.

conducted in a phased manner to ensure a better understanding of issues by the Dais” (GoI 2000a). The GoI document indicates that the training needs to be conducted for ten days and in two phases. The first phase would be for six days followed by a second phase of four days. The second phase of four days will be between two to four weeks apart. The rationale of the second phase of the training recommended in the GoI guideline document was to evaluate and assist with providing support for TBAs in their work. As stated in the GoI document “it will also address some of the problems faced by the Dais (TBAs) between the first and second phase and will therefore be able to identify their needs and requirements during their work” (GoI 2000a: 4). However the GoI document includes a statement that the final decision on two phased programme is left open to the States. At the local level the PMT training program conducted only the first phase for a duration of six days and the second phase was omitted.

6.1.6. Supervision

The WHO guidelines emphasise the need for regular supportive supervision at the site of the TBA’s work to assist problem solving, improvement of services and monitor referrals. The GoI document on TBA training states a refresher course at one month’s interval based on practical field problems faced by TBAs. However, according to the information given by the local NGOs, TBAs and ANMs this refresher course was not conducted. Further, according to the GoI document ANMs are expected to follow up supervision with TBAs. However the duties of ANMs do not cover the supervision of TBAs. The only duties of ANMs that are linked in some way with TBAs work are the following; ANMs are expected to conduct a sample survey on early registration of pregnant women, conduct antenatal check-ups, list home and hospital deliveries, list referral of ‘at risk’ cases to FRU (First Referral Unit), increase awareness on exclusive breastfeeding, and check the birth weight of new born. Although these responsibilities of ANMs are linked with the TBA functions, there is no scope for providing supervision and assistance for TBAs in their day to day tasks.

6.1.7. Expectations

In accordance with the national programme for reproductive health, TBAs are mainly expected to mobilize families for deliveries in government/private facilities (GoI 2002). The expectations of TBAs mentioned in the RCH-II document includes; to ensure safe and clean home deliveries in places wherever institutional deliveries are not feasible, to mobilize women for antenatal care, to provide simple resuscitation, clean delivery care and warmth, to promote exclusive breast-feeding, to identify sick neonates who need referral, and to provide lactation and feeding counseling techniques (GoI 2002). The report also indicates that TBAs could provide an important link between the formal health care system and neonates. The RCH-II report mentions that TBAs will be provided with education to care for the new born, eliminate tetanus, and promote clean deliveries, exclusive breastfeeding and birth spacing in states with high neonatal mortality rate (NMR), of over 50 per 1000 births.

6.1.8. Remuneration

The WHO guidelines for TBA training have left the decision of remuneration open to be decided by countries. The RCH-II mentions that monetary incentive (Indian Rupees 100 per case) will be provided for TBAs, AWs and ANMs for accompanying women to formal health institutions for delivery (GoI 2002). The document also mentioned that TBAs will be given suitable incentive for facilitating 100 percent birth registration. The GoI until 2002 had included remuneration for TBAs for every safe delivery conducted at home (GoI 2002). In this context safe delivery included a live birth and safe mother after delivery. The definition of safe mother however is not specified in the GoI documents. Programmes including remuneration for TBAs in India have not seen much success in the past. In 1956 the government of India's programme included allowances to be given to TBAs. However Brey (1971) observed in 1969 that one of reasons for the ineffectiveness of the TBA training programme was dissatisfaction among TBAs about the remuneration for the training and delays in receiving their allowances. In the villages of Shendi PHC, TBAs were not aware of any such remuneration and had not heard of any TBA receiving it. In contrast, when the Medical Officer (MO) at Shendi PHC was asked about

remuneration for TBAs, he mentioned that TBAs have been paid remuneration for conducting safe deliveries until recently.

6.1.9. Training Methodology

WHO guidelines do not mention theoretical and practical training, however the GoI guidelines mentions a need for hands-on training for TBAs. In the local TBA training program conducted by PMT, both theoretical and practical training was used. The theoretical training included lectures, flip charts, paper cut dummies to explain the physiology and reproductive organs, cloth posters and books. There was a demonstration of normal labour with dummy and pelvis, antenatal care, new born care, breastfeeding and postnatal care. The practical training also included visits to and postings at the maternity and pediatric wards. The TBAs were given theoretical training at the government rural hospital at Rajur and the other three days they were given practical training at PMT in Loni. During the practical training the TBAs were divided into batches of three and each group was posted at night in the maternity wards at PMT for training on safe delivery. Video films on safe delivery, antenatal care, neonatal tetanus, HIV/AIDS, breastfeeding and new born care was shown to TBAs. The training programme in this study has used a variety of training material to the advantage of the TBAs and was in accordance with the WHO guidelines.

WHO emphasises the use of multiple materials for teaching, keeping in view the lower level of literacy among the TBAs. The strength of the methodology used in the TBA training in the study area was the use of a variety of training materials and the inclusion of both theoretical and practical training. A literature review of TBA training programmes found that only one study had used a combination of both theoretical and practical training (Sibley et al., 2004). The training in the study area was conducted in the local language. The training approach in the study area was however essentially biomedical with less regard for the traditional ways of birthing. The inadequacy of the baseline study, needs assessment, and selection process used in the programme is indicative of a lack of a balanced approach between the biomedical and traditional ways. There is no mention throughout the training report of merging the traditional approach

with biomedical or a two-way process where both the trainers and trainees learn from each other's experience in assisting births. The implication of the training design also affects the content covered in the training.

6.2. CONTENT OF THE LOCAL TRADITIONAL BIRTH ATTENDANTS TRAINING PROGRAMME

This section assess if the content included in the local TBA training is synchronised with the WHO guidelines and associated with the contemporary research findings of prevalent birthing practices (harmful and beneficial) adopted in home births and with the existing research knowledge on effective birthing practices. This section reviews the training content on birth practices such as birthing position, clean and safe delivery methods and maternal and infant complication management. The content of the local training programme is discussed again in Chapter 10 and considered whether it reflects a balance between biomedical and traditional approaches. The documents mainly reviewed in the next section are the training document provided by PMT (PMT 2003), the training manual prepared by PMT and distributed to TBAs after the training, the video shown to TBAs during the training program and the training project report submitted by PMT to GoI (Also refer Appendix 2 & 3).

6.2.1. Birthing Position

A review of the training manual reveals that TBAs were instructed to ask the women to take the supine position after the water breaks (Refer training manual appendix 3). Beyond this point in the manual the woman is diagrammatically shown in the supine position until the baby is delivered. There are other indications through which the message about the supine position is conveyed to TBAs during training. The video on safe delivery shows the woman in a supine position during the entire childbirth process. The video shown is of a delivery conducted by a nurse in uniform in primarily medical surroundings which is aloof from the situation that TBAs and women face in home deliveries. The woman delivering was always in the supine position and the birthing

woman was portrayed as a medical object rather than a human being who needs support and encouragement during childbirth.

There is widespread acceptance of the advantages of adopting upright positions during delivery (WHO 1996). However the training programme and the biomedical system in India by and large continue to use the outdated supine position. Moreover the spread of this outdated knowledge into the local communities through TBAs can cause further damage as the traditional upright positions are likely to change according to this information conveyed through the training programmes.

6.2.2. Hand Washing

In the manual provided to the TBAs, they are instructed to wash their hands with a soap and brush and to refrain from wiping their hands on a towel after washing. However they have not been instructed to wash their hands again before cutting the cord or conducting an internal examination. There is research evidence that trained TBAs increasingly conduct vaginal examination with training and therefore it is important to inform TBAs about washing hands before a vaginal examination or before cutting the cord, especially when they do not use gloves (Jahn et al., 2001).

6.2.3. Cord Management

TBAs are instructed during the training to wait for the pulse to stop before cutting the placenta. They are asked to tie the cord tightly in two places and cut the cord in the middle. They are instructed to use a clean instrument to cut the cord and to refrain from using any blunt objects or a sickle to cut the cord. However there is no mention in the local training manual about potential harmful materials that are used to apply to the cord. Research findings in developing countries show that there is widespread use of materials such as oil and other household materials to apply to the cord (Dadhich 2004, Nandan and Mishra 1996). Therefore it is necessary that TBAs are informed about the harmful effects of using these materials.

6.2.4. Delivery Kit

TBAs are provided with a delivery kit at the end of the local training programme. The purpose of this kit is to maintain clean cord care, clean hands and clean environment. The kit therefore consists of basic materials to assist TBAs in conducting clean deliveries including; a plastic sheet, a pair of gloves, a clean blade to cut the cord and clean threads. TBAs are instructed to use this kit during delivery to maintain cleanliness. There is also a clear message that this will prevent the occurrence of sepsis among babies. However replenishment of the kit material is not a part of the TBA training programme.

6.2.5. Hypothermia Management

Recent research demonstrates that immediate skin to skin contact with the mother through “kangaroo mother care (KMC)” is an effective way to meet baby’s needs for warmth, breastfeeding, protection from infection, stimulation, safety and love” (WHO 2003b; 1). WHO suggests the ‘warm chain’ procedure to maintain warmth in new born babies by immediately drying and wrapping, skin-to-skin contact, immediate breast-feeding and postponed bathing (WHO 1997b). The local training manual prepared by PMT however instructs TBAs to leave the baby on the floor in between the mothers’ leg unwrapped until the pulse in the cord stops. TBAs are then instructed to wrap the baby, clean and keep the baby close to the mother after the cord has been cut. This is despite increasing knowledge about the advantages of immediate skin to skin contact with mother and delayed bathing of new born babies. There is research evidence that bathing babies soon after birth is widely practiced in India and that this can potentially cause hypothermia among babies (Mathews et al., 2005). WHO recommends bathing babies only at least six hours after birth. However, there is no mention in the local training manual about means to prevent, or methods to identify or address hypothermia among babies.

6.2.6. Weighing New Born Babies

TBAs are instructed in the training manual to refer the infants to the health centres so that they can be weighed. However this instruction is about checking weight of infants at regular intervals after birth. The significance of weighing babies soon after birth to determine low birth weight was not emphasised in the training manual. This is despite widespread knowledge and concern in the research community about the large number of babies not weighed after birth in India and intervention studies that have evolved simple methods of weighing babies that can be used even by non-literate health workers (Kumar and Walia 1986).

6.2.7. Practice of Discarding Colostrum

WHO, in a document on global strategy for infant and young child feeding observes that families and communities can support breastfeeding by initiation within one hour of birth and by ensuring there are no barriers or unnecessary restrictions on the mother's ability to freely breastfeed (WHO 1997b). However the training manual prepared by PMT instructs TBAs to initiate breast milk a few hours after birth. The training manual also mentions that the newborn should be fed with a drink of water between every two feeds of breast milk, whereas WHO stresses exclusive breastfeeding. The RCH-II document states that "TBAs, AWWs, ANMs, LHVs, male workers, link workers, as well as nurses and physicians (government, private; general, specialist; modern, ISM) would be trained in lactation and breast feeding counseling techniques" (GoI 2002).

The initiation of breastfeeding within the first hour of birth is recognized as a vital step towards reducing infant mortality. There are several research studies that have revealed that colostrum is generally discarded and not given to babies in India due to misconceptions and a lack of awareness about its significance in providing natural immunity to new born babies (Bhale and Jain 1999, Chongsuvivatwong et al., 1991, Sreeramareddy et al., 2006). However in the local training document, the emphasis of immediate breastfeeding is reduced as TBAs are instructed to breastfeed new born babies within 2 to 3 hours after birth.

6.2.8. Identification of Antenatal Risk

The GoI expects TBAs to mobilise women for antenatal care as mentioned in the RCH-II document. TBAs were instructed in the PMT training manual to refer the women to PHCs for regular screening during the antenatal period. In the training provided by PMT, TBAs have been advised to watch for certain risk factors during pregnancy which includes birthing mother with short height, swelling on the feet and face, excessive head ache, very young or older mothers, mothers with a history of several previous births and bleeding during pregnancy. Some of the risk factors listed above are so common in India – such as the young age of the birthing mother, short stature, and three or more children - that TBAs are unlikely to refer such cases. Antenatal risk is given more emphasis than making TBAs aware of significant prevention methods such as tetanus injections and iron and folic acid tablets. This reflects the GoI aim to enable TBAs to identify high risk pregnancies. There is future scope to improve the local training by including prevention as well as risk identification and the manner in which information is organised and conveyed in the training manual.

6.2.9. Maternal Complications

The RCH-II document recognises that post-partum care of mothers in India is significant and that this period has been associated with high complication rates (IIPS 2000). However, apart from making referrals, TBAs are not included in the strategies in addressing maternal complications. In order to make referrals, TBAs need to be aware of the possible range of complications. However, the training manual prepared by PMT only mentions excessive bleeding as a post partum maternal complication. TBAs are instructed in the manual to refrain from pulling on the cord during the placenta delivery as it causes post partum bleeding and to check if the entire placenta has been delivered. TBAs are informed through the manual that excessive post partum bleeding is dangerous. However, there is no mention about what action needs to be taken to recognise this complication. It is known that postpartum hemorrhage is the leading cause of maternal death in India however its significance is minimised in the local training manual.

Apart from excessive post partum bleeding, there are several other potentially complicated situations that can lead to emergencies that have been left out of the local training manual such as; fever (infections), prolonged unproductive labour, retained placenta, shock (convulsions or fits) and the womb turning inside out. Certain non-life threatening complications such as; cervix showing or protruding at the vagina after the birth, vaginal discomfort, breast infection, maternal lack of interest postpartum (depression) and leg pain (Smith 2004) have been excluded from the local training manual. It is important that TBAs be made vigilant to prevent some of these complications, recognise the signs and be equipped with knowledge of simple methods to handle them until women can reach formal health care services.

6.2.10. Complications for the Baby

Similar to maternal complications, the local training manual prepared by PMT has excluded some of the complications pertaining to babies. TBAs have been instructed to watch for the following signs that require referral; breech or transverse lie, twin babies, the pulse of the baby not heard in the womb, and the baby not moving in the womb. However, there are several other complications among babies that require attention such as prematurity, premature rupture of membranes, meconium staining in the amniotic fluid, cord prolapse, shoulder dystocia, cord around the baby's neck, poor colour in the baby, jaundice, dehydration, lack of weight gain, infection, and birth defects. TBAs could deal with some of these problems with simple techniques, by avoiding superstitions and by seeking help from health centres. Simple and practical care can prevent the onset of certain health problems in babies (Smith 2004). It is therefore important that TBAs who are also sensitive to local practices, be made aware of the signs of these complications and simple methods to handle them.

6.3. CONCLUSION

The rationale and objectives mentioned in the WHO guidelines emphasise the significance of providing professional care for all births. TBAs clearly are to be trained as an interim measure until the government health systems can provide professional biomedical care for all birthing mothers. This viewpoint is also reflected in the national and local level training programme documents. However, TBAs continue to assist more than one third of the births in India and the present health system in India is unable to provide professional care for all birthing mothers.

The material used in this training was appropriate for non-literate women and concurrent with the WHO guideline requirement. The theoretical and practical training method used also provides exposure and scope for TBAs to learn from the biomedical system. However, efforts to integrate traditional ways of managing childbirth with the biomedical knowledge at the local level programme design are lacking. This is evident in the inadequacy of the baseline study and needs assessment. The inadequate screening of local knowledge and practices before the training is consequently reflected in the content of the training programme. The lack of appropriate selection criteria used in the training, the dissatisfaction expressed by TBAs about the method of selection used and consequently the struggle between the trained and untrained TBAs reflects a general disregard of the TBAs by the trainers. Needs assessment, selection criteria, evaluation and training duration that receives emphasis in the international and/or national documents gets diluted at the local level training programme. The chapter reveals that the training programme is a one way process of information passing from the biomedical model to the TBAs. The training programme at the local level is therefore a one sided imposition of biomedical knowledge. The possibility of learning from birthing practices adopted by TBAs is not considered a significant component in the training programme. The WHO emphasis on a need for enhancing the links between modern health care services and local communities is not implemented at the local level. The inadequacy of needs assessment, baseline study and selection criteria in the training programme therefore

suggest a domination of the biomedical approach over the birthing knowledge held by local women including TBAs.

TBA training is meant to improve upon the traditional practices adopted by TBAs. However, some of the information conveyed in the training is doing exactly the opposite. Harmful practices such as leaving the baby exposed until the cord is cut and adopting the supine position is encouraged in the training. Outdated information such as breastfeeding a few hours after birth is also conveyed in the training. Certain vital information was omitted including advice on tetanus injections and folic acid tablets during the antenatal period, to refrain from bathing babies immediately after birth, to refrain from applying oil on the baby, and to wash hands again before directly handling mother or baby. Information on complication management and hypothermia has been covered inadequately in the local TBA training programme. The TBA training content will be discussed again in Chapter 10 after examining the birthing practices used by trained and untrained TBAs in the local community in Chapters 8 and 9. The next chapter introduces the study area and details the methodology used in the study and its rationale.

CHAPTER 7

METHOD

Introduction

An aim of this doctoral research is to assess the ways in which the TBA training programme in Ahmednagar District in India has been successful in adopting and thereby disseminating biomedical knowledge into the birthing practices of TBAs in local communities. This aim was informed by a theoretical framework that articulates how the biomedical ways of knowing become socially construed as ‘authoritative knowledge’ that is privileged over local women’s traditional wisdom and practices, particularly in the sixteen villages in Ahmednagar District in India that were the *foci* of the study. The objectives of the study were to identify the social roles and characteristics of TBAs and to assess whether biomedical practices conveyed to TBAs during training were adopted by trained TBAs in the local community. These objectives were addressed by comparing the birthing practices of trained TBAs with untrained TBAs and cross verification with the practices adopted by the birthing mothers assisted by the TBAs in the two years preceding the study. This chapter describes the method used in the study to answer the research questions and presents the data collection and analysis procedure. The chapter is divided into four sections: the first introduces the method that was initially planned in the study and the changes that had to be made due to circumstances that arose in the field; the second describes the study area; the third explains the data collection procedure; and the fourth section details how the data were analysed.

7.1. INITIAL PLAN AND CHANGES DUE TO FIELD CIRCUMSTANCES

This section explains the initial conceptualisation of the study and the changes that took place as a result of difficulties faced in the field. These problems were compounded by the simultaneous loss of an important mentor who was intensively involved in the planning process of the study. The main problems faced in the field were:

- a) the promised baseline study had not been conducted
- b) the criteria used for selecting TBAs for training was faulty, and
- c) due to the death of the project's supervisor and my PhD mentor, academic and intellectual direction in the face of the changed field circumstances was substantially reduced.

7.1.1. Initial Research Plan

The study planned to assess the ways in which training had been successful in conveying biomedical knowledge to TBAs by comparing the practices adopted by trained TBAs in a recently conducted training programme in four Primary Health Centres (PHCs) in Ahmednagar District with those of the untrained TBAs operating in the same community. This plan included an assessment of the practices adopted by the trained TBAs in comparison with their knowledge and practices before the training was conducted.

According to the information provided by the NGO involved in the training, a baseline study had been conducted before the training in the study area which assessed the knowledge and practices of all the TBAs who then went on to receive training. This pre and post training assessment of knowledge of trained TBAs was significant in the plan as it was known that given the isolated location of villages and TBAs, the sample size that was possible in this study was limited. Moreover the lack of information from the baseline study put constraints on the assessment of the pre and post birthing practices of trained TBAs. This information would have added value in understanding the extent to which biomedical knowledge was disseminated in the practices of the trained TBAs.

7.1.2. Difficulties Faced in the Field

On reaching the study area, it was found that obtaining any information on the baseline conducted with the TBAs was very difficult. The only information that could be obtained from the NGO was an ambiguous table on the baseline study results including data on pre and post training TBA knowledge and practices which was included in the final programme report submitted to the Government of India (GoI). (Refer section 3.10. in

Appendix 3) The PMT personnel also showed their discomfort in co-operating with my data collection.

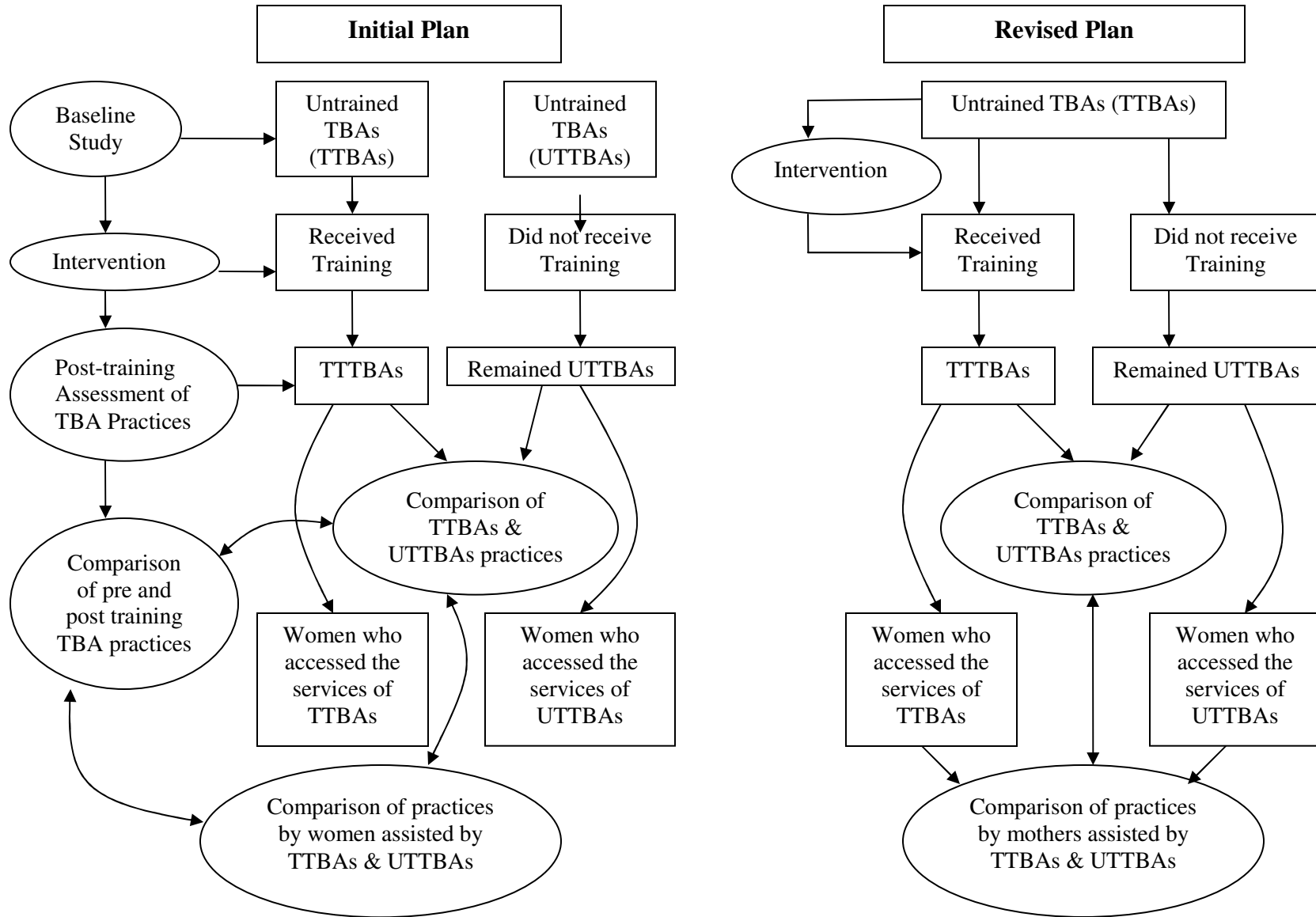
Quoting from my field notes written while trying to gather training information on reaching the study area, I note that;

“I met some resource persons involved in the training today, but I get the feeling that they are worried that my study is an assessment of their job done during the training. The final report which contained some information on the baseline study was finally given to me today only for a short while for photocopying purposes after several requests. One training resource person involved in the training was meant to accompany me to the field area, which is about 100 kilometres away, however he has shown his reluctance therefore I will arrange to go with personnel from the smaller NGO, CRHP (Comprehensive Rural Health Project)” (Sheela, field notes, 10 June 2005).

Moreover, on arriving in the field, the CRHP personnel involved in all aspects of the programme implementation informed me that the baseline study had never been conducted. It then became clear that there was a transparency issue in terms of whether the baseline study was actually conducted with the 100 TBAs before the training programme and that even the little information that was available could not be used in the study as there were doubts about whether it had any validity. Based on these difficulties, there was a change in the study method that was finally adopted.

Figure 7.1 presents the initial plan and the changes that occurred after visiting the field area.

Figure 7.1: Diagrammatic representation of the initial and revised research plans



7.1.3. Change in the Study Method

The study had planned to conduct a three phased assessment of dissemination of biomedical knowledge on TBA practices: the first phase included a pre and post assessment of the training programme on TBA practices; the second a post training comparison between TBAs who were trained with those who were untrained; and the third a comparison of information provided by TBAs with mothers who had recently given birth with the assistance of the selected trained and untrained TBAs. Due to the exclusion/non-existence of the baseline study data a significant aspect of the study comparing pre and post TBA practices had to be omitted.

The remaining aspects of the field work continued as planned. The questionnaire that was taken to the field already included the topics that were covered during the training and therefore the data collection process continued using that questionnaire. As planned, the information on post training TBA practices was collected from trained and untrained TBAs, as was the data from mothers who had recently been assisted by the trained and untrained TBAs.

Nonetheless, while conducting the research, other complications emerged. In some villages TBAs who had not received the training informed me that the criteria used in selecting TBAs for the training was erroneous. The training had been conducted with women who were not TBAs but young women keen to be trained in anything. Almost half (47%) the TBAs (18/24) selected for training were Village Health Workers (VHWs) working in an ongoing health and hygiene programme conducted by CRHP, some of whom were not TBAs. These young VHWs were struggling to find acceptance as TBAs within the community and therefore sought assistance from the untrained TBAs. They were accompanying the older and experienced untrained TBAs to gain further experience and acceptance in the community. Consequently, some women did not utilise the skills they had learnt from the training in the community. Moreover, my data collection during this period was during the time when my supervisor/mentor became fatally ill and, as a consequence, regular communication with her had reduced drastically. Confronted by

these difficult realities in the field, I was also unable to contact her for several weeks and was eventually notified that she had died.

7.2. THE STUDY AREA

The Pravara Medical Trust (PMT), an NGO located in Maharashtra State, had conducted an intervention in relation to TBA training in Akole Taluka in the Ahmednagar district on behalf of the GoI in 2002. PMT agreed to collaborate with this PhD study by providing information about the training programme and a list of TBAs who had received the training. Consequently, this area was selected for the study. Within Akole Taluka, the training had been conducted in four PHCs - Shendi, Ladgaon, Maveshi and Vitha - for 100 TBAs covering a total of 67 villages. For the PhD research, it was not feasible to cover all the 67 villages in the four PHCs due to time constraints and cost limitations. Therefore a case study method was adopted by selecting one PHC and covering all the TBAs (trained and untrained) practicing in that PHC. The four PHCs were similar in terms of the percentage of tribal population, literacy rates, and percentage of workers in the village involved in cultivation as their major occupation. A mapping exercise calculating the distance between the villages in the four PHCs and the nearest emergency obstetric care was done and it revealed that Shendi PHC had some villages which were less accessible and were the farthest from the emergency obstetric care. Therefore Shendi PHC was selected as the study area.

7.2.1. Tribal Characteristics of Study Area

The study area, Shendi PHC was located in Akole Taluka, Ahmednagar District in Maharashtra State (Refer Map 1). According to the national census figures released in 2001, the total population of the 16 villages within Shendi PHC was 19,619 (GoI 2000c). It is mainly a tribal area in the western hilly region of Maharashtra State. Due to a poor health infrastructure, high levels of poverty and a lower than average literacy rate, tribal communities in India are highly vulnerable to various health problems (Naik et al., 2005). Rural Indian tribes are geographically and anthropologically distinct with unique cultures, traditions and practices (Basu 1993, Naik et al., 2005). However, over the years,

displacement and interaction with other cultures has led to changes in the socio-cultural and value systems of the population.

Table 7.1. illustrates the substandard maternal and infant health status of tribal areas of Maharashtra compared to Maharashtra State. According to the census 2000, the total tribal population of Maharashtra accounted for 8.9 percent of the total population of the State (GoI 2000c). The literacy rate was 22 percent lower in the tribal areas (55%) than the state average (77%) in Maharashtra. The extent of dependence on TBAs for deliveries in tribal areas of Maharashtra was more (34%) than the state average (20%). Neonatal and infant mortality was higher in tribal areas than the average of Maharashtra state.

Table 7.1: Maternal and Infant Health Indicators of Maharashtra and Tribal Areas 2000

Health Indicators	Tribal Maharashtra	Maharashtra State
Adult Literacy Rate (> 7 years of age)	55.2	77.3
Neonatal Mortality Rate (0-28 days)	49.8	38.1
Infant Mortality Rate (0-1 year)	73.6	53.2
Percentage of Institutional Deliveries	32.2	52.6
Percentage of Home Deliveries	67.8	46.7
Deliveries Assisted by TBAs (<i>TBAs</i>)	34.1	19.8
Babies Not Weighed	-	46.6

*Infant, Neonatal, Child Mortality in per 1000,
Source of Literacy Rate: GoI 2000c, Source of other indicators: IIPS 2000*

7.2.2. Maternal and Child Health Status in Shendi PHC

The infant mortality rate (IMR) in Shendi PHC in 2004 was high with 54 out of every 1000 children born dying before one year of age (Table 7.2). This rate was higher than the average IMR in Maharashtra state (4/100) but lower than the national IMR (7/100). The percentage of births in health institutions was the lowest in Shendi PHC (15%) in comparison to the Maharashtra state (52%) and national level (34%). According to the data collected from Shendi PHC there have been no maternal deaths in 2004 and since

2001. The data before 2001 are not available at Shendi PHC as PHCs keep only recent data and previous data that is not required for administrative purposes are usually destroyed. According to this data, the percentage of babies born with an extremely low birth weight (less than 2 kilograms) in 2004 was 19 percent.

Table 7.2. Status of Maternal and Infant Health in India, Maharashtra and Shendi PHC

Maternal and Infant Health Indicators	India	Maharashtra	Shendi PHC
	1998-99	1998-99	2004
Neonatal Mortality Rate ¹⁴ (0-1month)	47.7	32.0	21.4
Infant Mortality Rate ¹⁵ (0-1 year)	73.0	43.7	54.5
Child Mortality Rate ¹⁶ (1- 5 years)	30.6	15.0	11.6
Maternal Mortality Rate ¹⁷	540	135	0.0
Percentage of home births	66.4	47.4	84.6
Low Birth Weight ¹⁸ (<2.5 kilograms)	30.0	Data not available	19.0 (<2Kgs)

*Source, India and Maharashtra: IIPS 2000, except Low Birth Weight: UNICEF 2007
PHC data: PHC Shendi 2005)*

The maternal and child health indicators of Shendi PHC show that the neonatal mortality and child mortality is lower than the average for Maharashtra despite the fact that 85 percent of the births occur at home. The few adverse indicators in Shendi PHC are child mortality (55%), which is higher than the average in Maharashtra State (44%), and the 20 percent of babies born severely underweight (less than 2 kilograms).

The lower maternal, child, and neonatal mortality rates in Shendi PHC compared to Maharashtra state is probably partly a contribution of the awareness among the people

¹⁴ Neonatal mortality: The probability of dying in the first month of life (per 1000 live births).

¹⁵ Infant mortality: The probability of dying before the first birthday (per 1000 live births).

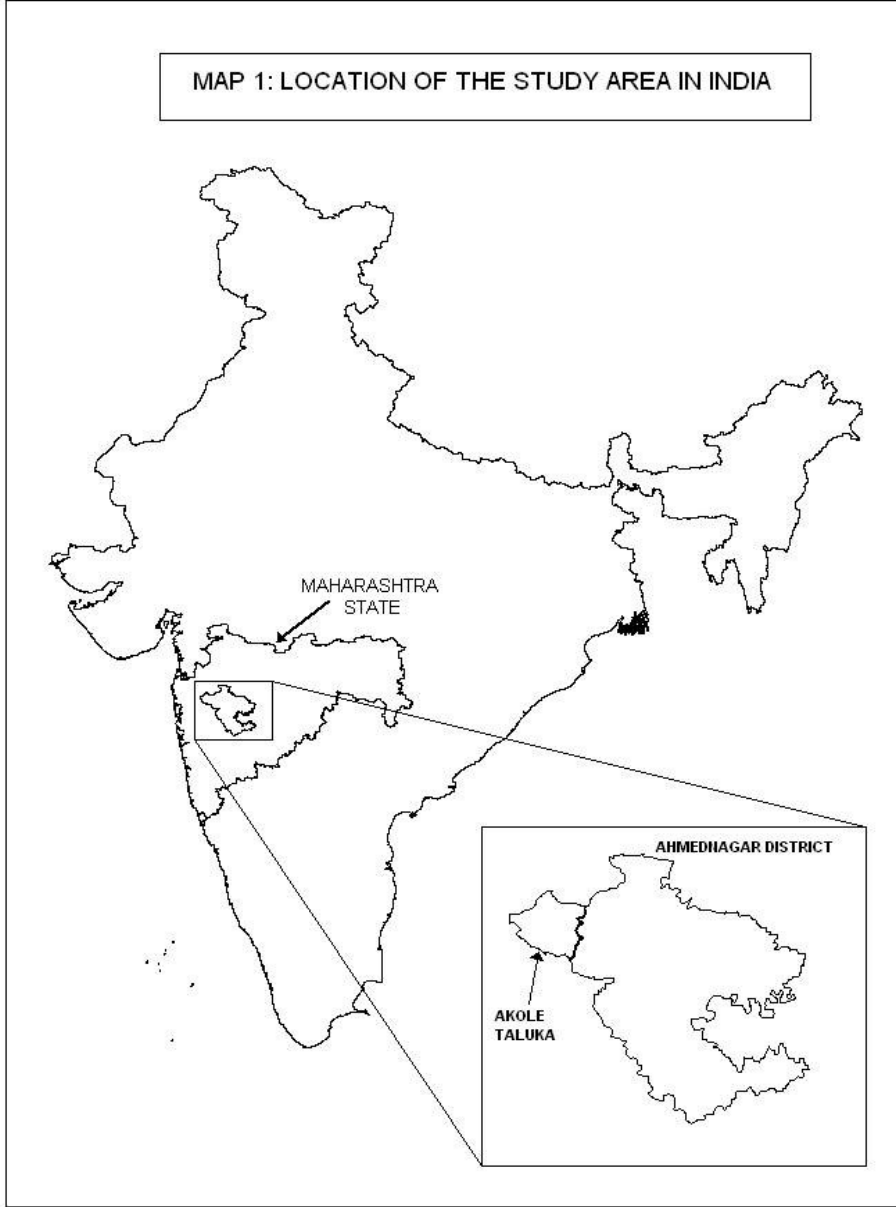
¹⁶ Child mortality: The probability of dying between the first and fifth birthdays (per 1000 live births).

¹⁷ Maternal Mortality Rate: per 100,000 live births.

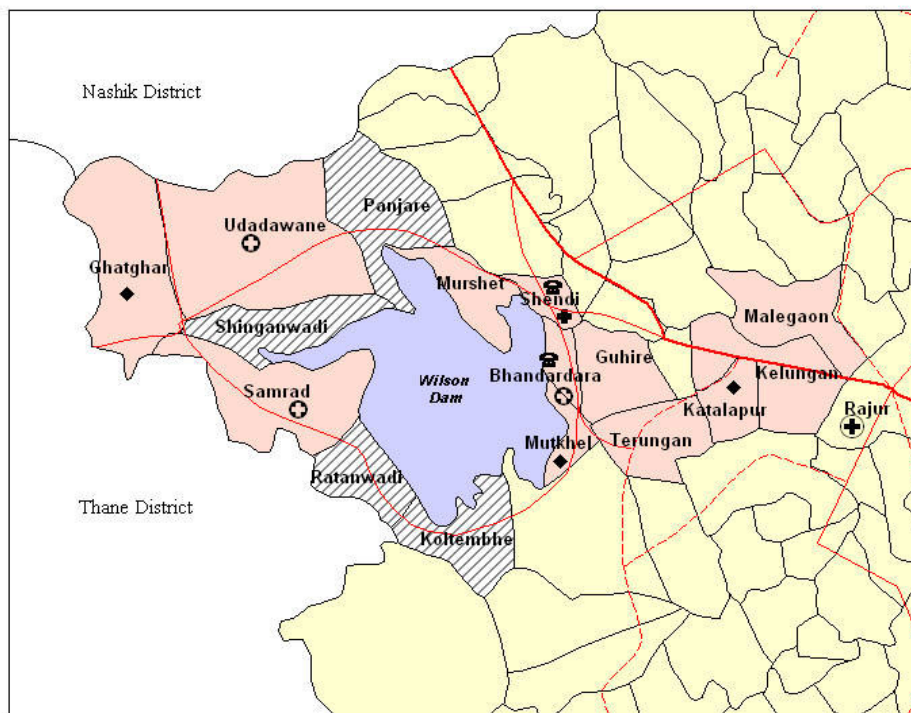
¹⁸ Low Birth Weight: Proportion of live births weighing less than 2500 grams.

due to the ongoing health and hygiene programme by the local NGO, the transport connectivity, and the availability of a rural hospital with all emergency facilities within reach. The Shendi PHC is covered under the general health and hygiene awareness generation programme conducted by CRHP. There are no studies conducted in this area that examine the causal relationship between NGO programmes and health indicators. The CRHP health programme includes the training of Village Health Workers whose function is to convey all relevant health and other knowledge gained at the CRHP training centre to the community. There are also other development programmes on nutrition, health and hygiene, safe drinking water, kitchen gardens, afforestation, micro-credit, and income generation conducted by CRHP in the study area. The nearest rural hospital for emergencies is about 25 kilometres away located in Rajur village. All villages are connected by roads, however connectivity may be poor during the monsoon season. There are private jeeps in the study area that are used widely for transporting emergencies. However infant mortality and babies with low birth weight continue to be an indicator of concern in this area. Maps 1 and 2 illustrate the location of the study area in India and Maharashtra State and the health facilities existing in and around Shendi PHC.

MAP 1: LOCATION OF THE STUDY AREA IN INDIA



MAP 2: THE 16 VILLAGES IN SHENDI PHC AND HEALTH FACILITY



- ⊕ Rural Hospital
- ⊕ Primary Health Centre
- ◆ Primary Health Sub-Centre
- ⊕ Auxiliary Nurse Midwife Resides in the Village
- ☎ Telephone Facility
- ▨ Villages farthest Distance from any Health Facility

7.3. MIXED METHOD

Today's research world is becoming increasingly interdisciplinary, complex, and dynamic. Therefore, many researchers see a need to complement one method with another (Johnson and Onwuegbuzie 2004). Mixed method studies attempt to bring together methods from different paradigms. Several researchers have worked on understanding the mixed methods research paradigm (Creswell 2003, Greene et al., 1989, Morse 1991). Mixed methods designs are conceptually more complex. They may provide a basis for triangulation but, more often, they become the source of different ways of conceptualising the problem (Creswell 2003). Mixed methods may be used concurrently or sequentially. In the concurrent method both methods are used at the same time and sequentially if the aim is to use one method to inform another such as interviewing before surveying (Morse 1991). The first is more like two parallel studies that only come together once the data are being analysed, whereas, in the second, the aim is to use the methods in a more integrated way (Morse 1991).

In this study the quantitative and qualitative methods are used concurrently and the findings from the different sources are inter-related during analysis. The method used was based on the theoretical framework and the review of literature on TBA training programmes conducted in developing countries. The literature suggested that the main issues regarding TBAs' approaches to childbirth assistance are their unhygienic and harmful practices and their ways of managing complications. A synthesis of the biomedical and traditional approaches would be to provide training to TBAs aimed at improving the hygiene and safety in home births by addressing some of the known harmful practices and also by encouraging beneficial traditional practices. The literature also revealed that the role and characteristics of TBAs may vary from place to place, therefore it was important in my research to identify the role that TBAs play in providing maternal and child health care services in the study area. The next section discusses the data collection method used in the thesis to address the research questions.

7.4. DATA COLLECTION

This section includes the data collection process in the order in which it was conducted and its rationale. The first section describes the preparations conducted before visiting the study area; the development of questionnaires and ethical clearance. The second section details the data collection process involved in the field work, which includes the collection of training documents, recruitment of enumerators, pilot study, selection of participants, and the face to face interviews. It is helpful at this point to revisit the objectives and research questions that emerged from the literature review and theoretical framework.

Objective 1: To identify the characteristics and social roles of trained TBAs compared to untrained TBAs. The questions that arose from Objective 1 were:

- What are the socio-demographic and professional characteristics of TBAs?
- What is the involvement of TBAs in the antenatal period?
- When are TBAs summoned during delivery?
- To what extent do TBAs convey basic postnatal advice?
- What is the role of TBAs in recognising and managing complications and referrals?

Objective 2: To assess whether biomedical practices conveyed during the training programme are adopted by trained TBAs in the local community. The questions that arose from Objective 2 were:

- What is the birthing position adopted in home births?
- Are TBAs applying basic hygienic methods while conducting delivery?
- Are TBAs making use of safe practices in caring for new born babies?
- What are the practices adopted in managing maternal complications?

In order to address these research questions, four data collection instruments were used; two structured questionnaires and two semi-structured open ended interviews. The

quantitative structured questionnaires were the main data collection tools and this information was supplemented by qualitative interview schedules. Both these tools were administered to TBAs and mothers. All TBAs practicing within the Shendi PHC were administered with the structured questionnaires. The TBAs who agreed to participate further were administered the semi-structured open ended interview. Mothers who had given birth with the assistance of these TBAs two years preceding the study were administered the structured questionnaire. Among these mothers, those who agreed to participate further were administered with the semi-structured open ended interview. Figure 7.3 shows the links between the TBAs, mothers, and the two different types of data collection instrument.

The purpose of administering the questionnaires and interviews to trained and untrained TBAs was to compare the characteristics and birthing practices of the two groups. Mothers who accessed the service of the TBAs were administered the questionnaires and interviews as a verification of the information given by TBAs and to obtain an overview of the birthing practices adopted and preferred in the community. TBAs are an integral part of the community and therefore the mothers and their families form an important component of their effective participation and appropriate application of practices. By understanding the practices adopted by mothers during their latest birth experience and comparing the mothers assisted by trained and untrained TBAs, it was possible to arrive at a basic understanding of the impact of the training in the community and add detail to the understanding of post training practices.

Figure 7.3: The four questionnaires used in the study and the respondents to whom it was administered

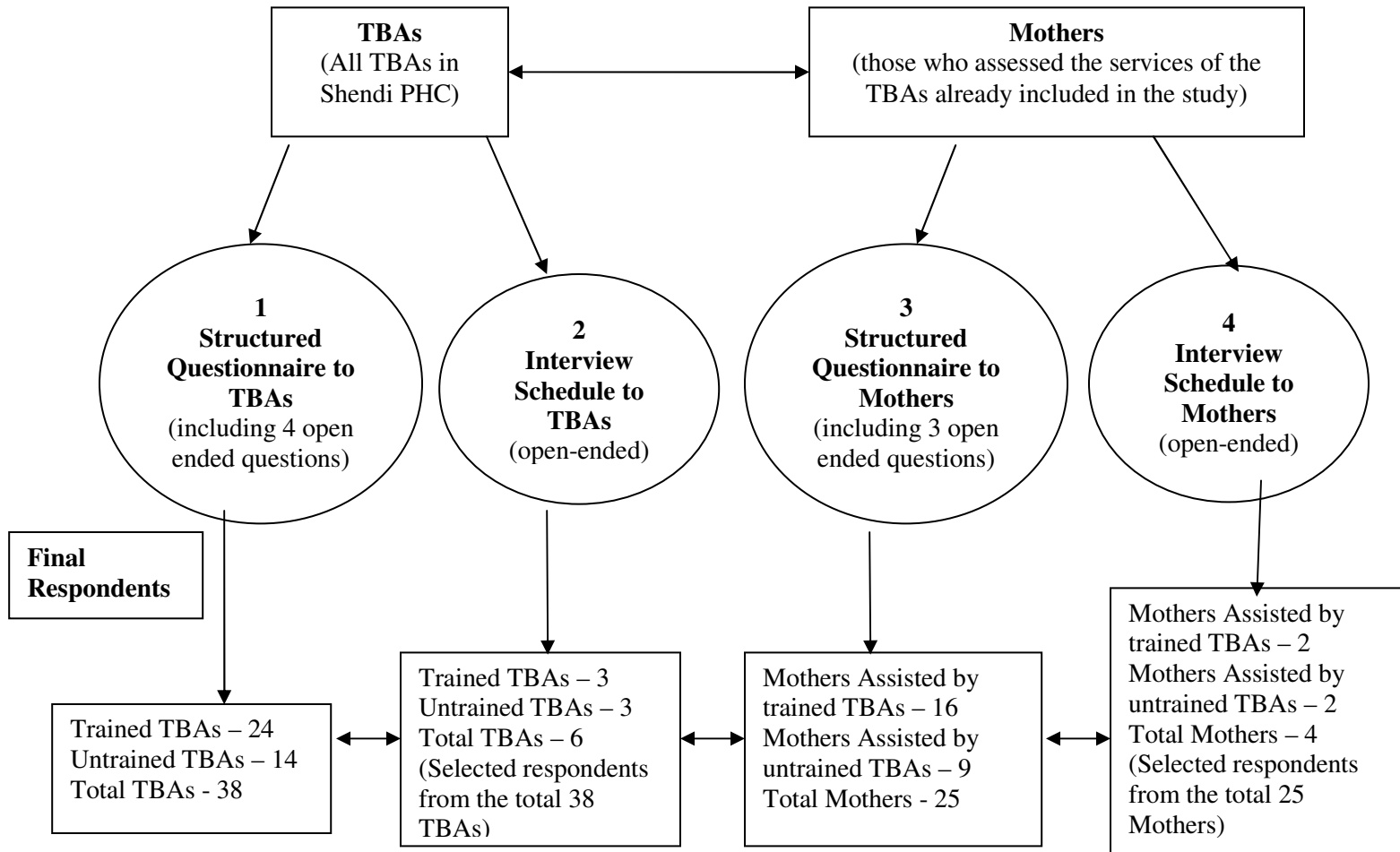


Table 7.3. provides information on the broad data collection and analysis methods used for addressing the research questions. The analysis is discussed in detail in section 7.4. The following section provides further detail about the questionnaires and interview schedules used and the selection of respondents.

Table 7.3. Summary of Data Collection and Analysis Method used to identify the Characteristics and Role of TBAs.

Data Collection	Analysis
1. Structured questionnaires administered to: <ul style="list-style-type: none"> • All TBAs (trained and untrained) practicing in Shendi PHC. • Mothers who had accessed the services of the TBAs (trained and untrained). 	1. Simple comparisons of response value distributions between the groups compared. 2. Actual sample numbers. 3. Life threatening practices. 4. Number of deliveries conducted by TBAs.
2. Open ended, semi-structured interviews administered to: <ul style="list-style-type: none"> • Selected TBAs (trained and untrained) who agreed to participate. • Selected mothers who agreed to participate, who had accessed the services of the TBAs (trained and untrained) 2 years preceding the study. 	1. Verbatim transcriptions. 2. Translation of transcripts to English. 3. Understanding the fabric of the content through several readings. 4. Identification of significant themes based on these readings.

7.4.1. The Development of the Questionnaires

The two structured questionnaires administered to TBAs and mothers had similar questions so that they could be compared. Similarly, the two semi-structured open ended interviews administered to TBAs and mothers had similar questions. TBAs were, however, asked additional questions about professional details and their training experiences. Tables 7.4 and 7.5 identify the broad sections covered in the structured

questionnaires and the semi structured open-ended interview schedules administered to TBAs and mothers.

Table 7.4. Broad Sections in the two Structured Questionnaires Administered to TBAs and Mothers

Section	TBA Questionnaire	Mother's Questionnaire
1	Identification information	Identification information
2	Household information	Household information
3	Professional information of TBA	Type of maternal care sought of latest pregnancy
4	Antenatal care	Antenatal care
5	Delivery care	Delivery care
6	Maternal complications	Maternal complications
7	Clean surface and cord	Clean surface and cord
8	Other practices	Other practices
9	Post natal care	Post natal care
10	Advice given on breastfeeding	Advice received on breastfeeding
11	Family planning	Maternal problems faced
12	Payment	--
13	Supervision	--
14	Urgent needs	--
15	Number of deliveries per year	--

The structured TBA questionnaire included sections on individual, household, and professional information about each TBA. In addition, information was collected on antenatal and delivery care, maternal complications, clean surface and cord, other practices post natal care, advice given on breastfeeding, family planning, payment received, supervision, their opinion of the significant maternal and child problem faced in the community and solutions to these problems (Table 7.4.).

The structured mother’s questionnaire included sections on individual and household information, maternal care during their latest pregnancy, antenatal care, delivery care, maternal complications, clean surface and cord, other practices, post natal care, advice received on breastfeeding and maternal and child problems faced, solutions and unmet health needs. As can be seen in Table 7.4 there are similarities in the sections covered in the TBA and mothers questionnaires so that the responses by each group can be compared.

The semi-structured interview schedule administered to TBAs included sections on opinions about TBA practices, antenatal and delivery care, complications, post partum care, and remuneration that TBAs receive for their service and their opinion about the TBA training (Table 7.5). The open ended interview schedule administered to the mothers had very similar sections, except the first section which focused on the mother’s health care choice for delivery. The sections included in this questionnaire were maternal care choices, antenatal and delivery care, management of complications, post-partum care, and remuneration given to TBAs for their services.

Table 7.5: Broad Sections in the Two Open-ended Interview Schedule: Administered to TBAs and Mothers

Section	TBA Questionnaire	Mother’s Questionnaire
1	People’s opinion regarding their practice	Maternal care choices
2	Antenatal care	Antenatal care
3	Delivery	Delivery
4	Complications	Complications
5	Post Partum	Post Partum
6	Remuneration for the service	Remuneration for TBAs’ service
7	Training of TBAs	--

The Tables 7.6 and 7.7 provide a detailed overview of the broad sections and the relevant questions within the questionnaires administered to TBAs and women according to the objectives and the research questions examined in the study.

Table 7.6. Summary of sections and question numbers in the questionnaires that identify the characteristics of TBAs and their role in providing maternal health care

Research Questions	Structured Questionnaire – TBA	Structured Questionnaire - Mothers	Open-ended interview schedule - TBAs	Open-ended interview schedule – Mothers
1 What are the socio-demographic and professional characteristics of TBAs?	<p>Household information Age, sex, marital status, occupation, education and earning of each person in the household. (2.2. to 2.9)</p> <p>Socio economic status Religion and caste of the head of the household, house type and agricultural land (2.10a. to 2.10h.).</p> <p>Professional Information Source of learning skills, purpose of learning, reason for recognition in the community, years of experience, payment received for their service and workload (3.1. to 3.4., 12.1, 12.2., 13.6.)</p>	Reasons for Choosing Home Births (3.4.) Length of Period of acquaintance with TBA (4.3.).	Perception of TBA’s work in the family and community (1.1. to 1.5.) Why do people prefer TBAs than doctors/nurses (3.6.).	Choice of home births (1.1.). Opinion Regarding TBA and her services (1.2.).
2 What is the involvement of TBAs in the antenatal period?	Timing of first contact with women, reason for this contact, kind of antenatal care given (4.1. to 4.4.).	Timing of first contact with women, reason for this contact, kind of antenatal care sought from TBA. (4.1., 4.2., 4.4., 4.5.)	The antenatal advice given by TBAs. (2.1., 2.2.)	The antenatal advice sought by women (2.1., 2.2.).

Table 7.6: Continued

	Research Questions	Structured Questionnaire – TBA	Structured Questionnaire - Women	Open-ended interview schedule - TBAs	Open-ended interview schedule - Women
3	When are TBAs summoned during delivery?	Timing of summoning TBA during delivery (5.1.)	Timing of summoning TBA during delivery (5.1.)	Timing of summoning TBA during delivery.	Timing of summoning TBA during delivery.
4	What is the extent to which TBAs convey basic post natal advice?	Cleaning and keeping baby warm after birth. (9.4., 9.6.) Advice on breastfeeding (10.1.) Advice on family planning (11.1, 11.2.) Post natal food advice (9.12.). Immunization advice (9.14.). TBA checks on mother and baby after birth (9.8., 9.10.)	Immunization advice from TBA (9.13.). Breastfeeding advice from TBA (10.1.). TBA checked on mother and baby after birth (9.7., 9.9.)	--	--
5	What is the role of TBAs in recognising and managing complications and referral?	To what extent do TBAs manage complication themselves and what action is taken. (6.1.)	Complications faced and action taken by TBAs (6.1. and 6.2.)	Person making decision about referrals and complications.	Person making decision referrals and complications.

Table 7.7. Summary of Sections and Question Numbers in the Questionnaire that Examine Selected TBA Practices

	Research Questions	Structured Questionnaire – TBA	Structured Questionnaire - Women	Open-ended interview schedule - TBAs	Open-ended interview schedule - Women
1	What is the birthing position adopted in home births?	Birthing position in which delivery conducted generally (5.7.).	Birthing position in which delivery was conducted in the latest delivery (5.4.).	--	--
2	Are TBAs applying the basic hygienic while conducting delivery?	Washing hands with water and or soap before starting work, before cutting cord and vaginal examination and material used to wash hands (5.5., 5.6.). Other practice: The practice of normally conducting vaginal examination during delivery (8.1.). Material used to cut cord (7.3.) Cord care - open ended responses (7.4.) Material on which delivery conducted (7.1.). Usage of delivery kit by trained TBAs (5.4.). Replenishment of delivery kit (13.3, 13.4.).	Material used to cut cord (7.3.). Material on which delivery conducted (7.1.).	Who decides about cord cutting?	Who decides about cord cutting?

Table 7.7. (Continued)

	Research Questions	Structured Questionnaire – TBA	Structured Questionnaire - Women	Open-ended interview schedule - TBAs	Open-ended interview schedule - Women
3	Are TBAs making use of safe practices in caring for new born babies?	<p>Safe Practices Bathing babies immediately after birth (9.4., 9.5.). Keeping babies warm after birth (9.6., 9.7.). Advice on colostrum feeding (10.1., 10.2.). Weighing of babies (9.1. to 9.3.).</p>	<p>Safe Practices Bathing babies immediately after birth (9.3., 9.4.). Keeping babies warm after birth (9.5., 9.6.). Advice on colostrum feeding (10.1., 10.2.). Weighing of babies (9.1., 9.2.)</p>	<p>Safe Practices TBA opinion on colostrum feeding.</p>	<p>Safe Practices Women’s opinion on colostrum feeding.</p>
4	What are the practices adopted in managing maternal complications?	<p>Complication Management Transverse lie (6.1.). Related practice: whether TBAs normally try to change position of the baby (8.1.). Breech presentation of baby (6.1.). Retained placenta (6.1.). Excessive post partum Bleeding (6.1.). The questions were whether these cases were generally handled by TBAs and the action taken for each of these cases (open ended response).</p>	<p>Complication Management Transverse lie (6.1., 6.2.). Breech presentation of baby (6.1., 6.2.). Retained placenta (6.1., 6.2.). Excessive post partum bleeding (6.1., 6.2.). The questions were whether the woman had faced any complications and what was done in that particular case (open ended response).</p>	--	--

The following section detail the questions included in each section of the four data collection tools included in the study. The section discusses the tools in the order of the questions asked within the questionnaires and interviews and not according to the research questions. This method of explaining the questionnaire has been sought to avoid repetition as each section includes questions on the role of TBAs as well as the birthing practices.

7.4.1(a) Structured questionnaire for TBAs: The structured questionnaire took approximately 40 to 50 minutes to administer. This section explains the questions included in each section of the structured questionnaire prepared for TBAs and its purpose (Appendix 1).

(i) Identification Information: The identification details in the questionnaire included; questionnaire number, name of village, household number and person code.

(ii) Household Information: This section included individual and household information. Individual information included questions on age, sex, occupation, education, highest grade completed, and occupation of the respondent. Questions were asked of every member of the household. All of these questions were open-ended except the sex and person code which was coded according to relationship with the household head.

(iii) Professional Information of TBA: This section collected professional information about TBAs and included questions on source of learning their skills, reasons for joining the profession and recognition in the community, years of experience and the persons learning the skills within the family. Each of the questions had closed-end choices but the last choice was left open-ended to allow the respondent to give an answer other than the choices listed. The questionnaire for mothers did not include this section.

(iv) Antenatal Care: This section included questions about the antenatal role and practices of TBAs, the timing of the first contact between TBA and mothers, and the kind of antenatal advice provided to them. These questions listed the most likely responses and the last choice was left as open-ended so that respondents could choose to provide a different answer apart from the fixed-choices. Mothers were asked similar questions about their first contact with the TBAs and the antenatal advice they received.

(v) Delivery Care: This section asked information on the role of TBAs in delivery care and various other practices adopted by TBAs during delivery. The questions pertained to the timing when TBAs were summoned, the place of delivery, items carried by TBAs during delivery, the practice of washing hands at different times during delivery, and the position used during delivery.

(vi) Maternal Complications: The section included questions on whether TBAs would handle some of the major complications by themselves and what action they would take when they face these situations. The complications included were failure to dilate, transverse lie and breech presentation, cord and placenta prolapse, and retained placenta and excessive postpartum bleeding. The first question was about whether TBAs would handle each of these situations categorized as a ‘yes’ or ‘no’ answer; however the second question about how they would handle such a situation was left open-ended.

(vii) Clean Surface and Cord: This section included TBA practices about clean cord and surface and questions included were; material used for cutting the cord, general cord care, material used on which women generally deliver, and clothes worn during delivery. The question on cord care was open ended. All other questions had the most likely choices listed and the last choice was left as open ended.

(viii) Other Delivery Practices: This section included a combination of practices that can be linked as a cross-check with other sections of the questionnaire such as; the general practice of vaginal examination of mothers by TBAs was linked with the information provided by TBAs on whether they washed their hands before conducting an

internal examination. The practices included were examination of the position of the baby, abdominal massage during delivery, advice about food, changing the position of the baby, checking the woman's pulse or blood pressure, conducting vaginal examination, pushing on the stomach during the delivery, forced vomiting during delivery, episiotomy during delivery, massage with oil in the vaginal area, helping pregnant women to abort the baby, and any other practices they may want to specify. All these practices had 'yes' or 'no' response categories.

(ix) Post-natal Care: This section included questions about whether the weight of babies were generally checked and with what material, whether the babies were bathed after delivery, whether there were any measures to keep the baby warm after delivery and what material was used, whether mothers and babies were checked again after delivery and when, food recommendations for mothers after birth, and referral advised for immunization.

(x) Breastfeeding: The TBA questionnaire included questions about the role of TBAs in providing breastfeeding advice and the kinds of advice given to initiate breastfeeding, and the number of months they advised mothers to exclusively breast feed.

(xi) Family Planning: This section included questions about whether TBAs give advice on family planning and the kinds of family planning methods covered in the advice.

(xii) Payment: This section included questions about what payment in cash or kind do TBAs generally get for their services and how much. TBAs were also asked if they receive any payment from the Government of India for their services. The amount of money received was left as open ended.

(xiii) Supervision: This section of the questionnaire included questions on; whether TBAs received any supervision from the formal health system and if yes from whom, whether they received any replenishment of the delivery kit and if yes how many times, and what expectations do TBAs have from the formal health care system. This section

also included a question about whether the TBA faced any hurdles from the community while working as a TBA.

(xiv and xv) Urgent Needs and Number of Deliveries Conducted: The last question of the TBA questionnaire pertained to the maternal and infant health problems faced in the village according to the perspective of the TBA and number of deliveries conducted per year.

7.4.1(b) Structured Questionnaire for Mothers: Most of the sections in the TBAs' questionnaire and the mother's questionnaire were similar (Appendix 1). The main difference being the questionnaire for mothers asked about their latest birth experience and the role of the TBA who assisted them, whereas the TBAs were asked about the practices they generally adopt during childbirth assistance. The structured questionnaires to mothers took approximately 30 to 40 minutes to administer.

(i) Identification Information: The identification information included in the mother's was the same as the TBA questionnaire. It included questionnaire number, name of village, household number and person code.

(ii) Household Information: Similarly the questions in this section had exactly the same questions as the TBA questionnaire. It included questions on age, sex, occupation, education and earning of mothers as well as other persons in the household. All these questions, except sex, included the most likely responses and the last choice was left open ended.

(iii) Maternal Care of Latest Pregnancy: Questions about women's latest pregnancy were included such as mother's choice of antenatal care, preferred place of birth and the reasons for this choice. These questions had listed the most likely responses and the last response was left as an open ended choice.

(iv) Antenatal Care: This section had similar questions to the TBA questionnaire. Mothers were asked information on assistance sought from TBAs on antenatal care; timing of first contact with TBAs and nature of advice provided by them. An additional question was included about the number of years the woman had known the TBA who assisted their latest birth. The response was left as open ended to be recorded as months or years.

(v) Delivery Care: The section asked mothers about the time TBAs were summoned during delivery and the birth position adopted during the latest delivery.

(vi) Maternal Complications: The section included questions about whether mothers had faced any complication during their latest pregnancy and how it was handled. The second question on how the complication was handled was left as open ended.

(vii) Clean Surface and Cord: This section included practices of clean surface and cord care adopted by mothers during delivery. Similar to the TBA questionnaire, this section included the material used on which mothers gave birth, material used to cut the cord and clothes worn during the delivery. The question on material used for cutting the cord had some likely choices and had left the last choice open for respondents. The question on general cord care was also open ended.

(viii) Other Delivery Practices: This section included a question on certain practices that TBAs may have adopted during their latest delivery such as attempting to change the position of the baby, conducting massage during delivery, vaginal examination and episiotomy, examining the position of the baby, advising about food, checking the woman's pulse, pushing on the stomach during the delivery, forcing to vomit during delivery, massage of the vaginal area with oil, helping to abort the baby, and any other practice they may want to specify.

(ix) Post-natal Care: This section asked about the role of TBAs and practices adopted during the post natal period and included questions on whether the weight of her latest baby was checked and with what material, whether the baby was cleaned after delivery and what material was used, whether measures were taken to keep the baby warm after delivery and what material was used, whether the TBA checked on her and her baby again after delivery and when, whether the TBA advised about food for mothers after birth and whether the TBA advised her about immunization.

(x) Breastfeeding: This section asked mothers about the role of TBAs in advising about breastfeeding and the breastfeeding practices followed by them such as; initiation of breastfeeding, exclusive feeding and length of feeding.

(xi) Maternal Problems Faced: The last two questions pertained to the problems faced by women and children in the community and their urgent perceived needs; both were open ended.

7.4.1(c) Semi Structured Open-ended Interview Schedule for TBAs: The open ended interview schedule administered to TBAs aimed to gather more detailed information on the role of TBAs in providing maternal and infant care and on their birthing practices. This section explains the questions included in the open-ended interview schedule prepared for TBAs and its purpose. The time taken for the open-ended interview schedules varied depending on the interest of the TBAs.

(i) Opinion Regarding Their Practice and How People Perceive Their Work: This section aimed to explore whether the role of TBAs in the community is perceived as an important service, or conducting a dirty menial job as observed by some studies. The questions posed to TBAs were the opinion of the family members and respect of the community about their profession and persons pursuing their skills within their family. The section also asked a question about the changes taking place due to training programmes.

(ii) Antenatal Care: This section examined the timing of the TBAs involvement with pregnant women in the community and whether mothers take their advice on antenatal issues.

(iii) Delivery Care: This section asked TBAs about decision making in relation to complications, referral, and cord and placenta management. TBAs were also asked whether they accompany mothers to health centres during emergencies, and the reasons why people prefer to birth with the assistance of TBAs.

(iv) Complications: This section asked TBAs about how people behave when faced with a complication, and the decision making processes during such emergencies.

(v) Post-partum Care: The section asked TBA's about special care taken for mothers and babies during the post partum period and their opinion about colostrum.

(vi) Remuneration for Their Service: TBAs were asked about the remuneration they receive and their satisfaction with their payment: they were also asked about payment received from the government.

(vii) Training of TBAs: TBAs were asked about their opinion of the training programme and its impact on their practices.

7.4.1(d) Open-ended Interview Schedule for Mothers: Most of the sections covered in the interview schedule for mothers overlap with the sections covered in the interview schedule administered with TBAs. The questions asked of the women were used to supplement the information that was asked of TBAs. Similar to the open ended interview schedule administered to TBAs, the time taken for the open-ended interview schedules to mothers varied depending on their response.

(i) Maternal Care Choices: In this section mothers were asked about their opinion of the services provided by TBAs and why they chose to birth at home with their assistance. The TBAs were asked about the people's opinion about their service in the open ended interview schedule and in turn, this section provides the perceptions of mothers about the TBAs' services.

(ii) Antenatal Care: The mothers were asked whether they approach the TBA for antenatal care services and the kind of services sought. The women were also asked about when they inform the TBA about their delivery requirements. This information complements the information asked of TBAs about the antenatal services they provided.

(iii) Delivery Care: Mothers were asked about what material is used to cut the cord and who makes the decision about it. This gives a broad idea about whether TBAs are involved in the decision making about who cuts the cord and the material used to cut the cord.

(iv) Complications: Mothers were asked about what action was taken during complications, who makes the decisions and who accompanies women. The aim was to gather more information about the role of TBAs in decision making during complications.

(v) Postpartum Care: This section included questions about the mother's opinion about colostrum and what kind of specific care was provided by TBAs to mothers and babies.

(vi) Remuneration for TBA Services: The mothers were asked questions about what kind of payment was made to TBAs for her services.

7.4.2. Ethical clearance

When working with human subjects there is a requirement that the study protocol is framed within ethical principles. Ethical clearance for this study was obtained from the 'Human Research Ethics Committee', Queensland University of Technology, Brisbane,

Australia before starting the data collection process in India in May 2005. A copy of the questionnaires and research plan were submitted for this purpose. Minor changes were made to the questionnaire after the pilot study and these were notified to the ethics committee.

7.4.3. Translation of the Questionnaires

The questionnaire was developed in English and translated into Marathi (the local language of Maharashtra State) by professional translators. PMT assisted by providing a translator for the questionnaire. Being a tribal area, the local dialect used was slightly different from the Marathi language. The translator originally came from the study area and therefore the local dialect was included in the translated version of the questionnaire. The translation was undertaken in my presence while I was in PMT at Loni, so that any doubts could be clarified face-to-face. The same translator also back-translated the open-ended responses within the structured questionnaires and the semi structured open-ended interview schedules.

7.4.4. Collection of Training Documents

Electronic mail correspondence with the organisation involved in the training, PMT, began in March 2005. During these communications basic information on the training was provided by PMT. The document sent by PMT contained information on; when the training was conducted, training module, training material, follow-up programme, supervision, post-training evaluation, the trainers, a report on baseline survey, demographic profile of the selected block, list of sub-centres in the study area and list of trained TBAs and their village names (the document is enclosed as Appendix 4).

7.4.5. Approach to the Community

The method used to approach the community is important in communities such as India because the approach taken can influence people's responses to research queries. In this case the community consisted of the 16 villages within the Shendi PHC. In India, there are three approaches generally used to approach the community. One approach is to meet government officials and be introduced in the village community through them. The

second approach is to be introduced to the community through local NGOs working in the area. The community can also be approached directly by meeting the village leaders; this approach however requires a letter from the relevant government personnel which is time consuming and it takes a long time for people to exhibit trust and answer honestly.

Each of the approaches has disadvantages as the responses given by people may vary according to the approach taken. When introduced by government personnel, people may refrain from criticising the government programmes and personnel. When introduced by the local NGOs, respondents may frame their answers according to what is expected of them by the NGOs. The other disadvantage is that the NGO and government personnel may try to give a biased opinion about the ongoing programme. In this study, the second approach was mainly adopted and the local NGO was approached initially from Australia to obtain information about the training programme and later in the field to gain entry into the study area. The government personnel were also approached to provide information about the study. To overcome the limitation of approaching the community through an NGO, the information gathered from TBAs was verified with mothers who accessed their services. My experience with TBAs has been that after listening to the consent form that was read before every interview, they understood that my study was independent to the NGO. Subsequently, TBAs approached me to talk about their experiences and grievances with the local NGO.

7.4.6. Recruitment of Enumerators

Enumerators are individuals responsible for interviewing respondents and therefore play an important role in determining the quality of the data collected (Park 2006). In this study one female and one male enumerator was recruited to help with data collection. These were professional staff already working in the local NGO and belonged to the community where the study was conducted. The male included as an enumerator was familiar with the women as he belonged to the community and had already worked in every village of the community as a health worker in the ongoing NGO health awareness programmes. These enumerators were familiar and experienced with the methods of data collection as they had been previously involved with research programmes in the NGO.

However, they were not persons who were directly involved in the TBA training programme in the study area. The other advantage of choosing these enumerators was that they could understand the local circumstances and local dialect.

Before starting the data collection, the enumerators were informed about the aims of the research and the significance of the sections of the questionnaire. They are also trained about basic interview techniques (e.g. polite and respectful behaviour and to avoid asking questions in a leading way). The pilot study provided an opportunity to observe and correct the enumerators. The work of enumerators was monitored systematically. I reviewed completed questionnaires each evening and as I was living with the enumerators for the period of the data collection ongoing discussion every evening was possible.

7.4.7. Pilot Study

A pilot study was conducted in Kumshet village in the adjacent Maveshi Primary Health Centre, which is not included in the main study area. A few TBAs (4) and mothers (4) were interviewed using the structured questionnaire. During the pilot study, a reliability test was conducted where the two enumerators recorded responses for the same interview and the differences were then discussed to reduce discrepancies. The pilot also provided training for the enumerators and helped to determine which question sequence yielded the most useful and comprehensive data. Few changes were made to the questionnaire after the pilot study: only a few repeated questions were deleted. There was also an informal discussion with the ANM at Maveshi PHC. The Maveshi PHC was visited also to observe the birthing facilities provided at the health centre.

7.4.8. Selection of Participants

This study adopted a case study method and covered all the trained TBAs and untrained TBAs practising in Shendi PHC. A list of all trained and untrained TBAs was therefore prepared. The number of trained TBAs within the PHC was known from PMT which conducted the training programme. However the list of untrained TBAs was unavailable. The study also aimed to include mothers who had accessed the services of these TBAs in

the two years preceding the study. This section explains how many TBAs and mothers were included in the study and how they were identified and selected for administering the structured questionnaires and the open-ended interviews.

7.4.8(a) Structured Interviews: This section explains how the TBAs and mothers were identified and selected and how many participated in the study.

Trained TBAs: This group included TBAs practicing in the community who had received training from the recent training programme conducted by PMT in 2002. The list of names and addresses of the 32 trained TBAs trained from Shendi PHC was available from PMT. All the 32 TBAs trained from Shendi PHC in the training programme held in 2002 were approached for structured interviews. Out of the 32 trained TBAs included, seven trained TBAs did not practice as birth attendants anymore and one had moved residence and was therefore excluded from the study. This reduced the total respondents to 24 trained TBAs.

Untrained¹⁹ TBAs: Untrained TBAs have been defined in this study as TBAs practicing in the community but have not received any formal training for the past 10 years. TBAs who have received training in the last 10 years and had not received any refreshment training were considered to be untrained TBAs in this study. Although government documents maintain that the list of functioning TBAs should be available at the PHC, the list of untrained TBAs was not available with the PHC nor the NGO working in the area. The list had to be prepared in the study area with the help of the locally available resource persons. ANM is a government health worker appointed at PHSCs and is expected to perform functions such as conducting deliveries and treatment for childhood illnesses (Mohan et al 2003). The first person of contact that people look out for when faced with complications is usually ANMs located in sub-centres. Therefore the ANMs are likely to know most of the TBAs practising within their work area. Anganwadi workers (AWs) provide a vital service after the birth of children; they check the weight of

¹⁹ Untrained TBAs: (UTTBAs) have been defined as a person (normally a female), who assists anyone who calls upon her service and who initially learns her skills delivering babies by herself or by working with another, more experienced TBA, and who has not received any formal training for the past 10 years.

babies, provide information on regular health check-up, immunization, health education and provide non-formal pre-school education to children. The best available resource persons therefore in the given context were the ANMs and AWs. Both these resource persons were asked to provide the names of practicing untrained TBAs. This approach of using more than one resource person to list the respondents reduces selection bias. These TBAs were then approached to see if they were willing to undertake a face to face interview and all agreed to participate. It was expected that there would be at least one untrained TBA in every village. However, only 14 untrained TBAs who were consistent with the definition were practising in the 16 villages of Shendi PHC.

Mothers: The mothers were defined as women in Shendi PHC who have given birth two years preceding the period of the study (June 2005) and had been assisted by trained or untrained TBAs included in the study. One option available to identify the women was to ask the TBAs about their clients. However, this was likely to have serious implications for bias in the recruitment. Therefore the approach used for recruiting untrained TBAs was also used for the mothers. The functions of an AW generally equip her with the knowledge of every birth in her area of work and the TBAs who assisted the birth. The ANMs and AWs were therefore asked whether they were aware of the women who had delivered with the assistance of the already listed trained and untrained TBAs in the last two years. It was expected that at least one woman could be interviewed for every trained and untrained TBA included as participants. However it was found in the field situation that some women had visited their maternal village only for the delivery and postpartum period and had returned to their husband's home thereafter²⁰. It was also difficult to find mothers as some were away visiting relatives. It was therefore not possible to find at least one mother for every TBA interviewed. The respondent list therefore included 16 women who were assisted by trained TBAs and 9 who had received assistance from untrained TBAs, giving a total of 25 mothers recruited for the study.

²⁰ In India there is a culture that women after marriage shift to the husband's place of residence. There is also a culture that women visit their maternal home for their first delivery and remain there for a few months after delivery.

7.4.8(b) Open Ended Interview Schedules: The respondents for the open-ended interviews were selected according to the convenience of the participants. The criterion for selecting participants was mainly their availability. All of the respondents were asked if they could spend more time to conduct an open-ended interview and only a few agreed as it was a very busy agricultural period (onset of the monsoons). Several participants were also working as agricultural labourers and were not in a position to spend more time. Totally 6 TBAs and 4 mothers gave consent for an open-ended interview (n=10).

7.4.9. Interviews

In order to conduct quantitative and qualitative interviews I accompanied the enumerators to villages and was present at almost every interview. The interview was conducted by local enumerators because although the principal researcher was familiar with the language used in the state, on reaching the field it was found that there were local dialects used in this tribal area that I was unfamiliar with. The enumerators belonged to the study area and therefore it was easier for the enumerators to conduct the interview. The advantage of accompanying the enumerators was an opportunity to observe the responses of the participants face-to-face, and gain a first-hand experience of each respondent included in the study. It also provided an opportunity to monitor the enumerators in the interview process and get acquainted with the local dialect. This also opened-up opportunities for some TBAs to approach me with their grievances and complaints about the local NGO.

Throughout the villages, information quickly spread about an independent researcher who was visiting to gather information on TBAs and their work. The TBAs felt free to approach me when I visited the village to speak out about their grievances and complaints about the selection criteria used by the NGO for training TBAs. I therefore decided to administer the open ended interviews with TBAs and mothers by myself. The semi structured open ended interviews are therefore a very important component of this study. The respondents were visited at their households to administer the questionnaires and the interviews. After an introduction, the consent form was read to the respondents as most of them were non-literate.

7.4.9(a) Information Recording: Each question in the structured questionnaire was read out by the enumerators to the participants and the responses were recorded on the questionnaire. If their response was not among the choices mentioned in the questionnaire, the specific response given was noted in category of ‘any other response’. The open ended interviews were conducted by me and the responses were also transcribed by me in Marathi language. The open-ended responses were written down word by word immediately and later translated by a professional translator. No audio taping of the interviews was conducted.

During the interviews in the households of the TBAs and mothers, other family members such as mothers, mothers-in-law, sisters or sister-in-law and in some cases neighbouring women were often present during the interview. However, this is not likely to affect the responses of the TBAs or mothers. Husbands were not present during the interviews. Moreover, no questions required strict privacy, and care was taken to ensure that the responses were provided by the respondent and not prompted or influenced by other people.

7.5. DATA ANALYSIS

7.5.1. Data Entry and Coding

After data collection, the questionnaire responses obtained from the quantitative questions by the 38 TBAs and 25 mothers were coded and entered into the computer using Excel spreadsheet and transformed into SAS software for further use. Consistency checks were undertaken using simple cross-tabulations as the number of respondents was small. A record was maintained separately for TBAs and mothers which included the variables and value labels. Further analysis was performed using SAS software.

7.5.2. Data Analysis

The data analysis of the structured questionnaire involved a comparison of practices between the trained and untrained TBAs complemented by a comparison between the

responses of mothers assisted by trained and untrained TBAs. The analysis of the semi structured interviews involved identifying main themes based on numerous readings of the transcripts.

7.5.2(a) Quantitative Data

The main component of the analysis of the quantitative data was a comparison between the trained and untrained TBA, and the two groups of mothers. Given the small number of respondents (38 TBAs and 25 women), formal statistical analysis of the data was not appropriate. However, it needs to be noted that each of the 38 TBAs potentially represents the several deliveries that she conducts every year. Therefore the practices (useful or harmful) adopted by one TBA can have implications for the health of many mothers and infants. On the other hand, the birthing practices adopted by each mother was based on her latest birth experience. Therefore this study consists of 25 birth experiences of mothers, and the practices generally adopted by 38 TBAs in providing maternal and infant health care service. Similar studies with small number of respondents have conducted to assess knowledge and practices of TBAs in India (Kumar et al., 2000, Bhale and Jain 1999). Another study conducted in Somalia conducted semi structured interviews with TBAs and mothers to assess the role and effectiveness of TBA training programme (Prendiville 1998).

The data analysis was based on a four point assessment which included; a simple comparison of responses between the groups compared, actual sample numbers, life threatening practices based on literature review, and number of deliveries conducted by TBAs especially when the practice was noted to be life threatening. Based on the literature review, certain practices that could possibly cause severe health risks were considered important even when the cases or percentages. Fourthly, the practices that were likely to cause serious health problems to mothers and infants were also analysed on the basis of the number of deliveries conducted by the TBAs adopting those harmful practices. Given the understanding that each TBA can have health implications for several women, even when the numbers were small, some practices can be identified as significant in terms of the impact of the health of mothers and babies.

7.5.2(b) Analysis of the Qualitative Data

Text or narrative data come in different forms and a variety of sources such as open ended questions, testimonials, individual interviews, focus group interviews, observations, documents, stories and case studies (Hancock 2002). Analysis of qualitative data depends on understanding the data, which is generally done by reading and re-reading the text (Green and Thorogood 2004). Reading and re-reading the text helps ensure that data are correctly identified (Bryman and Burgess 1993). Analysis can also be done by organising the data by question to look across all respondents and their answers in order to identify consistencies and differences (Hancock 2002). Later connection between and relationships between questions can be explored. Information in qualitative analysis can be categorized by identifying themes or patterns (Green and Thorogood 2004). While doing so one might identify other themes that serve as sub-categories.

This study used individual interviews consisting of open ended questions and a few such questions within the structured questionnaires, the responses of which consisted of single verse brief phrases or full paragraphs of texts. The response of the interview schedule was written in local language and then translated by a professional translator as was also done with the open ended response in the quantitative questionnaire. All the responses to any one open-ended question was put together in categories of trained TBAs, untrained TBAs, and women assisted by trained or untrained TBAs. This helped assessing the similarities and differences in responses between trained TBAs and untrained TBAs and between TBAs and women. This was done with all the open-ended questions. The data was analysed by reading and re-reading and highlighting any meaningful responses by TBAs and women for further use. This was then categorised into themes and subcategories. Certain responses added meaning to the quantitative findings and some others added to new themes. The sections of the interview schedules were similar to the sections included in the structured questionnaires (Also refer table 7.4 and 7.5.). Combining the interview schedules with quantitative questionnaires administered to the same respondents helped in re-checking the information. Similar sections in both

quantitative and qualitative were helpful in identifying the connections and relationships between the responses.

7.6. CONCLUSION

This chapter described the initial problems faced in data collection and the resulting change in the plan of the study. The study area was introduced and the maternal and child health situation in this area was compared with Maharashtra State and India. The chapter also described the data collection and analysis method used in this study. The next chapter presents the results that emerged from the analysis of the quantitative data.

CHAPTER 8

QUANTITATIVE RESULTS

Introduction

In order to identify the characteristics and social roles of TBAs, and to assess whether biomedical practices conveyed during the training are evident in the practices of trained TBAs, their characteristics and birthing practices have been compared with the untrained TBAs and have been simultaneously verified with the mothers who accessed the services of these TBAs. In this chapter the results emerging from the quantitative data collection are presented. The chapter has been divided into two sections. The first section examines the characteristics of TBAs and their role in providing basic maternal health care services during the antenatal, delivery, and postnatal period. The second section assesses the birthing practices of TBAs in relation to the biomedical information conveyed to TBAs during the training. The findings are presented in the same order as the objectives and research questions identified in Chapter 1. Wherever applicable, a section first examines the responses of the TBAs followed by the responses of the mothers.

8.1. CHARACTERISTICS AND ROLE OF TRADITIONAL BIRTH ATTENDANTS

The contribution of TBAs to maternal and infant health care was identified by examining the socio-demographic characteristics of TBAs and their role in antenatal, delivery, and post natal care of mothers and infants. The main characteristics of TBAs examined include age, literacy level, years of experience, source of learning skills, and recruitment within the community.

8.1.1. Socio-Demographic Characteristics of Traditional Birth Attendants

The socio-demographic characteristics of TBAs included their age, sex, marital status, educational status, occupation and monthly earnings (Table 8.1). The data reveals that all TBAs were married mothers and most (76%) had not attended school. Of the few TBAs

(n=9) who had received schooling, nearly all (n=8) were trained. Most of the untrained TBAs were in the older age group (>49 years) whereas the trained TBAs were fairly evenly divided between the younger (35 to 49 years) and older age groups. Most TBAs (82%) were employed in the agricultural sector as their main occupation and owned agricultural land. A small number of respondents were employed exclusively as TBAs (n=5), and four of these were trained.

Table 8.1: Socio-demographic Characteristics of Traditional Birth Attendants

	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
<i>Marital Status</i>						
Married	14	100.0	24	100.0	38	100.0
<i>Sex</i>						
Female	14	100.0	24	100.0	38	100.0
<i>Educational Status</i>						
Has been to school	1	7.1	8	33.3	9	23.7
Never been to school	13	92.9	16	66.7	29	76.3
<i>Age-group</i>						
35-49	4	28.6	13	54.2	17	44.7
> 49 years	10	71.4	11	45.8	21	55.2
Average Age	54	years	46	years	49	years
<i>Main Occupation</i>						
Agriculture	11	78.6	20	83.3	31	81.6
Agricultural Labourer	1	7.1	0	0.0	1	2.6
Shop owner	1	7.1	0	0.0	1	2.6
Only work as TBAs	1	7.1	4	16.7	5	13.1
<i>Agricultural Land Ownership</i>						
Own land	12	85.7	23	95.8	35	92.1
Do not own land	2	14.3	1	4.2	3	7.9
<i>Monthly Earnings of TBA</i>						
Work only as TBAs	1	7.1	4	16.7	5	13.2
< Rs 1000 per month	2	14.3	0	0.00	2	5.3
Rs 1000/- to Rs 2000/-	11	78.6	20	83.3	31	81.6

The percentage of trained TBAs in the lower age group (35 to 49), and trained TBAs who had attended school, was notably higher than untrained TBAs. However it needs to be noted that only a minority of TBAs (10/38) had attended school.

8.1.2. Professional Characteristics of Traditional Birth Attendants

The professional characteristics of TBAs include the source of learning their skills, the purpose of learning, reason for recognition in the community, years of experience, payment received, and caseload.

8.1.2(a) Source of Learning: The main source of learning midwifery for trained TBAs was the formal training programme by the local NGO. More than half of the respondents in the study were trained TBAs (63%) and all had learnt their skills primarily from formal training programmes (Table 8.2). The main source of training for untrained TBAs was from their mother or a relative (50%), through their own experience (50%), and from other TBAs (14%).

Table 8.2: From whom did Traditional Birth Attendants learn their skills?

(Multiple Responses)	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Formal Training by CRHP	0	0.0	24	100.0	24	63.2
Mother/Relative	7	50.0	8	33.3	15	39.5
Own Experience	7	50.0	6	25.0	13	34.2
Other TBAs	2	14.3	5	20.8	7	18.4

8.1.2(b) Reason for learning Skills: Most of the TBAs (79%) had joined the profession out of their own motivation and more than one fourth (26%) started working as TBAs to continue their household tradition (Table 8.3.). The trained and untrained TBAs responded similarly to this question.

Table 8.3: Reasons for becoming a Traditional Birth Attendant

Reasons (Multiple Responses)	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
To continue family tradition	5	35.7	5	20.8	10	26.3
To sustain livelihood	0	0.0	0	0.0	0	0.0
On advice of family members	1	7.1	2	8.3	3	7.9
Own motivation	11	78.6	19	79.2	30	78.9
On facing a maternal problem themselves	0	0.0	1	4.2	1	2.6

8.1.2(c) Reason for Acceptance in the Community: Most of the TBAs (68%) said a good birth outcome was an important reason for their acceptance as TBAs in the community (Table 8.4.). The other reason given by more than one third of the TBAs was goodwill towards them among the people in the community. The responses given by trained and untrained TBAs were similar.

Table 8.4: Reasons why Traditional Birth Attendants were accepted in the community

Reasons	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Goodwill	5	35.7	9	37.5	14	36.8
Good Outcome	11	78.6	15	62.5	26	68.4

The mothers were asked about the reasons why they chose to birth at home and the question was structured to allow them to provide more than one reason. Most of the mothers (88%) reported that they receive better care at home (Table 8.5). The second important reason for almost half the mothers (48%) to choose home birth was their trust in TBAs. There were no important differences between the mothers assisted by trained and untrained TBAs.

Table 8.5: Reasons why mothers assisted by trained and untrained TBAs chose home births

Reasons	Untrained (n=9)		Trained (n=16)		Total (n=25)	
	N	%	N	%	N	%
Better care at Home	9	100.0	13	81.3	22	88.0
Trust on TBAs	4	44.4	8	50.0	12	48.0
Long Distance	2	22.2	4	25.0	6	24.0
Transport not available	2	22.2	4	25.0	6	24.0
Loss of working days	0	0.0	3	18.8	3	12.0
Long travel time	0	0.0	1	6.3	1	4.0
Less faith in formal health workers	0	0.0	1	6.3	1	4.0
Due to decision making of family members	0	0.0	0	0.0	0	0.0
Don't know where to go	0	0.0	0	0.0	0	0.0

8.1.2(d) Number of Years of TBA Experience: All the TBAs had some experience assisting births (Table 8.6.). More than 60 percent of the TBAs (23/38) have more than ten years of working experience. Trained TBAs had lesser years of experience compared to untrained TBAs. The data show that untrained TBAs were more likely to have been practicing for eleven years or more.

Table 8.6: Number of years of Traditional Birth Attendant's Experience

Number of years	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
<=10 years	2	14.3	13	54.2	15	39.5
11 to 20 years	9	64.3	8	33.3	17	44.7
> 20 years	3	21.4	3	12.5	6	15.8

The mothers were asked about the number of years they had known the TBAs who assisted their latest birth (Table 8.7.). Most of the mothers had known the TBAs from two to five years and more than one fourth had known their TBAs more than ten years.

Table 8.7: Number of Years Mothers were acquainted with Traditional Birth Attendants: Responses of Mothers

Years of acquaintance with TBAs	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
< 1 year	1	11.1	0	0.0	1	4.0
2-5 years	4	44.4	11	68.8	15	60.0
6-10 years	0	0.0	2	12.5	2	8.0
> 10 years	4	44.4	3	18.8	7	28.0

8.1.2(e) Number of Deliveries Conducted in a Year: Most of the TBAs (76%) conducted 1 to 10 deliveries a year (Table 8.8). However, their caseload varied between less than 10 to 100 deliveries per year. There were four untrained TBAs and one trained TBA who conducted more than 40 deliveries in a year. Each of these untrained TBAs conducted 40, 50, 50 and 100 deliveries per year, and one trained TBA conducted 50 deliveries per year.

Table 8.8: Number of Deliveries conducted in a year: as responded by Traditional Birth Attendants

Deliveries assisted in the last year	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
<=10	8	57.1	21	87.5	29	76.3
11 to 20	2	14.3	2	8.3	4	10.5
> 40	4	28.6	1	4.2	5	13.2

8.1.2(f) Payment Received for their Services: Only about half of the TBAs received cash payment for their services (Table 8.9). More than one third of the TBAs (34%) did not receive any cash payment. Some of the TBAs (11%) provided their services voluntarily and did not receive any payment in cash or kind. A higher percentage of trained TBAs (67%) received cash for their services compared to untrained TBAs (34%).

Table 8.9: Payment Received by Traditional Birth Attendants for Their Service

Payment received for the service	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
In cash	5	35.7	16	66.7	21	55.3
In Kind	7	50.0	6	25.0	13	34.2
Receive nothing	2	14.3	2	8.3	4	10.5

8.1.3. Role of Traditional Birth Attendants in Providing Antenatal Care to Mothers

Most of the TBAs initially contacted the mothers during the first (50%) or second trimester (45%) and very few (5%) contacted them in the third trimester (Table 8.10).

Table 8.10: When Do Traditional Birth Attendants and Mothers Generally Make First Contact?

First Contact- Response by TBAs	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
First Trimester	7	50.0	12	50.0	19	50.0
Second Trimester	6	42.9	11	45.8	17	44.7
Third Trimester	1	7.1	1	4.2	2	5.3

Similarly about half the mothers said they would contact the TBAs during the first trimester (Table 8.11). Very few mothers (4%) said that they would contact the TBAs during the third trimester. The data show that a higher percentage of mothers assisted by trained TBAs (63%) made contact with their TBAs during the first trimester compared to those assisted by untrained TBAs (33%).

Table 8.11: When Did the Mothers and Traditional Birth Attendants Make First Contact During Pregnancy?

First Contact-Response by Mothers	Untrained (n=9)		Trained (n=16)		Total (n=25)	
	N	%	N	%	N	%
First Trimester	3	33.3	10	62.5	13	52
Second Trimester	5	55.6	6	37.5	11	44
Third Trimester	1	11.1	0	0.0	1	4.0

8.1.3(a) Advice given during first Contact: Most of the TBAs (84%) stated they generally advised mothers about having tetanus injections, folic acid tablets and checking weight during pregnancy (Table 8.12). A similar percentage (87%) also reported that they advise mothers about their diet during pregnancy. Almost all TBAs reported that they ask mothers to visit the PHC during pregnancy.

Table 8.12: Antenatal Advice generally given by the Traditional Birth Attendants

(Multiple Responses)	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Tetanus injection	11	78.6	21	87.5	32	84.2
Folic Acid Tablets	11	78.6	21	87.5	32	84.2
Checking mother's weight	12	85.7	20	83.3	32	84.2
Diet	11	78.6	22	91.7	33	86.8
Advice to visit PHC	12	85.7	23	95.8	35	92.1

In contrast to the response of TBAs, responses provided by mothers revealed that none reportedly received advice from TBAs about taking tetanus injection, folic acid tablets or checking weight during pregnancy (Table 8.13). Most of the mothers (72%) reported that the TBAs advised them to visit the PHC during pregnancy. All of the mothers reported they received advice on diet from their TBAs. A notably higher percentage of mothers assisted by trained TBAs received advice to visit the PHC during pregnancy compared to those assisted by untrained TBAs.

Table 8.13: Antenatal Advice Received from Traditional Birth Attendants by Mothers

(Multiple Responses)	Untrained (n=9)		Trained (n=16)		Total (n=25)	
	N	%	N	%	N	%
Tetanus injection	0	0.0	0	0.0	0	0.0
Folic Acid Tablets	0	0.0	0	0.0	0	0.0
Checking mother's weight	0	0.0	0	0.0	0	0.0
Diet	9	100.0	16	100.0	25	100.0
Advice to visit PHC	4	44.4	14	87.5	18	72.0

8.1.4. Role of Traditional Birth Attendants during delivery

All of the TBAs (100%) reported they were summoned during labor when the pain started. None of the TBAs reported that they were called for when the baby was about to be delivered.

Table 8.14: When Were Traditional Birth Attendants Summoned by Mothers During their Latest Birth?

	Untrained (n=9)		Trained (n=16)		Total (n=25)	
	N	%	N	%	N	%
When the pain started	9	100.0	11	68.8	20	80.0
When the baby is about to be delivered	0	0.0	5	31.3	5	20.0

Similarly, most of the mothers (80%) said they called for the TBA when the labor pain started (Table 8.14). The remaining 5 out of 25 mothers (20%) said they called for the TBA only when the baby was about to be delivered. All mothers who had summoned the TBA when the baby was about to be delivered were those who were assisted by trained TBAs.

8.1.5. Role of Traditional Birth Attendants in Handling Complications

TBAs were asked if they would handle the following situations themselves: transverse lie, breech presentation, retained placenta and excessive post partum bleeding. More than one third of the TBAs reported that they would manage breech presentation, transverse lie and retained placenta during delivery and very few (16%) reported they would handle excessive post partum bleeding (Table 8.15).

Table 8.15: Which Complications would Traditional Birth Attendants Generally Handle Themselves?

Handles the situation themselves	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Breech	8	57.1	9	37.5	17	44.7
Traverse Lie	7	50.0	6	25.0	13	34.2
Retained Placenta	5	35.7	10	41.7	15	39.5
Excessive Post Partum Bleeding	2	14.3	4	16.7	6	15.8

All mothers were asked if they had faced any complication in their latest delivery and two had faced such a situation. One mother responded that she had experienced a situation in which a baby was in a transverse lie, however the TBA was able to turn the baby and the delivery was normal. Another mother faced excessive post partum bleeding and she was taken to the hospital.

8.1.6. Role of Traditional Birth Attendants in Post Natal Care

All TBAs reported that they generally advise mothers about breastfeeding, immunization and most (95%) advised about family planning. A similar response was provided by the mothers. All mothers said they received breastfeeding and immunization advice from TBAs. All of the TBAs stated that they check on the mother and baby again the day following delivery. Similarly all mothers said that they and their babies were checked after delivery. A small percentage of mothers (8%) stated that they were not checked again after delivery.

8.2. BIOMEDICAL BIRTHING PRACTICES ADOPTED BY TRADITIONAL BIRTH ATTENDANTS

This section presents the results for selected birthing practices adopted by TBAs in Shendi PHC. The practices included in this section are the birthing position, clean hands, clean cord, clean material to deliver on, bathing babies soon after birth, colostrum feeding, weighing babies, and action taken by TBAs in managing some of the key complications.

8.2.1. Birthing Position

Many TBAs assist births in the traditional sitting and squatting position (Table 8.16). More than one third of TBAs encourage mothers to deliver in the supine position. The percentage of untrained TBAs (50%) assisting births in the supine position was higher than trained TBAs (25%).

Table 8.16: Birthing Position that Traditional Birth Attendants Encourage Mothers to Adopt during Delivery

Birthing Position Encouraged	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Sitting/Squatting	8	57.1	9	37.5	17	44.7
Supine	7	50.0	6	25.0	13	34.2
Squatting, Sitting and Supine	7	50.0	14	58.4	21	58.4

The responses by mothers show that most (76%) adopted the sitting/squatting position for their latest delivery (Table 8.17). Almost one quarter of the mothers however adopted a supine position during delivery.

Table 8.17: Position Adopted by Mothers during their Latest Delivery

Birthing Position Adopted	Untrained (n=9)		Trained (n=16)		Total (n=25)	
	N	%	N	%	N	%
Sitting/Squatting	6	66.7	13	81.3	19	76.0
Supine	3	33.3	3	18.8	6	24.0

8.2.2. Washing Hands

TBAs were asked about their practice of washing their hands at different times during delivery such as before starting work, before cutting the cord and before internal examination. They were also asked to indicate what they use to wash their hands; plain water, or water with soap.

Most of the TBAs (95%) generally wash their hands during delivery and most (87%) do so before starting their work (Table 8.18). Most (82%) TBAs said they wash their hands with soap and water before starting work. However very few (16%) TBAs (6/38) said that they washed their hands before cutting the cord or before conducting an internal examination. A majority of the TBAs (58%) reported they examined the mothers internally during delivery. A notably higher percentage of trained TBAs (21%) washed their hands with water and soap before cutting the cord and conducting an internal examination compared to untrained TBAs (7%).

Table 8.18: The Practice of Washing Hands by Traditional Birth Attendants during delivery and at times during delivery (before starting the work, cutting cord and internal examination).

TBAs wash hands	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Wash During Delivery						
Yes	13	92.9	23	95.8	36	94.7
No	1	7.1	1	4.2	2	5.3
Wash Before Starting Work	13	92.9	20	83.3	33	86.8
With Water	0	0.0	2	8.3	2	5.3
With water and Soap	13	92.9	18	75.0	31	81.6
Wash Before Cutting Cord	1	7.1	5	20.8	6	15.8
With Water	0	0.0	1	4.2	1	2.6
With water and Soap	1	7.1	4	16.7	5	13.2
Wash Before Internal Examination	1	7.1	5	20.8	6	15.8
With Water	0	0.0	0	0.0	0	0.0
With water and Soap	1	7.1	5	20.8	6	15.8

8.2.3. Cord Management

All TBAs generally use a clean blade to cut the cord during delivery. Similarly, most mothers said a clean blade was used for cutting the cord during their latest delivery. However a few (2/25) mothers (8%) reported that a sickle²¹ was used to cut the cord during their delivery.

It is known that traditionally many local materials are used to apply to the cord. This study shows that more than half (58%) of the TBAs (22/38) apply oil to the cord after it is cut (Table 8.19). Some TBAs also reported that they apply talcum powder, ash, and turmeric powder. This was an open ended question and TBAs were generally asked about cord care and not specifically about cord application, however there were several responses that included application to the cord.

²¹ Sickle : A short-handled tool with a curved blade used for cutting tall grass or grain.

Table 8.19: Material Used to Apply on Cord (Open Ended Question): Responses of the Traditional Birth Attendants

Material Used to apply on Cord	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Oil	10	71.4	12	50.0	22	57.9
Ash	1	7.1	0	0.0	1	2.6
Herbal Medicine	0	0.0	1	4.2	1	2.6
Apply Powder	0	0.0	1	4.2	1	2.6
Puts <i>Kumkum</i>	1	7.1	0	0.0	1	2.6
Total	12	85.6	14	58.4	26	68.3

8.2.4. Material on which Delivery was Conducted

TBAs were asked about the material used on which they usually assist mothers to deliver. More than half of the TBAs reported that they used cotton cloth (55%), jute cloth (50%) and/or a rubber sheet (55%) (Table 8.20). A rubber sheet was more likely to be used by trained (79%) than untrained TBAs (14%).

Table 8.20: Material on which Traditional Birth Attendants Generally Assist Mothers to Deliver

(Multiple Responses)	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Jute cloth	7	50.0	12	50.0	19	50.0
Cotton cloth	10	71.4	11	45.8	21	55.3
rubber sheet	2	14.3	19	79.2	21	55.3
Mattress	2	14.3	3	12.5	5	13.2
Mud floor	2	14.3	0	0.0	2	5.3

Mothers were asked about the material on which their last delivery was conducted. Most of the mothers (64%) used jute cloth to deliver on (Table 8.21). More than one third (36%) used cotton cloth and almost one fourth (24%) had used a rubber sheet. A rubber sheet was more likely to be used by mothers assisted by trained than untrained TBAs.

Table 8.21: Material on which the Mothers Delivered their Baby

(Multiple Responses)	Untrained (n=9)		Trained (n=16)		Total (n=25)	
	N	%	N	%	N	%
Jute cloth	7	77.8	9	56.2	16	64.0
Cotton cloth	3	33.3	6	37.5	9	36.0
rubber sheet	0	0.0	6	37.5	6	24.0
Mattress	2	22.2	2	12.5	4	16.0
Mud floor	0	0.0	1	6.3	1	4.0

8.2.5. Bathing Babies after Birth

TBAs and mothers were asked whether they wash babies immediately after birth. All the TBAs responded that they bathed new born babies immediately after birth and all said this is done with warm water. Similarly all mothers said that their babies were bathed immediately after birth. Almost all (94%) also said that their babies were washed with warm water. Only one mother said cold water was used to bathe her baby.

8.2.6. Colostrum

Half of the TBAs reported that they advise mothers to breastfeed immediately after birth (Table 8.22) and about one third advise mothers to breastfeed their babies a few hours after birth. Some of the TBAs (16%) advised mothers to initiate breastfeeding a few days after birth.

Table 8.22: Breastfeeding Advice Generally Given by Traditional Birth Attendants

Advice given to mothers to breastfeed	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
immediately on birth	6	42.9	13	54.2	19	50.0
few hours after birth	5	35.7	8	33.3	13	34.2
few days after birth	3	21.4	3	12.5	6	15.8

Less than one third of the mothers (28%) said that they breastfed their babies immediately after birth (Table 8.23). Most of the mothers (60%) reported that they breastfed a few hours after birth. Some of the mothers (12%) said they started breastfeeding only after a few days. More mothers who were assisted by trained TBAs (38%) reported that they commenced breastfeeding immediately after the birth compared to those assisted by untrained TBAs (11%).

Table 8.23: Breastfeeding Practice Adopted by Mothers

Breastfeeding Practise by Mothers	Untrained (n=9)		Trained (n=16)		Total (n=25)	
	N	%	N	%	N	%
Immediately on birth	1	11.1	6	37.5	7	28.0
few hours after birth	6	66.7	9	56.3	15	60.0
few days after birth	2	22.2	1	6.3	3	12.0

8.2.7. Weighing of Babies after Birth

More than half of the TBAs (55%) advise mothers to weigh their babies soon after birth (Table 8.24.). More than one third advised to weigh the babies after a while and some (10%) did not advise mothers to weigh babies.

Table 8.24: Advice on Weighing Babies Generally Given by Traditional Birth Attendants

Advice generally given by TBAs on Weighing Babies	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
immediately on birth	6	42.9	15	62.5	21	55.3
After a while	6	42.9	7	29.2	13	34.2
Did not advice	2	14.3	2	8.3	4	10.5

Few mothers (16%) said that their babies were actually weighed immediately after birth (Table 8.25.). More than one fourth of the mothers (28%) did not weigh the babies at all after birth. Four of the mothers assisted by trained TBAs responded that they weighed the baby soon after birth: in contrast, none of the mothers assisted by untrained TBAs did so.

Table 8.25: Practice of Weighing Babies Adopted by Mothers

Practice of weighing new born babies	Untrained (n=9)		Trained (n=16)		Total (n=25)	
	N	%	N	%	N	%
immediately on birth	0	0.0	4	25.0	4	16.0
after a while	6	66.7	8	50.0	14	56.0
weight not checked	3	33.3	4	25.0	7	28.0

8.2.8. Action Taken by TBAs in Selected Complications during Delivery

TBAs were asked about what they do when faced with situations such as transverse lie, breech presentation, failure to dilate, cord prolapse, placenta prolapse, excessive post partum bleeding and retained placenta. This section presents findings about how TBAs perceive risks in some of the complications, and for which complications they refer mothers to health centres.

8.2.8(a) Transverse Presentation of Baby: Most of the TBAs (66%) responded that they do not handle a case of transverse lie by themselves. About one third (34%, 13/38) said they would handle a transverse lie (Table 8.26.). All the TBAs who said that they would handle a transverse lie by themselves also said they would try to turn the baby around when faced with this situation.

Table 8.26: Do Traditional Birth Attendants Generally Handle the Situation of Transverse lie by themselves and Action Taken?

Transverse lie	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Do not handle themselves/ send to PHC	7	50.0	18	75.0	25	65.8
Handle the situation themselves	7	50.0	6	25.0	13	34.2
ACTION TAKEN						
Try to turn the baby	7	50.0	6	25.0	13	34.2

The mothers were asked within the structured questionnaire if they had faced any complication and one mother reported to have faced the situation of the transverse lie of the baby. In this case the TBA changed the position of the baby and the delivery was conducted normally.

8.2.8(b) Breech Presentation of Baby: More than half of the TBAs (55%) said that they would generally send mothers with a breech presentation to health centres (Table 8.27). Of the remaining TBAs (45%) who said they would handle the breech presentation by themselves, many (40%) said they would try to deliver the baby in the same position and some (5%) said they would try to reverse the position of the baby.

Table 8.27: Do Traditional Birth Attendants Generally handle the situation of Breech Presentation by themselves and Action Taken?

Breech Presentation	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Do not handle themselves/ send to PHC	6	42.9	15	62.5	21	55.3
Handle the situation themselves	8	57.1	9	37.5	17	44.7
ACTION TAKEN						
Try to deliver the baby	8	57.1	7	29.2	15	39.5
Try to reverse the baby	0	0.0	2	8.3	2	5.3

8.2.8(c) Retained Placenta: Out of 38 TBAs, 15 (40%) said they would handle the situation of retained placenta by themselves (Table 8.28.). Some TBAs (11%, 4/38) reported that they would try to pull the placenta out in case of a retained placenta. Out of 38 TBAs, 9 (24%) reported that they would press on the stomach. Two trained TBAs reported that they would ask the mother to breastfeed so that the placenta falls by itself.

Table 8.28: Do Traditional Birth Attendants generally handle the situation of Retained Placenta by themselves and Action Taken?

Retained Placenta	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Do not handle themselves/ send to PHC	9	64.3	14	58.3	23	60.5
Handle the situation themselves	5	35.7	10	41.7	15	39.5
ACTION TAKEN						
Press the stomach	2	14.3	7	29.2	9	23.7
Try to pull it out	3	21.4	1	4.2	4	10.5
breastfeed and the placenta falls	0	0.0	2	8.3	2	5.3

8.2.8(d) Excessive Post partum Bleeding: Most of the TBAs (84%) stated they would not handle a case of excessive post partum bleeding and would send the mothers to the PHC (Table 8.40). However some TBAs (5%) responded that they would handle postpartum bleeding by asking the mothers to sleep with her legs crossed and one TBA said she would give hot water and tea to the mothers. These five TBAs were adopting inappropriate methods of managing a serious life threatening complication and therefore this number is significant.

Table 8.29: Do Traditional Birth Attendants Generally Handle the Situation of Excessive Post Partum Bleeding by Themselves and Action Taken?

Excessive Post Partum Bleeding	Untrained (n=14)		Trained (n=24)		Total (n=38)	
	N	%	N	%	N	%
Do not handle themselves/ send to PHC	12	85.7	20	83.3	32	84.2
Handle the situation themselves	2	14.3	4	16.7	6	15.8
ACTION TAKEN						
Send somebody to PHC for medicine	0	0.0	1	4.2	1	2.63
Ask the mothers to sleep cross-legged	1	7.1	3	12.5	4	10.5
Give hot water and tea to mothers	1	7.1	0	0.0	1	2.63

One trained TBA stated she would ask for medicines from the PHC. Another trained TBA who said she generally gives hot water and tea to mothers when faced with a situation of excessive post partum bleeding assists 100 deliveries per year and the other four who would ask the mother to sleep with legs crossed conduct between 10 to 15 deliveries per year (Table 8.30).

Table 8.30: Action Taken by Traditional Birth Attendants for Excessive Post partum Bleeding by Number of Deliveries Conducted per Year, Village and Training Status

Action Taken	Number of Deliveries done per year	Trained (T)/ Untrained (UT)	Village
Give hot water and tea	100	UT	Ratanwadi
Sleep with legs crossed	11	UT	Ratanwadi
Sleep with legs crossed	15	UT	Ratanwadi
Sleep with legs crossed	10	T	Samrad
Sleep with legs crossed	10	T	Terungan

Mothers were asked in the structured questionnaire if they had faced any complication in their latest birth. One mothers said that she had faced excessive post partum bleeding, she was advised by her TBA to go to the health centre immediately, and the TBA checked on her everyday thereafter.

8.3. CONCLUSION

Overall, the study reveals several similarities between the trained and untrained TBAs. There were similarities in the socio-demographic characteristics of TBAs; they were mostly married women who had never been to school and worked in the agricultural sector. The main differences in their characteristics were the trained TBAs were comparatively younger, had lesser number of years of experience, and more had been to school compared with untrained TBAs. These differences are likely to be linked with the selection criteria used in the training programme discussed in Chapter 6.

Certain similarities between trained and untrained TBAs were also seen in their professional characteristics; most joined the profession from their own motivation, conduct one to ten deliveries per year, and perceived good outcomes as the main reason for their acceptance in the community. The differences in their professional characteristics were that the untrained TBAs were more likely to have more years of experience and conducted a greater number of deliveries per year. On the other hand, more of the trained TBAs were receiving cash payment in return for their services compared to untrained TBAs. There were similarities in their health role; during antenatal care most of the TBAs advised mothers mainly about diet and to visit the PHC; during delivery most TBAs were summoned when the pain starts; and in post natal care most TBAs advised mothers on breastfeeding and infant immunization.

The similarities in the practices adopted by trained and untrained TBAs were most washed their hand before starting work, very few washed their hands before cutting the cord and internal examination, all used a clean blade to cut the cord, all bathed the baby immediately after birth, and most referred cases with excessive post partum bleeding to the PHC. There were certain beneficial practices adopted more by trained than untrained TBAs. Compared to untrained TBAs, trained TBAs appeared to be more likely to wash their hands before cutting the cord and examining the mothers internally. More of the mothers assisted by trained TBAs received advice from TBAs about visiting the PHC during pregnancy and breastfed and weighed their babies immediately after birth

compared to those assisted by untrained TBAs. It is most likely that these practices were conveyed to the trained TBAs through the training programme.

Some mothers responded that their TBAs cut their cord with a sickle although the training advises against using this instrument. Most mothers adopt the traditional sitting/squatting position for births. Similarly, most mothers use materials such as jute instead of the plastic sheet provided by the training programme. Each of these findings is discussed in detail in Chapter 10, which leads into the conclusions presented in Chapter 11. The practices adopted by TBAs and mothers are linked further with the design and content of the training programme in Chapter 10. The next chapter provides the results emerging from a qualitative analysis of the study data.

CHAPTER 9

QUALITATIVE RESULTS

Introduction

The previous chapter provided a detailed account of the quantitative data in relation to the research questions raised in the study. This chapter is a result of the analysis of the qualitative data. A thematic analysis of the qualitative data was undertaken after reading and rereading the interview transcripts to understand the basic issues raised by TBAs and mothers in their responses. The five themes that were identified based on this analysis were tensions between trained and untrained TBAs, conflict between TBAs and the government of India, the traditional knowledge of TBAs and mothers that was at variance with biomedical knowledge, community involvement in the adoption of birthing practices, and the significance of the capacity and confidence of TBAs.

9.1. TENSIONS AMONG TRADITIONAL BIRTH ATTENDANTS

Evidence of existing tensions of TBAs was revealed in the semi structured interviews with the trained and untrained TBAs. There were three kinds of tensions existing among the trained and untrained TBAs: one was the grievance by the untrained TBAs that they were deprived of the opportunity to update and enhance their birthing skills; the other was the struggles faced by some of the trained TBAs in gaining acceptance as community midwives and the third was a general feeling among all TBAs that their work was disregarded by the formal health care system as they were not paid any remuneration for their service.

9.1.1. Grievance of Untrained Traditional Birth Attendants

The untrained TBAs expressed a concern that the selection of TBAs for the training was indifferent to the existing TBAs who were practicing within the villages. One untrained TBA approached me to express her dissatisfaction about the manner in which TBAs were recruited for the training programme. In her words;

“When they (the NGO personnel) came for selecting Dais for the training programme, they didn’t even ask me. I wanted to join the training programme, but they selected some other woman who was not practicing as Dai and left. I only came to know later about this. The woman who received trained from this village was not practicing as a Dai and she did not start this work even after the training”. (TBA 5, untrained)

Another untrained TBA similarly expressed her desire for training and her subsequent disappointment about the selection process by stating that she would like to obtain more and more training. This TBA stated that she is popular and is summoned by people not only from her village but also the surrounding villages to assist with deliveries. She had attended a training programme conducted in Shendi PHC 25 years previously and continues to work based on that training. Instead a woman working as Village Health Worker (VHW) in the ongoing health programme conducted by the NGO was selected for the training. Despite her training, the VHW who trained as a TBA finds it difficult to continue her work as TBA in the community. She depends on the untrained TBA in the village to gain confidence of the community. The next section discusses this tension.

9.1.2. The Trained Traditional Birth Attendants’ Struggle to find Acceptance in the Community

Trained TBAs spoke of completing training without prior experience of working as a TBA. One such TBA expressed her grievance of not being as popular in the community as the untrained TBA. The trained TBA conducts only three deliveries per year whereas the untrained TBA from the same village assists 40 deliveries per year. The trained TBA had no previous experience of working as a TBA before attending the training programme. She was, however, working with the NGO as a VHW. She hoped that after she attended the training, people would approach her for assistance during delivery. However people continued to ask for the untrained TBA for birthing assistance. The trained TBA requested the untrained TBA to take her along during deliveries so that she could gain the trust and acceptance of the community. The trained TBAs stated;

“I don’t conduct as many deliveries as the untrained TBA. Sometimes she allows me to company her to assist deliveries. She conducts many deliveries. People first go to her for assistance and come to me only when she is not available.” (TBA 1, trained)

The other kind of grievance expressed by both trained and untrained TBAs was that their contribution in providing childbirth services to mothers and babies was disregarded by the Government of India, an issue that is discussed in the next section.

9.1.3. Conflict between Traditional Birth Attendants and the Government of India

All trained and untrained TBAs in Shendi PHC expressed their dissatisfaction with the government in the quantitative response. Similarly the review of the qualitative responses revealed their discontent towards the government of India for not recognising the importance of their service by not giving any remuneration in return for their service.

“My dissatisfaction is mainly with the government for not giving us anything for doing this services that they need to do. I think I am doing an important health service for women; however the Government doesn’t recognise it. We (Dais) do so much work but don’t get anything in return. At least Rs100/- per month should be given to us.” (TBA 2, trained).

This opinion was echoed by all TBAs, trained and untrained. One TBA expressed a feeling of despair and stated that it is hopeless to expect anything from the government.

“There is no point fighting with the government. The government doesn’t pay us anything for our service. We are satisfied with our work, whatever the family gives us.” (TBA 1, trained)

9.2. TRADITIONAL KNOWLEDGE OF TBAS AND MOTHERS AT VARIANCE WITH THE BIOMEDICAL FRAMEWORK OF KNOWLEDGE

The TBAs told me that cost was the main reason why people prefer to birth with their assistance. However, another key reason was that doctors in health centres tended to rely on birthing instruments and surgery, issues which were of concern to mothers.

“People prefer home deliveries with Dais instead of doctors because of two reasons, 1) they have no money to spend at PHCs, 2) the medical staff at the dispensaries easily cut and stitch, which people are not comfortable with; they prefer to deliver without stitches.” (TBA2, trained)

Mothers also expressed their concern about the functioning of the health care centres particularly in relation to the male assistants and their unease due to issues of modesty, plus the ease in which they use scissors for delivering babies. The qualitative responses revealed that women approach the PHCs only if they perceive the situation is beyond the control of the TBAs.

“It’s better to deliver at home than anywhere else. In the PHC there are men around so I would go only when my people at home (TBA and family members) are not able to take care of my delivery” (Mother 1).

One mother told me that as long as they know that the health centre is accessible they are comfortable with conducting deliveries at home and with confidence.

‘It is expensive to birth at the PHC, when everything is normal why should I birth at the PHC, nobody does. We know that the health centre can be reached in case there is a problem’ (Mother 4).

One mother mentioned that formal institutions lack family support and others mentioned the inconvenience caused to the family members when delivering in formal institutions.

“The whole family will be troubled along with me if I deliver outside home.” (Mother 2).

Community support, male assistance during delivery, and the perception of the unwarranted use of medical procedures are some of the discomforts that mothers perceive about the formal health centres.

9.3. COMMUNITY INVOLVEMENT IN ADOPTING BIRTHING PRACTICES

Community involvement in adopting certain birthing practices emerged as a significant subject from the review of the qualitative responses. The community mainly includes friends and relatives involved in decision-making during childbirth. The aspects where the community played a significant health and social role included decision on the material used to cut the cord, feeding colostrum, action during referrals, bathing babies and care during the antenatal period.

9.3.1. Decision Making about Material Used to Cut the Cord

TBAs observed that family members need to be given an explanation for why it is necessary to use a clean blade. Two of the TBAs said they quietly cut the cord with whatever material the family asks them to use. The response of one TBA was:

“Mothers-in-law usually say that “use our traditional material to cut the cord, but the Dai has to explain that times are changing, your times are gone, infections are there. So we have to say all this to them. It depends on the confidence of the Dai” (TBA 1, trained).

Indeed, one mother said that her mother-in-law told the TBA that she should cut the cord using a sickle, which she did.

9.3.2. Feeding Colostrum to Babies

TBAs revealed that the family members may not feed the baby with colostrum despite their advice. One TBA stated she has to give examples from the local context to make people understand the significance of colostrum. In her words:

“I advise the mother to feed the baby with colostrum, but it depends on the family custom and the opinion of the mother-in-law in many cases. If we know (that have not breastfed immediately) then we tell but they sometimes don’t feed the baby with colostrums although we tell them to do so” (TBA 4, untrained).

After explaining the mothers-in-law may agree. Sometimes if we come away for a while, they report to us that they gave the milk but in reality, they would not have done so.”

(TBA 1, trained)

Mothers expressed their opinion that colostrum was harmful and was therefore not fed to the baby.

“We don’t feed the baby for at least one day after birth because that milk is harmful, we give water and honey” (Mother 1).

One mother was interrupted by her mother-in-law while responding about colostrum. The mother-in-law said:

“We do not have a custom of feeding the milk soon after birth, that milk is not good, so we follow our customs” (Mother 3).

9.3.3. Decision Making During Referral

TBAs noted that the family members were disappointed when informed that the TBAs could not handle a case and that the mother had to be referred. All TBAs said the family members have the final say on the referral. One TBA said:

“When I inform that I cannot tackle the situation, the family is upset and taken by surprise and normally request me to manage the situation by myself and sometimes I have to persuade the family to take the woman to the PHC as I cannot do anything and I always go along with them to the PHC.” (TBA 2 trained).

9.3.4. Antenatal Care

One TBA mentioned that family members’ advice to the mother is to refrain from eating enough food during pregnancy due to the concern that the delivery may be difficult if the baby is big. Another mother said she relies on homemade remedies for minor ailments during pregnancy.

“Sometimes the mothers-in-law tell the daughters-in-law to eat less, or the child will become big. But the Dai advises the mother to eat without telling the mother-in-law. Nowadays daughters-in-law cook for the entire family anyway and have access to food. Sometimes we explain to the mother-in-law. We have to give examples while explaining” (TBA 1 trained).

9.4. SIGNIFICANCE OF THE CAPACITY AND CONFIDENCE OF TBAs

The trained TBAs expressed that a significant aspect in applying the biomedical practices learnt during training is their capacity to present the advantages of those practices by giving locally appropriate examples. Regarding the practice of discarding colostrum, one trained TBA stated;

“They (people) feel it is bad to give it (colostrum) to the baby, but we (Dais) tell them about its positive aspects. We give examples of cows and goats and how their babies drink the milk immediately from the mothers then why deprive our children of the first milk” (TBA 1, trained).

One untrained TBA stated that people’s confidence in their work is enhanced further when they are acquainted with people in the PHC.

People get worried if the TBA does not know anybody in the PHC because they feel they will not be entertained or will be treated badly. When people don’t have enough money for the transportation and for medicines also they get worried. (TBA 4, untrained)

Another trained TBA pointed out the importance of the networking capacity of the TBA that builds her self-confidence while assisting home deliveries.

“I go along with the women to the PHC. I am confident that if I call out for help at the PHC, the staff will co-operate with me at any time of the day or night.” (TBA 2, trained)

9.5. CONCLUSION

The first three themes reveal ongoing tensions between the orientation, perspective and practices of the key institutional players (i.e. the government of India and the NGOs), which reflect the influence of a western biomedical framework of knowledge and the TBAs’ and the mother’s knowledge which is more a product of tradition, custom, and culture. The fourth theme elucidates the role of the community including the friends and relatives in adopting childbirth practices during home births, while the fifth theme explains the importance of the capacity and confidence building of TBAs in assisting births. The next chapter discusses the implications of these findings in detail.

CHAPTER 10

DISCUSSION

Introduction

TBAs have been trained since the 1970s with a key aim of reducing maternal mortality. However, since the 1990s the funding for TBA training has reduced and policy emphasis has shifted to providing skilled birth attendants for all births. This policy shift was based on information that the maternal mortality rate in developing countries had not reduced after twenty years of investments in training TBAs (WHO 2005). As a consequence, TBAs have been blamed for being unable to absorb positive messages from their training due to their illiteracy, delaying and deterring referrals due to ignorance, and engaging in harmful practices that cause health problems among mothers and infants (UNICEF 2004, WHO 1998; 1998b, 2005). In order to balance the debate about the usefulness of training TBAs, this thesis assesses the extent to which trained TBAs adopt beneficial biomedical practices with reference to the content of their training.

Researchers towards the end of the 20th century noted that the policy shift above took place with little adequate evidence about and from TBA training impact assessments and without an alternative policy in place (Walraven and Weeks 1999). Researchers also argued that presently the health system is unable to provide professional assistance for all births, and that TBAs continue to assist a large percentage of births in developing countries and therefore cannot be ignored from a public health perspective (Kamal 1998, WHO 1997). Equally, there are serious deficiencies noted in information on the methodology used in TBA training programmes in developing countries and specifically in India. Hence, this thesis has reviewed the design and content of the training programme in a specific area in India in order to assess the extent to which there have been attempts to synthesise biomedical frameworks of knowledge and the beneficial aspects of traditional ideas, behaviours and practices. As a result of the research, the thesis argues for the potential benefits of integrating the two kinds of knowledge and practices in TBA training programmes in India and possibly other developing countries, where appropriate.

The thesis further argues that two types of birthing knowledge co-exist in India; those of ‘western’ biomedicine and ‘traditional’ knowledge. Nonetheless, feminist, anthropological, and midwifery theorists contend that when two knowledge paradigms exist, western knowledge tends to dominate and claim authority over local ways of knowing. The aim of this study was to critically assess the ways in which the TBA training programme in India has been successful in disseminating biomedical knowledge into birthing practices of local TBAs by focusing on a program administered in one PHC in rural India. The previous two chapters presented the quantitative and qualitative results that emerged from the data analysis. This chapter re-visits and locates the results in a wider context and discusses the findings based on the objectives of the study.

The chapter has five sections: the first section discusses the training design and the extent to which TBA knowledge acquired through their lived experiences has been integrated into the training programme; the second section identifies the characteristics and role of TBAs and discusses their continued social role in providing maternal and infant service. Section three discusses the influence of biomedical knowledge acquired through training reflected in the birthing practices of trained TBAs. The fourth section examines the content of the training programme in the context of local practices adopted by TBAs and mothers: the aims of this section are to assess the extent to which there is a synthesis of biomedical and traditional knowledge in the content of the training programme, and to understand the knowledge that is predominant in the local practices of TBAs and mothers. Finally, the study’s limitations and strengths have been identified and suggestions are made for possible future research on TBA training.

10.1. DESIGN AND CONTENT OF THE TBA TRAINING PROGRAMME

The design and content of the TBA training programme based on WHO guidelines at the international level and the GoI at the national level has been examined in relation to the practices adopted by TBAs and mothers in Shendi PHC. The aim was to understand the extent to which TBA knowledge has been integrated into the training programme through

the needs assessment and baseline study. The extent of community involvement is assessed through the selection criteria used and the regard for TBAs is assessed through the remuneration provided to TBAs by the formal health care institutions.

10.1.1. Rationale and Objective of the TBA Training Programme

There is existing evidence that demonstrates that TBA training has been successful in reducing maternal mortality in Pakistan (Jokhio et al., 2005), and recent research evidence that appropriate training of TBAs can potentially reduce perinatal mortality in developing countries (Sibley and Sipe 2006). Further research in India and Nepal shows evidence of a reduction in neonatal mortality through a community-based approach to control asphyxia including training of TBAs and village health workers (Bang et al., 2005a). Despite this evidence there are extreme viewpoints among researchers suggesting that TBAs serve no purpose and need to be eliminated in order to achieve progress in maternal and infant health (Berer 2003). Similarly, the WHO aim of training TBAs is based on the assumption that the utilisation of TBAs in developing countries will diminish as the goal of safe motherhood is approached. Therefore the guidelines assert that the future goal of training is to train TBAs in simple, focused tasks that assist in the transition to providing skilled health attendants to all birthing mothers (WHO 1992).

Nonetheless, the WHO guidelines mention the need to keep the human approach of TBA practices. However, there are no guidelines about how the positive aspects of traditional practices can be effectively integrated into TBA training. Although there is an understanding that the process of institutionalisation of births will diminish the number of TBAs and the traditional knowledge garnered by them, there is no concerted effort to integrate their knowledge into the planning process. Similarly the GoI maintains that TBA practices are an important cause of maternal mortality and that institutional deliveries can ensure reductions in infant and maternal mortality (GoI 2000a). However, because the GoI recognises its inability to provide professional assistance for all birthing and acknowledges that TBAs will continue to assist births in India, TBA training continues in districts where the percentage of institutional assistance during birth is less than 30 percent.

The western way of perceiving institutional assistance during childbirth as the primary intervention policy to reduce mortality is evident in the international and national objectives of the TBA training programme. The Millennium Development Goals (MDG) adopted by all United Nations member states in the year 2000 aimed to achieve, by 2015, universal access to reproductive health, which is measured in terms of the percentage of institutional births and births assisted by skilled birth attendants (United Nations 2005). Based on this requirement, the GoI aimed at improving coverage of institutional deliveries by up to 80 percent in 2007. However in 2003, the rate of institutional deliveries was only 40 percent in India (GoI 2005).

The TBA programme planning takes a top-down, one-sided biomedical approach as it is based on the assumption that medical institutions can provide all answers to maternal and infant health problems. The MDG aims to institutionalise birth and there is pressure on developing countries from funding agencies to meet the requirement of this blueprint agreed to by all the world's countries and their leading development institutions. The GoI is susceptible to the increasing international pressure to institutionalise births, despite the fact that the health system presently faces a situation in which there is a serious shortage of personnel and infrastructure. More than one third of the births continue to be assisted by TBAs and therefore the GoI is required to train TBAs in a range of primary health services.

10.1.2. Training Design

Previous systematic reviews have identified that are inadequacies in the reporting of training design and content quality of TBA training programmes in developing countries (Sibley et al., 2004). Among the studies that have assessed TBA training designs many note that “most programmes did not undertake any needs assessment to derive an information base for developing an appropriate curriculum for TBAs” (UNFPA 1996: 4). Similarly, findings from this study in Shendi PHC affirm there were serious transparency issues in relation to whether the baseline study and needs assessment reported to have been conducted by the local NGO were actually conducted; an issue that has direct

implications for the content covered in the training programme, as discussed in section 10.4. Furthermore, the contradictions and inadequate information on the baseline study decreases the significance of the evaluation findings.

Community involvement is mentioned several times in the WHO guidelines for TBA training. The intermediate objective detailed in the WHO guidelines aims to involve the community in making choices and implementing programmes to improve maternal and child health. The guidelines also mention that, regardless of the conditions of selecting TBAs, the decision should be made by or with the community (WHO 1992) thus, it can be argued that at the policy level, the selection of TBAs requires the significant involvement of the community in the training programme.

A recent meta-analytical study also revealed that there is insufficient documentation of the selection criteria used in TBA training programmes (Sibley et al., 2004). Indeed, this study noted that the selection criteria used in Shendi PHC was inadequate as young mothers who had no previous experience in midwifery were also selected for the training programme, almost half of whom were VHWs²² working in their ongoing health and hygiene awareness programme. The reason why mothers working as VHWs were selected in the training programme is most likely because the NGO wanted their workers to gain further knowledge in addition to the health and hygiene knowledge gained from the ongoing NGO programme. The other possibility is that the NGO personnel who selected TBAs are more acquainted with the VHWs and therefore approached them first within the community during the selection process.

The inaccurate criteria used in selecting TBAs for training in Shendi PHC have created tensions not only between the trained and untrained TBAs operating within the community but also between the untrained TBAs and the NGO. Some of the untrained TBAs feel disappointed with the selection process and feel deprived of the opportunity to learn from the training. Some of the trained TBAs who had no previous midwifery

²² Almost half (47%) of the TBAs (18/24) selected for training in Shendi PHC were VHWs working with CRHP.

experience felt stressed as they have to work alongside the more experienced and older untrained TBAs in order to gain acceptance in the community.

The study findings reveal that some of the untrained TBAs who had more years of experience and had conducted about 40 to 100 deliveries per year were excluded from the training programme. Therefore the cost effectiveness and wider impact of such selection criteria is questionable. It has been observed that TBA training programmes are more cost-effective when the coverage and caseload of the TBA participants is high (GoI 2000a). The international guidelines for TBA training identify motivation, caseload, respect in the community, age, and literacy as some of the main criteria to be used for selecting TBAs (WHO 1992). However, the government of India programme leaves the choice open to the States to decide upon the organisation conducting the TBA training programme at the local level and, in the case of Shendi PHC, the NGO was unable to provide the selection criteria used (GoI 2000a).

According to GoI programme documents, TBAs are to be provided with 100 Rupees as remuneration for every delivery which has an outcome of a live mother and baby (GoI 2002). TBAs in Shendi PHC reported that they have never received any remuneration for their service although there is contradictory information given by the health centre personnel. TBAs in Shendi PHC are dissatisfied with the government health care system because they perceive the lack of remuneration as a form of disregard for the significant service that they provide to the community. However TBAs in India are expected to perform several tasks as voluntary contributions (GoI 2002; Syamala 2004) and previous studies in India have observed the lack of remuneration as a cause of the failure of TBA training programmes (Brey 1971).

10.2. CHARACTERISTICS AND ROLE OF TRADITIONAL BIRTH ATTENDANTS

TBAs function and operate as part of the community and their role and characteristics may vary to some extent according to the community to which they belong. This section identifies the characteristics and role of TBAs to identify their continued role in providing maternal and infant service in rural India.

10.2.1. Characteristics of Traditional Birth Attendants

Several studies have revealed that TBAs are generally married, non-literate mothers living within the communities they serve (Carvalho et al., 1998, Fatmi et al., 2005, Hussein and Mpembeni 2005, UNFPA 1996). Previous studies have also revealed that TBAs assist births only as a secondary occupation as it is a lowly paid job (Singh 1994, Unnithan 1999). This study also shows that all TBAs in Shendi PHC were married mothers living within the community and that most of the TBAs were involved in agricultural occupations apart from working as birth attendants.

However, this study also manifests specific differences in the characteristics between trained and untrained TBAs. Most of the untrained TBAs were in the older age group of more than 49 years of age. Although most of the TBAs were non-literate, more of the trained TBAs had been to school than the untrained TBAs. Untrained TBAs were more likely to have more years of experience and to have conducted a greater number of deliveries per year. The payment pattern shows that more of the trained TBAs received cash payment for their services compared to untrained TBAs.

It is suggested that the differences between the trained and untrained TBAs in their age, years of experience, caseload and education are linked with the selection process of the training programme. The training programme in Shendi PHC selected young mothers who showed interest in learning the skills rather than functioning as TBAs in the

community. Many of the TBAs selected for the training were also VHWs already working in the health programme implemented by the local NGO in the study area.

Previous studies have shown that TBAs generally learn their skills through an informal apprenticeship by working with relatives or other TBAs in the community (Singh 1994, Syamala 2004). Previous studies have also shown that the TBAs gain the confidence of people through their good delivery outcomes (Bajpai 1996b, Smith 2006). Researchers have noted that their style of learning skills is through observation and imitation in contrast to the didactic form of teaching more common in western countries (Kruske and Barclay 2004, Syamala 2004). Similarly, this study shows that, for TBAs in Shendi PHC, a good delivery outcome was an important reason for the acceptance of TBAs as midwives in the community, and that the untrained TBAs mainly learnt their skills through an informal apprenticeship.

10.2.2. Social Roles of Traditional Birth Attendants

Several researchers have observed that TBAs do not play a major role in providing antenatal care (Mathews et al., 2001, Rozario 1998, Sharif and Singh 2002). Similarly, this study in Shendi PHC shows that TBAs have a limited role in the antenatal period but that they provide advice to mothers about diet and to visit the PHC. A positive outcome from training was that more of the mothers assisted by trained TBAs received advice about visiting the PHC during pregnancy.

Contrasting responses were articulated by TBAs and mothers on the kind of advice given during these visits. Most of the TBAs said they advised mothers about taking a tetanus injection and folic acid tablets and checking their weight during pregnancy, but none of the mothers reported having received such advice from TBAs during their pregnancy. According to mothers, the information conveyed during these contacts is mainly about diet and advice to visit the PHC. The contrasting responses given by mothers on the kind of antenatal advice suggests that the TBAs may not be conveying some of the basic antenatal messages to mothers, as they claimed.

The training manual distributed to TBAs instructs them to advise mothers on diet during delivery, which is most likely also reflected in the kind of advice given by TBAs in Shendi PHC. The training manual does not mention tetanus toxoid injections. Tetanus toxoid injections are given during pregnancy in order to prevent neonatal tetanus, a frequent cause of infant deaths where sterile procedures are not observed in cutting the umbilical cord following delivery (Koenig et al., 1998). As sepsis forms one of the main causes of death among infants and mothers it is vital that the information on the significance of taking tetanus injections is conveyed to TBAs first during the training and through them to the mothers during the antenatal period (Chhabra and Sirohi 2004, Costello et al., 2006, Khan et al., 2006, UNICEF 2007). Most TBAs make contact with the mothers during the 1st and 2nd trimester and therefore there is scope for TBAs to be involved in conveying such important messages to mothers during this period.

Previous research reveals that TBAs are generally summoned at the onset of labour and remain a part of the delivery process by receiving the baby, cutting the cord and delivering the placenta (Bajpai 1996, Bang et al., 2005, Kumar et al., 2000). Similarly all the TBAs in Shendi PHC were also summoned at the onset of labour. Some TBAs in Shendi PHC also reported that they come and go during the process; however, they keep an eye on the labouring mother. Some studies have concluded that cord cutting constitutes the primary role of TBAs (Jeffrey et al., 1989, Rozario 1998). The majority of the TBAs and mothers in this study however stated that TBAs were summoned when the labor pain starts, highlighting the importance of informing TBAs about the harmful practices and appropriate management of complications during delivery. Although many TBAs refer complications, more than one third said they handle transverse lie, breech presentation and retained placenta and some also attend to excessive post partum bleeding. The evidence emphasises the significance of informing the TBAs about simple and appropriate methods to manage complications within their limitations and to refer the cases to health centres. The present training programme only informs TBAs about certain complicated situations and lacks information about several other maternal and infant complications that can occur during delivery.

Earlier studies have shown that although TBAs may convey information about breastfeeding and immunization, the practices adopted by mothers may be independent of the advice given by TBAs (Mahbubur et al., 1999). Similarly this study shows that most of the TBAs in Shendi PHC advised mothers on breastfeeding and immunization, however the qualitative interviews revealed that the action on colostrum being fed to babies depended more on familial perceptions of colostrum.

10.3. EVIDENCE OF BIOMEDICAL KNOWLEDGE IN LOCAL PRACTICES

This section discusses the extent to which the biomedical practices conveyed to the TBAs during the training programme in Ahmednagar district have been adopted by trained TBAs in the local community in comparison to untrained TBAs. The practices include birthing position, cord management, material on which delivery was conducted, bathing babies, weighing babies, colostrum feeding and complication management. This is also linked with the theoretical framework presented in Chapter 5, which describes the ways in which biomedical knowledge has predominance over local traditional knowledge in relation to birthing practices adopted by TBAs and mothers.

10.3.1. Birthing Position

The use of upright positions during delivery has been observed as more advantageous than the supine position (Bhardwaj et al 1995, Mathews et al 2005, Michel et al 2002, Roberts and Hanson 2007). Previous studies have observed an increasing use of the supine position as one of the less-positive aspects of TBA training programmes. Most mothers in this study adopted a traditional upright position during childbirth. However, more than one fourth of the mothers adopting the supine position and more than one third of TBAs encouraged mothers to deliver in the supine position, thus demonstrating an early example of western practices that are pervading traditional knowledge and practices in relation to birthing positions.

With evidence from other studies that TBAs have tended to give up traditional positions in order to adopt the supine position, it is important that attempts are made to turn around this trend and retain some of the beneficial traditional practices (Bajpai 1996b, Mathews et al 2005). Instead, the training programme endorses the outdated supine position. The TBA training material including the video and the manual distributed to TBAs during the training was prepared by medical professionals and the information clearly portrays mothers delivering in the supine position.

The study data reveals that untrained TBAs encouraged the supine position more than trained TBAs. Similarly, mothers assisted by untrained TBAs adopted the supine position as much as the trained TBAs, possibly due to a sense of competition and the tensions that prevailed between the trained and untrained TBAs in Shendi PHC. Further, the study results show that more of the trained TBAs are paid in cash than untrained TBAs. And the trained TBAs had the privilege of having had access to the health centres and their ways of functioning through the training programme they attended. Their access to biomedical information and training has upgraded them in the hierarchy of birth assistants in the community, which includes Auxiliary Nurse Midwives (ANMs). The untrained TBAs are the lowest paid and therefore form the lowest group in this hierarchy. The supine position adopted by untrained TBAs as much as the trained TBAs may be because the untrained TBAs try to imitate the biomedical practices of the training programme and seek to upgrade their position in the women's local social hierarchy. Srinivas (1966) has explained this process in the context of caste hierarchy as 'sanskritisation', which is the process by which castes placed lower in the caste hierarchy seek upward mobility by imitating the rituals and practices of the upper or dominant castes.

Table 10.1: Comparison of WHO Recommendation, Local Training Instructions and Practices of TBAs and Mothers.

Practices	WHO Recommendations	Instructions in the Manual given to TBAs in the Local Training Programme	Local Practices adopted by Mothers and TBAs
Birth Position	Mothers can adopt any position they like, while preferably avoiding long periods lying supine (WHO 1996).	Supine position is preferred and encouraged.	TBAs and mothers mainly adopt the sitting position during delivery; although some use the supine position.
Hand-washing	Wash hands with water and soap when preparing for the birth and use gloves	Wash hands before starting the delivery work. No mention of gloves.	All TBAs wash their hands with water and soap before delivery, but not again for vaginal examination and cutting cord.
Cutting of Cord	Use clean blade to cut cord.	Use clean blade and do not use sickle or blunt substances to cut cord.	All TBAs use clean blade to cut cord, but few mothers use a sickle.
Application on Cord	Refrain from applying oil, ash or other local materials on the cord.	No mention of oil application on cord.	Most of the TBAs apply oil on cord.
Material to conduct delivery on	Use plastic sheets.	TBAs are provided with plastic sheets after training.	Most of the TBAs and mothers birth on jute cloth, some use plastic sheets in combination with cotton cloth.

Practices	WHO Recommendations	Instructions in the Manual given to TBAs in the Local Training Programme	Local Practices adopted by Mothers and TBAs
Breast feeding	Babies should be breastfed within the first hour of birth and delay can cause harm.	Breastfeed a few hours after birth.	Half the TBAs advise mothers immediate breastfeed and less than one third do so. Most mothers do not breastfeed immediately.
Keeping baby warm soon after birth	Babies should be dried with a dry towel and wrapped (including the head) even while the cord is attached.	Keep the baby in between the legs of the mother exposed until the pulse on the cord stops, then cut the cord and wrap the baby.	Babies wrapped with cloth after bath.
Bathing babies	Babies should not be bathed before 6 hours after birth, preferably should be bathed on the 2 nd or 3 rd day.	Does not mention anything about bathing babies.	All babies are bathed soon after birth.
Weighing babies	Weigh baby soon after birth and regularly thereafter.	Take the baby regularly to the health centre to be weighed.	Some babies are never weighed and more than half are weighed after a few days
Complication Management	TBAs should refer all kinds of complications to health institutions.	Does not mention referral for excessive post partum bleeding.	TBAs refer some complications and manage some of them in their own way.

10.3.2. Washing Hands

Earlier studies have produced mixed evidence about TBAs washing their hands during delivery. Some studies found that TBAs generally wash their hands only after completing their task of delivery (Jeffrey et al., 1989, Rozario 1998), whereas one study conducted in nine states of India found that most TBAs washed their hands and legs before starting their work (Bajpai 1996a). TBAs are criticised for not maintaining cleanliness such as washing their hands while conducting a delivery.

In this study, most of the TBAs (trained and untrained) in the Shendi PHC washed their hands with soap and water before starting work suggesting that awareness about washing hands with water and soap has spread also among untrained TBAs. This may be due to the TBA training or the health and hygiene awareness programme conducted by the local NGO. The study shows that although many TBAs conduct an internal examination during delivery, very few TBAs (trained and untrained) wash their hands before conducting an internal examination or before cutting the cord. The training manual instructs TBAs to wash their hands only before they start the delivery and not before handling the mother and baby again during delivery. A positive impact of the training noted in the study results was that among the few TBAs who did wash their hands with soap and water before cutting the cord and vaginal examination, trained TBAs were more likely to do so than untrained TBAs. This outcome further highlights the need to improve the information conveyed through the training manual to include instructions that TBAs should wash hands before directly handling the mother or baby.

10.3.3. Cord Management

Previous studies have shown that non-sterilised material for cutting the cord is used not only by TBAs but also formal health care personnel (ANMs) trained by the biomedical sector (Khandekar et al., 1993, Mathews et al., 2005, Nandan and Mishra 1996). In contrast, this study reveals that not only trained but also untrained TBAs in Shendi PHC follow the hygienic practice of using a clean blade for cutting the cord, clearly suggesting that knowledge about using a clean blade has also spread among the untrained TBAs. However a few mothers stated they use a sickle to cut the cord. The sickle is known to

harbour tetanus spores from the soil and thus increase the risk of neonatal tetanus (WHO 1998). While the training instructs TBAs to not use a sickle, a few TBAs continued to adopt this harmful practice. The semi structured open ended interviews revealed that some families insist on using such traditional materials to cut the cord, which suggests the significance of community involvement in adopting birthing practices.

Previous studies in India reveal that substances that may be contaminated with bacteria such as ghee oil, cow dung, and betel nut are applied to the umbilical cord after cutting (Dadhich 2004, Nandan and Mishra 1996). This study also noted that many TBAs in Shendi PHC use oil to apply to the cord but oil is known to be harmful as it may be contaminated with bacteria and thus increase the risk of infection (WHO 1998). Although the practice of applying oil is widely prevalent in the community in Shendi PHC and it is known to be harmful, the training does not include information on this practice, which signifies the importance of including and addressing the effects of local traditional harmful practices in the training content as well as the importance of baseline studies to provide relevant data before the training commences.

10.3.4. Material on which Delivery was Conducted

TBAs are provided with plastic sheets along with the delivery kit during the training programme to maintain a clean environment during delivery. One study in Nepal found that trained TBAs used the plastic sheet as they found it very useful for keeping the birth place clean (PATH 2002). Similarly, the study findings reveal that most of the trained TBAs used a plastic sheet. In contrast, when the mothers were asked, only a little more than one third of those assisted by trained TBAs said they used a plastic sheet for delivery. On the other hand, jute cloth appeared to be a widely used material for delivery. The response by mothers clearly reveals that jute cloth was a preferred material on which they delivered. Jute is a bio-degradable material (GoI 2007), is easily available in every household in India, is absorbent and has the capacity to provide warmth to the birthing mothers.

Further research is needed to know if this practice is widely prevalent in other areas of India and South Asia and its applicability in these areas. There is a wide difference between the material supplied for maintaining cleanliness during delivery and that which is used locally, demonstrating that there is a poor degree of concordance between the material included in the delivery kit and local practices. Yet research has shown that locally made delivery kits are more cost-effective, sustainable and appropriate (UNFPA 1996). This finding indicates the need for appropriate implementation of a needs assessment of local practices prior to implementation of materials such as plastic sheeting which may not be used by a community.

10.3.5. Bathing Babies Soon After Birth

According to the WHO guidelines, babies should not be bathed for at least six hours after birth and preferably on the second or third day (WHO 1997b). However, the study data reveal that all the TBAs bathed the newborn babies with water immediately after birth. Previous studies in India have shown that bathing babies immediately on birth is practiced widely in home births (John and Bodhankar 2001, Mathews et al., 2005, Sreeramareddy et al., 2006) as well as in health institutions (Mathews et al., 2005). However, the training manual distributed to TBAs in the study area does not mention anything about bathing babies. The prevalent practice of bathing babies soon after birth is most likely linked with the perception of birth as a polluted process which requires a cleansing procedure but there are no studies that examine this linkage.

One TBA reported that babies were generally not dried properly after bathing and before wrapping which can cause health problems such as hypothermia. While the TBA training manual also does not include simple methods of identifying hypothermia among babies the information is widely available in research documents. An intervention study in Nepal has evolved a simple technique of teaching TBAs to detect hypothermia by touching the infant's feet. Such simple techniques of adequately drying and wrapping babies, recognising hypothermia and immediate actions that are required to be taken on identification, could be included in future TBA training.

10.3.6. Weighing of Babies after Birth

Recent data reveal that most (79%) of the babies in India are not weighed (IIPS 2000). Of the babies weighed after birth, one quarter were underweight (<2.5 kgs). Other studies show that one tenth of the babies born in health institutions in India are also not weighed. Similarly, this study shows that more than half of the TBAs in Shendi PHC did not advise mothers to weigh babies immediately after birth. More than one fourth of the mothers had not weighed their babies after birth. The training manual distributed to TBAs instructs them to ask mothers to visit the PHC so that babies can be weighed regularly. This shows that weighing babies immediately after birth receives less importance in the community and lesser emphasis in the TBA training programme despite data that reveals 20 percent of the babies born within this PHC in 2002 were grossly underweight (less than 2 kilograms).

A positive indication of the training programme was that more of the mothers assisted by trained TBAs weighed their babies immediately after birth compared with those assisted by untrained TBAs. An intervention programme in India demonstrated that even simplified methods and low cost improvised technology in recording birth weight that can be used by illiterate health workers are effective in identifying 'at risk' newborns (Kumar and Walia 1986). Yet such simple methods of weighing babies with easily available local materials and low cost techniques which have been evolved from intervention studies in India have not been widely implemented (Kumar and Walia 1986).

10.3.7. Colostrum

According to the WHO, feeding colostrum to new born babies within the first hour of birth is a significant practice that can reduce infant and under-five mortality (WHO 2003a). Several studies in India reveal that colostrum is generally not given to newborn babies in home births or in health institutions (IIPS 2000, Kumar et al., 2006, Nagadeva 2002, Sharma and Kanani 2006, Srivastava et al., 1994, Yadav and Singh 2004, Sharma and Kanani 2006). This study too reveals that only half the TBAs in Shendi PHC advise immediate breastfeeding and only 28 percent of the mothers feed colostrum to their

newborn babies. A positive indication of training was that more of the mothers assisted by trained than untrained TBAs breastfed their babies immediately after birth.

There are studies in India that reveal the strong influence of cultural factors and the involvement of family in the decision-making about colostrum (Kumar et al., 2006, Laroia and Sharma 2006, Sharma and Kanani 2006). Similarly this present study reveals that the family plays an important role in decision-making about feeding colostrum to newborn babies. TBAs revealed in the qualitative interviews that the decision-making about colostrum depends on the family and also on the capacity of the TBA to explain its advantages to the family members.

10.3.8. Complication Management

Excessive post partum bleeding caused due to haemorrhage is a leading cause of maternal deaths in India followed by sepsis (SRS 2006b), a complication that can be fatal without immediate and appropriate action. There are no previous studies in India that examine the delays caused by TBAs in accessing health care centres in case of complications. TBAs have been blamed for their lack the knowledge in detecting danger signs or responding effectively to complications with drugs (UNICEF 2004). They have also been blamed for delaying and deliberately discouraging mothers with complications from going to the hospital (WHO 2005). On the other hand there is research that recognises TBAs as capable of potentially saving lives in case of complications (UNFPA 1996). Other studies have shown that TBAs do have the skills to identify complications (Das et al., 2000, Raina and Kumar 1989).

WHO recommends immediate medical attention on recognising excessive post partum bleeding (WHO 2003a). This present study shows that some TBAs in Shendi PHC continue to handle complications such as excessive post partum bleeding themselves and do so ineffectively. Some TBAs reported they generally manage excessive post partum bleeding by making the woman sleep with her legs crossed or giving her tea. The training manual identifies excessive post partum bleeding as being a situation that is inappropriate and harmful to mothers. The training instructs TBAs to ask mothers to call for her

immediately on identifying post partum bleeding. However the manual does not include vital information about what immediate actions need to be taken by TBAs when faced with such a situation and what best alternatives can be available. Such a finding suggests the need to systematically include such vital information in the training as TBAs are involved in assisting births and in making referrals.

Babies with breech presentation are known to be at increased risk of complications during birth, and are often delivered by caesarean section (Hofmeyr and Kulier 2000). The chance of breech presentation persisting at the time of delivery, and the risk of caesarean section, can be reduced by external cephalic version (ECV - turning the baby by manual manipulation through the mother's abdomen). Almost half the TBAs handle breech presentation themselves although the training manual suggests they should refer such women to the health centre. WHO has diagrammatically detailed the methods of breech delivery without turning the baby around and maternal positions recommended for turning the bay around (WHO 2003c).

WHO recommends turning the baby in transverse lie using ECV (WHO 2003c). TBAs were instructed in the local training manual to take the woman to the health centre on recognising that the baby is in a transverse lie. Half the TBAs stated they would take the mothers to the health centre and half stated they would handle a transverse lie by themselves by trying to turn the baby around. There was evidence of the TBAs being able to manage a transverse lie by turning the baby using external version as reported by one woman who faced this situation and delivered her baby at home.

The training manual includes a range of risk situations that need to be referred to the PHC which include if the mother is of lesser height, if she has swelling on her feet and hand, if she has a severe headache, if the baby is in a breech-transverse lie, if there are twin babies in the womb, if the mother is having her first baby, if the mother very young, older or has already given birth to three or more children, if the baby is not moving in the womb, the heartbeat of the baby is not heard, and if she bleeds during pregnancy. As noted above, situations that need immediate medical attention are mixed

with those that may require more antenatal monitoring. By combining the situations, the significance of the emergency situations and the need for urgent action are diluted and not given the important emphasis they deserve. Such messages conveyed through the training manual may cause confusion in the minds of TBAs about handling an emergency.

10.3.9. Referral

This study reveals that the family plays an important role in decision-making regarding referrals. TBAs reported that the family members are generally disappointed when the TBA cannot handle the situation herself. Their disappointment is mainly due to the cost and fear of the kind of treatment that will be received at the health centre. Here again there was a mention of the capacity and confidence of the TBAs to convince the family about her links with the health centre. Some TBAs who had strong links with the health centre were confident about decision-making during referrals. The content of the training and its context in the local community therefore is very significant in its impact on birthing practices in the community.

10.3.10. Conclusion

There are indications of beneficial biomedical knowledge adopted by TBAs in Shendi PHC. Most of the TBAs washed their hands before starting their work and most used a clean blade to cut the cord. Other positive indications of training are that more of the mothers assisted by trained TBAs breastfed and weighed their babies immediately after birth compared with those assisted by untrained TBAs. More of the mothers assisted by trained than TBAs also received advice to visit the PHC during pregnancy. On the other hand, there is an indication of negative biomedical practices pervading the community which is evident in that one quarter of the mothers adopted the supine position and one third of the TBAs encouraged this position in their home births.

Nonetheless, a number of traditional practices continue to be prevalent in home births assisted by TBAs. Most of the mothers adopted the traditional sitting/squatting position during childbirth. The traditional practice of applying oil continues to be widely

prevalent in the community. All the TBAs followed the tradition of bathing babies immediately after birth. Most of the mothers do not breastfeed their babies immediately after birth. Some of these practices are covered in the training and others are not.

10.4. CONTEXT OF THE TRAINING CONTENT AND DESIGN

Some harmful practices continue despite training. Although TBAs are taught in the training to avoid using blunt traditional objects to cut the cord, a few mothers reported that a sickle was used. Some of the harmful practices were not covered in the training such as managing excessive post partum bleeding by making the mother sleep with her legs crossed or by giving warm tea, applying oil on the cord, and bathing all babies immediately after birth. Table 10.1 gives a detailed description of the training guidelines by WHO, the local training programme instructions, and the practices adopted by TBAs and mothers.

Kruske and Barclay (2004) contend that the training courses were in most cases simplified versions of the ‘professional midwives’ training or direct translation of WHO guidelines, ignoring its local appropriateness. In some ways this statement is true in the training programme conducted at Shendi PHC. Certain aspects of the training content are direct translations of WHO guidelines such as washing of hands with water and soap while preparing for birth, the use of a clean blade to cut the cord, and the use of a plastic sheet (refer table 10.1). It was observed that the use of a plastic sheet was not appropriate as the local material used for delivery was jute cloth. However certain WHO guidelines are not followed. WHO guidelines recommend that oil should not be applied to the cord, and a newborn baby should not be bathed for at least six hours after birth, both of which are not included in the training content.

The WHO suggests that mothers can take any position during delivery while preferably avoiding long periods in the supine position. However the local training programme advocates for the outdated supine position. Similarly WHO recommends immediate

breastfeeding and skin to skin contact, in contrast, the training manual mentions breastfeeding a few hours after birth and keeping the baby between the legs of the mother exposed until the placenta is delivered. Similarly, the only WHO guideline recommendation that is followed through to the local level is supervision. All other aspects of training design such as needs assessment, selection criteria, training material, general content, evaluation and duration are either diluted or completely omitted from the training design (refer also to Table 6.1.).

10.5. RE-EXAMINING AUTHORITATIVE KNOWLEDGE USING EVIDENCE FROM THE STUDY

The two different kinds of knowledge discussed in this thesis include biomedical and traditional knowledge in birthing practices. This section examines the evidence of authority of one kind of knowledge over the other. The elements discussed include TBA training objectives, need assessment, baseline study, selection criteria, remuneration and existing birthing practices in relation to training content. There is an emphasis on institutional assistance during childbirth as an overarching objective of TBA training with a simultaneous assumption that TBAs will cease to exist as the goal of providing professional care for all is approached. This indicates the dominance of the biomedical approach that assumes that universal institutionalisation of births is the solution to all maternal and infant health problems.

Despite emphasis in the WHO guidelines, neither needs assessment nor baseline was conducted effectively in the local training programme. The local training programme selected some women who had no previous experience as TBAs. This indicates that the trainers did not give value to the years of experience and caseload of the existing TBAs while selecting them for the training. In other words, the birthing skills and knowledge base with which the women participate in the training was considered insignificant by the trainers. Thereby there was no scope for the training to be a two way process of learning between the health professionals trained in biomedical knowledge and those with hands-

on knowledge in the local community. On the other hand almost half the women selected for the training were already functioning as village health workers in the ongoing health and hygiene programme run by the local non-government organization. This indicates that emphasis was given to prior basic biomedical knowledge which was conveyed to the VHWs as a criterion for suitable functioning of birth attendants in the community. This therefore is evidence of the domination of biomedical knowledge over traditional knowledge existing among local TBAs. The incorrect selection criteria further constrained the possibility of integrating traditional and biomedical knowledge during the training and thereby in optimising existing human resources within the local community. Furthermore this has accentuated tension between the trained and untrained TBAs and reduced the possibility of optimal co-operation between the two groups.

Jordan (1993) suggests that meaningful learning can take place with mutual accommodation of knowledge and a two-way teaching and learning process that makes use of local knowledge, equipment and expertise, instead of a complete replacement or an imposition from outside. However evidence from this study shows that the implementation of TBA training programmes are insensitive to this understanding and emphasise more on imparting biomedical knowledge to the TBAs rather than learning from their experience. Indeed, there is evidence that certain useful practices such as upright position during delivery is being substituted by supine position encouraged not only by trained but also untrained TBAs. The positive element of the training design is the use of practical and theoretical teaching methods and the use of various materials meant to target non-literate trainees. The evidence from this thesis shows that there is an overall 'authority' of biomedical over traditional knowledge in the planning and implementation process of the TBA training programme. Thus there is an imposition of strategies to address maternal and infant health problems, rather than a consultative process with TBAs and women at the local communities.

Some of the harmful birthing practices continue to be adopted by TBAs and women in the community and some are introduced in the community through training. The training programme encourages supine position despite research evidence that this position is not

beneficial for birthing mothers. The harmful practices adopted in the community include supine birthing position, inappropriate management of complications, application of unhygienic materials on the cord, refraining from colostrum, feeding and bathing babies soon after birth. Some of these practices were not addressed during the training while some others are adopted despite the training due to community preferences. The training manual does not mention tetanus toxoid injections, unhygienic application on the cord, or delaying bathing of new born babies immediately after birth. Confusing messages are conveyed about breastfeeding, keeping the new born baby warm, weighing of new born babies soon after birth, and ways of managing complications.

The study findings on birthing practices therefore suggest that there is a combination of biomedical and traditional practices adopted in the community. Some TBAs continue to use sickle despite the training because of the lack of community acceptability. Certain harmful practices such as discarding colostrum continue to have strong acceptability in the community. In the context of authoritative knowledge, it is therefore evident that some of the practices adopted by TBAs and women is inclined towards the traditional knowledge largely accepted within the community. The study therefore reveals that along with appropriate and clear messages conveyed during training, the acceptability of these practices in the community is also important. The recommendations for community involvement are included in the next chapter.

10.6. THE STRENGTH AND LIMITATIONS OF THE STUDY

In this section a number of limitations of the study are detailed following a summary of its strengths. First, quantitative data were augmented with semi-structured, open-ended interview techniques allowing more in-depth understanding of the results. Second, collection of data from multiple sources such as trained and untrained TBAs, as well as recipients of care, provides for analysis from a range of perspectives. Previous studies on TBA training have noted inadequate mention of the design and content used in the training programme. This study however links the characteristics and birthing practices

adopted by TBAs with the content and design of the training programme. Another key strength of the study was its ability to access a remote and culturally isolated area in India.

A key limitation of this study is the small number of respondents (38 TBAs and 25 mothers) making it unfeasible to conduct any statistical analysis of the data. It was observed during the field visit that the complex field situation in which trained and untrained TBAs work together after receiving training allows for cross contamination. The information taught during training to TBAs can be passed to untrained TBAs. Moreover, there is a simultaneous health and hygiene awareness programme ongoing in the study area conducted by the local NGO (CRHP) and in such a situation it was very difficult to isolate the impact of the TBA training programme on the practices of TBAs.

As the training had already been conducted the method used in this study was predominantly a post-training evaluation. Observation of deliveries could not be conducted and therefore a complete picture of the role of TBAs in delivery was not within the scope of this study. As the community was approached through the NGO, some TBAs may have responded according to what was expected of them by the local NGO. However, by asking the mothers the same question it was possible to overcome this limitation to some extent. Some of the differences between the trained and untrained TBAs may have been due to their socio-demographic differences. The untrained TBAs were older and had more years of experience but lesser schooling compared to trained TBAs. With a larger sample the trained and untrained TBAs could have been compared, adjusting for socio-demographic differences, which was not possible in this study.

10.6. FUTURE RESEARCH

Further research is needed to understand why TBAs and mothers are selective in adopting certain practices such as hand washing and use of a clean blade, and why they reject others such as feeding a baby colostrum following the birth. More research is

needed to understand the determinants of positive health impacts in areas where the percentage of maternal mortality has been controlled even when the percentage of home births and assistance of TBAs during childbirth remain high. Although there are several inadequacies in the training programme in the study area and most of the births take place at home, maternal mortality in the study area has been controlled. More research needs to be conducted in such areas to know what is being done differently and whether it is replicable in other areas. An improvised cost effective method of weighing babies and simple methods of assessing hypothermia by the hand touch method have been identified through intervention studies in developing countries. The applicability of these methods needs to be further researched and included in TBA training.

10.7. CONCLUSION

The findings of this study suggest some likely positive influences and certain adverse impacts of TBA training on the women's practices. The study shows that the biomedical framework of knowledge tends to dominate at the programme planning level. However, several traditional practices that are predominant at the local level were observed in the practices of TBAs and mothers. The study shows several shortcomings of the training programme and suggests possibilities for integrating the beneficial traditional knowledge of TBAs and mothers into future training programmes. The chapter also highlights the significance of community perception and involvement together with the capacity and confidence of TBAs that may influence the implementation of birthing practices taught to TBAs. The concluding chapter discusses the study's key findings in detail and makes recommendations based on them.

CHAPTER 11

CONCLUSION

Introduction

This chapter concludes the thesis with a discussion of the key findings and the recommendations emerging from them. The recommendations provide constructive suggestions about integration of the informants' local level traditional knowledge with the biomedical framework of knowledge that permeates their training and is aimed at improving the TBA training programme and enhancing its outputs. The recommendations also suggest that community awareness generation be run as a parallel programme to TBA training.

11.1. KEY FINDINGS

The following are the five key findings that have emerged from the study. Positive and adverse influences emanate from the training on birthing practices of trained TBAs compared to untrained TBAs. Several inadequacies in training design and content reflect certain gaps and omissions in the training content covered. While the biomedical framework of knowledge dominates the conceptualization of the TBA training programme, at the local level the TBAs and mothers adopt a mix of biomedical and traditional birthing practices. The role of TBAs during delivery suggests they can contribute by conveying significant information to the community through the training they have received, and, the community plays a significant role in decisions made about vital birthing practices during childbirth. Each of these findings is discussed in detail in the next section.

11.1.1. Positive and adverse influence of training on birthing practices of trained TBAs compared to untrained TBAs.

The findings of this study highlight some of the positive influences and certain adverse impacts of TBA training on their practices. The manifestation of biomedical practices adopted by TBAs in Shendi PHC includes washing their hands before starting their work and using a clean blade to cut the cord. Positive indications of training were also more of the mothers assisted by trained TBAs breastfed and weighed their babies immediately after birth compared to those assisted by untrained TBAs, and more of the mothers assisted by trained TBAs also received advice to visit the PHC during pregnancy compared to those assisted by untrained TBAs. Nonetheless, there were also adverse impacts of training such as one quarter of the mothers adopting the supine position and one third of the TBAs encouraging this position in home births.

Several inadequacies in training design and content reflect gaps in the content covered. The lack of the baseline study was reflected in some harmful practices adopted by TBAs and mothers that were not included in the training content such as managing excessive post partum bleeding by making the mother sleep with her legs crossed or by giving warm tea, applying oil on the cord and bathing all babies immediately after birth. The lack of a needs assessment conducted in the relevant communities was reflected in the materials which were supplied to the TBAs which were irrelevant or did not match the material commonly used in the communities, for example, a plastic sheet was included in the delivery kit but was not used in the community as most mothers preferred jute. A previous observation had been that the content of TBA training programmes in developing countries was a direct translation of WHO guidelines, irrespective of the appropriateness of the local situation (Kruske and Barclay 2004); this study suggests that this observation is partially verifiable.

11.1.2. Biomedical Knowledge Dominates Traditional Knowledge

The study shows that the biomedical framework of knowledge is dominant at the programme planning level. However, several traditional practices predominate at the local level as observed in the practices of TBAs and mothers. The programmes' rationale and objectives were based on the assumption that the institutionalization of birth and the provision of skilled attendants during delivery are the solution to improve maternal and infant health in developing countries, thus emphasizing a biomedical approach to maternal and infant health problems. Indeed, the implementation of the TBA training programme at the local level overlooks the significance of and need for a baseline study and needs assessment at the local community level from which to build a training programme that is apposite to the local mother's needs and that fits within their 'comfort zone' during an act that, for most, requires a forum in which issues of modesty can be addressed. Moreover, it can be argued that the selection criteria used for the training was faulty and that, as a consequence, the local NGOs disregarded the importance of TBAs in contributing to the process of improving maternal health in their local communities.

However, at the local level traditional approaches were evident in the practices adopted by the TBAs and mothers. Most of the mothers adopted the traditional sitting/squatting position during childbirth, applied oil on the cord, bathed their babies immediately after birth and did not feed colostrum to their new-born babies. As discussed in the previous section, some of these practices are covered in the training programme and others are not.

This section concludes that whether biomedical or traditional approaches are allowed to predominate in training programmes must be based on the circumstances in which mothers give birth. The social and cultural conditions in many rural areas of India should be inclined towards incorporating beneficial traditional practices where there is evidence that these are preferred by the community. TBAs are excellent at maneuvering and they change their practices according to circumstances; they adopt certain practices taught to them during their training and reject others depending on their community's needs and preferences. TBAs need to be convinced to use beneficial biomedical practices via

examples from their local context; they are then more likely to be able to convey such information to their community.

11.1.3. Key Role of TBAs during Delivery Suggests they can contribute in conveying Significant Information to the Community through Training.

The findings suggest that TBAs have a significant social role in providing basic maternal and infant services because most TBAs first contact mothers during the first or second trimester, they provide basic advice on diet, and encourage visits to the PHCs during pregnancy, most were summoned at the onset of labor pains, and most provide breastfeeding and immunization advice after birth. TBAs are likely to continue to exist because the trust of TBAs in the community was the second most important reason for mothers choosing home births. According to TBAs, good delivery outcomes were an important reason for their acceptance in the community, mothers continue to have concerns about the sex of the birth assistants in health institutions, and mothers were networked within kin and family considerations that often prefer to choose home births with the assistance of TBAs. The implication of these findings is that TBAs continue to be an important medium to convey vital information about maternal and infant care to their community.

11.1.4. Community Plays a Role in Decision making about Vital Birthing Practices During childbirth

The study reveals that community perception is important in the appropriate implementation of certain beneficial practices and thereby may affect the outcome of the training programme. The study shows that despite advice from TBAs, some people continue to use a sickle to cut the cord. Other practices such as refraining from feeding colostrum to babies continue due to community perceptions about the first milk being bad for the baby. And, the practice of bathing of babies immediately after birth is widespread. Although there are no studies that are directed at understanding the reasons for this practice, it is most likely due to beliefs about pollution and the perception of the birth

process being ‘dirty’. The study shows that other than TBAs, the family also plays a role in decision-making during referrals, which highlights the importance of awareness generation and community acceptance of the beneficial practices that can occur as a result of effective TBA training.

11.2. RECOMMENDATIONS

The two main recommendations of this study are:

1. suggestions to improve and enhance the TBA training programme and its outcomes; and,
2. the need to include the increase in community awareness that occurs via TBA knowledge-production into the TBA training programme.

11.2.1. Possible Improvements to Training and the Integration of Traditional Knowledge into the TBA Training Programme

The recommendations of this study suggest improvements in the content and design of TBA training to enhance outcomes. The suggested improvements include the need to include a baseline study, appropriate selection criteria, improve information in the training manual to increase clarity of meaning, and to encourage beneficial traditional practices through training. Accordingly, the training manual needs to portray mothers in various positions and to suggest that mothers can choose a preferred position during childbirth. The material provided to TBAs needs to be sensitive in its portrayal of childbirth assistance as a humane service provided to birthing mothers. TBA training should include baseline study data from which to understand the local practices that are prevalent within communities and to incorporate them into the training. An effective outcome of training also depends on the appropriate initial selection of TBAs for training.

The following suggestions are recommended to improve the clarity of meaning in the training manual. The training manual should include the following information: wash hands before directly handling the mother and baby at different times during delivery; the ‘warm chain’ information with diagrams such as immediate drying and wrapping of babies, skin-to-skin contact, immediate breast-feeding and postponed bathing; simple technique of detecting hypothermia by touching method, emphasise the weighing of babies immediately after birth; include the importance of tetanus injections and folic acid tablets; and refer to different types of maternal and infant complications and information on action to be taken during complications. Situations that need immediate medical attention should be separated from those that may require more antenatal monitoring.

The local level implementers continue to rely on outdated information such as the use of the supine position and breastfeeding a few hours after birth. The NGOs that are implementing the training programme should be provided with clear and appropriate instructions on training methodology and information that is updated with knowledge from the international research community that has the potential to improve the health status of mothers and babies.

11.2.2. Community Awareness that is Interlinked with TBA Training

Conceptualisation and planning of the TBA training programme should incorporate the ‘traditional’ knowledge of women in the local community level where the knowledge is beneficial and appropriate to longer term health outcomes. Certain harmful practices are widespread such as discarding colostrum, bathing all new born babies and other practices that cause hypothermia and sepsis among babies. However, there are beneficial practices that may be specific to a particular area that can be known only through baseline and needs assessment studies and which may comfort mothers during a time that is both intimate and, in many communities, requires extreme modesty on the part of the birthing mother. Activities that can be conducted before training can well include a baseline study and needs assessment in order to gather information about the preferred birthing practices in the local community that is targeted for training.

Awareness about community practices can be communicated to TBAs as they have the scope and the intelligence to provide important information to the community and to facilitate effective improvements in health practices. As this study demonstrates, practices such as breastfeeding, the use of a sickle to cut the cord, and bathing babies after birth needs community acceptance along with the capacity and confidence of TBAs to make people aware of the significance of beneficial practices. After training, the information gathered in the needs assessment and baseline study should be conveyed back to the community together with an awareness of its implications. This can be done through the NGOs that conduct ongoing health awareness programmes in the community.

At the national level some of the harmful practices can be addressed through popular media such as television. Television is an important source of health information for people in India²³, for example, advertisements are known to increase awareness of immunization in India. Popular women film stars or political leaders who have recently delivered babies could spread awareness through television about the need for tetanus injections and the ‘warm chain’ infant care procedure suggested by WHO which includes immediate drying and wrapping, skin-to-skin contact, immediate breast-feeding, and postponed bathing.

In recent times, the role of grandmothers has been recognised as vital contributors alongside TBAs in giving advice and herbal remedies (Prendiville 1998). TBAs themselves may play the role of grandmothers within the families and in the community (CORE 2004). Some studies have identified that grandmothers in the community are greatly trusted and often first to be consulted about health problems, especially regarding babies and children (CORE 2004). Multilateral funding agencies such as the USAID have commenced attempts in developing countries to optimise the resources by including grandmothers to improve the maternal and child health situation in Tanzania and Ghana. Such initiatives need to be researched further to understand their applicability in India. It is known that mother-in-laws and other older women in the community also play a role

²³ Among the different types of mass media, television has the greatest reach, with 46 percent of women watching it at least once a week (IIPS 2000). Television was the main source of health information for ever married women who had heard of HIV/AIDS (79%), and family planning (44%) (IIPS 2000).

in adopting birthing practices and therefore it would be useful if such trial interventions are initiated in South Asia.

11.3. CONCLUSION

This study concludes that the continuation of TBA training is significant for improving maternal and infant health in developing countries, particularly in the rural areas of India. There is awareness, not only among trained but also among untrained TBAs, about certain beneficial biomedical practices of hygiene during delivery. And there are certain indications of influence of training on the birthing practices of trained TBAs compared to untrained TBAs. There are several drawbacks in the training design that are reflected in the content of the training programme and its outcomes. Although the biomedical framework of knowledge dominates the TBA training programme at the planning level, several traditional practices continue to be adopted at the local level, both beneficial to local mothers and babies' health, and not.

There is a top-down, one-sided imposition of biomedical knowledge on TBAs in the training programme but, at the local level, TBAs and mothers sometimes follow the training instructions and sometime do not, preferring to adapt to the local perceptions and preferences of their community. The research suggests that adverse biomedical practices such as the use of the supine position are being introduced into the local communities. Although the TBAs can contribute to conveying significant information to the community through their training, community awareness and building the confidence and capacities of TBAs could enhance the ongoing impacts of the training even further. The study recommends improvement in TBA training programme methodology which could, in turn, further improve the outcomes of the programme and simultaneously enhance any community awareness programme that may be devised, with the final goal being to assist the TBAs in their extraordinary and often unrecognized efforts.

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Appendix 1

Questionnaires

CONSENT

(Same for the Two Questionnaires and Interviews)

Dais traditionally have been involved in the birthing process in India. In recent times their role is changing due to training programs and other factors of modernisation. This study aims to look at their practices in selected villages in Akole Taluka, Ahmednagar District. We hope you would like to share you experiences and expertise. I am a student from Queensland University of Technology, Brisbane, Australia. This study will help in understanding more about Dais and their practices. Your participation in this survey will be very much appreciated.

The time needed to complete this questionnaire will be less than one hour. Participation in this study is voluntary. If you decide to participate, you may stop answering or withdraw at any time during the questionnaire session. Whatever information you give us will be strictly confidential and will not be disclosed to anybody at anytime.

We hope you participate in this questionnaire as your views are very important for this study. Do you have any questions about the study at this time? In case you have any further queries regarding this research you are free to contact me at my email address, sheela_saravanan@hotmail.com or the Queensland University of Technology (QUT) Ethics Committee at: (07) 3864 1844

Signature of the interviewee _____ Date _____

Name of the Dai _____

DAI QUESTIONNAIRE

(trained and untrained Dais)

1. IDENTIFICATION

1.1. Questionnaire Number _____ (related to the list of Dais)

1.2. State _____

1.3. District _____

1.4. Tehsil/Taluka _____

1.5. Village _____

1.6. Household Number _____

1.7. Address _____

1.8. Person Code of Dai (from 2.1) _____

1.9. Total number of persons living in the household _____

2. HOUSEHOLD INFORMATION

(for each person living in the household)

2.1	2.2	2.3	2.4.	2.5	2.6	2.7	2.8	2.9.
Person Code	Male /Female	Age	Marital Status	Has the person been to school (yes/No)	What is the highest grade completed by the person (write grade)	Main work done by the person (write work)	Other subsidiary works done (write work)	Average earning per month
1								
2								
3								
4								
5								
6								

7								
8								
9								
10								
11								
12								

<p>Person Codes (in relation to the head of Household)</p> <p>01. Head of the Household</p> <p>02. Son or Daughter</p> <p>03. Son-in-law or Daughter in Law</p> <p>04. Grandchild</p> <p>05. Parent</p>	<p>06. Parent-in-law</p> <p>07. Brother-in-law or Sister-in-law</p> <p>08. Other relatives</p> <p>09. Adopted/Foster Child</p> <p>10. Not related</p> <p>11. Any other (specify)</p>
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3. PROFESSIONAL INFORMATION OF DAI

3.1. From whom did you learn the skills of (Midwifery) Dais?

	Yes/No
i. From mother/ relative	
ii. From other Dais	
ii. Through my own Experience	
iii. Formal Training (if, yes give the name of the organization trained you)	
iv. Any other means (Specify)	

3.2. Why did you learn these skills?

i. To continue the traditional occupation	
ii. To make it a main or subsidiary livelihood option.	
iii. Due to the advice of Husband/Inlaws / Family Members	
iv. Devine calling	
v. Any other reason (specify)	

3.3. How were you recognized in the community as a Dai?

i. Good will	
ii. Number of good outcomes	
iii. Generational recognition	
iv. Any other (mention)	

3.4. Since how many years have you been practicing as Dai?

0-2 years	
3-5 years	
5-10 years	
>10 years	

3.5. Is anybody in your family learning these skills?

Yes

No..... → go to 4.

3.6. If yes, who is learning it?

Person code	
-------------	--

4. ANTENATAL CARE

4.1. Usually when is the first contact between you and the pregnant woman/her family?

First Trimester	
Second Trimester	
Third Trimester	
At the time of Delivery	
Any other (specify)	

4.2. What is the reason for this contact? (tick as many)

Ante-natal advice	
Problem during ante-natal period/pregnancy	
Delivery care	
Consultation for abortion	
Problem with previous pregnancy	
Any other reason (specify)	

4.3. Do women seek any antenatal advice from you?

Yes

No..... → go to 5

4.4. If yes, what kind of advice is given?

	Topic	Yes
1	Early contact with Sub center/PHC	
2	TT and IFA	
3.	Weight, B.P Urine check-up	
4	Food and rest	
5.	Any special diet / herbal medication for a selective outcome (male/female) (fair	

	complexion etc)	
6.	Not to lift heavy weights	
7.	Routine exercise	
8.	Any other (list)	

5. DELIVERY CARE

5.1. At delivery, when are you summoned usually?

When the pain starts	
When the pain has progressed	
When the baby is about to be delivered	
Any other (specify	

5.2. Usually where is the delivery conducted?

In your house	
In the client's house	
Any other place (specify)	

5.3. Do you carry anything along with you for the delivery service?

Yes

No..... → go to 5.5.

5.4. If yes, list the items carried along

Clean clothes	
Unclean Clothes	
Blade	
Clean thread to tie the cord	
Scissor	
Disposable Delivery Kit (DDK)	
Weighing instrument	
None of the above/Nothing	
Any other (specify)	

5.5. Do you wash your hands anytime during or after the delivery?

Yes

No..... → go to 5.7.

5.6. How and when do you wash your hands?

	Before starting the work	Before cutting cord	After finishing the delivery	Internal examination	Any other time (specify)
Water only					
Water and Soap					
Any other items used for washing					

Code for 5.6: 1. Yes, 2. No, 3. Sometimes

5.7. In what position is the delivery normally conducted?

Squatting	
Sitting	
Lying down	

Any other (specify)	
---------------------	--

6. MATERNAL COMPLICATIONS

6.1. Usually do you handle the following problems yourself?

	Problems	Yes	No	What do you do?
1	Failure to dilate			
2	Transverse lie			
3	Breech baby			
4	Cord prolapsed			
5	Placenta prolapsed			
6	Excess postpartum bleeding			
7	Retained Placenta			
8	Any other (specify)			

7. CLEAN SURFACE AND CORD

7.1. On what material is the mother made to deliver?

Mattress	
Cloth	
Jute	
Sand	
Bricks	
Plastic/rubber sheet	
Any other (specify)	

7.2. What kind of clothes does the woman wear for the delivery?

Clean old rags	
Unclean old rags	
Normal household clothes	
Any other (specify)	

7.3. What material is used to cut the cord?

Clean razor	
Unclean old razor	
Scissor	
Any other material (specify)	

7.4. Is there any care taken of the cord after cutting?
(Explain in detail)

7.5. How do you remove the placenta?
(Explain in detail)

8. OTHER DELIVERY PRACTICES

8.1. Do you provide this service normally, once in a while or never?

Types of Practices	Normally
1. Examination of the position of the baby	
2. Give abdominal massage during delivery	
3. Give advice about food	
4. Try to change the position of the baby	
5. Take woman's pulse or blood pressure	
6. Do a vaginal examination	
7. Push on the stomach during the delivery	
8. Vomiting forced during delivery	
9. Episiotomy is done during delivery	
10. Massaging with oil in the vaginal area	
11. Help pregnant women to abort the baby?	
12. Any other (specify)	

9. POST NATAL CARE

9.1. Is the weight of the baby checked immediately after birth?

Yes

No..... → go to 9.3.

9.2 If, yes, who does the weighing if the baby

Myself	
Anganwadi Worker	
Sub-center Nurse	
Any other (specify)	

9.3. What instrument is used for checking the weight?

Weighing machines	
Any other (specify)	

9.4. Do you bathe the baby immediately after birth?

Yes

No..... → go to 9.5.

9.5. What is method used for cleaning?

Warm Water	
Cold water	
Wipe with cloth/cotton	
Any other (specify)	

9.6. Do you keep the baby warm after birth?

Yes

No..... → go to 9.7.

9.7. What is method used for keeping the baby warm?

With cloth	
------------	--

With blanket	
Any other (specify)	

9.8. Do you check on the woman again after the delivery?

Yes

No..... → go to 9.9.

9.9. If yes, when?

Next day	
The following week	
After 10 days	
within 30 days	
any other (specify)	

9.10. Do you check on the baby again after the delivery?

Yes

No..... → go to 9.11.

9.11. If yes, when

Next day	
the following week	
After 10 days	
within 30 days	
any other (specify)	

9.12. Do you advice any food restrictions for the mother after delivery (specify)

Yes

No..... → go to 9.13.

9.13. What kind of restrictions on food are these? (Specify)

1. _____
2. _____
3. _____

9.14. Do you recommend immunization?

Yes		No	
-----	--	----	--

10. ADVICE ON BREASTFEEDING

10.1. Do clients seek any advice on breast feeding?

Yes

No..... → go to 10.3.

10.2. What advice is given on breastfeeding?

1. Method of breastfeeding	
2. the time to breastfeed	
a. Immediately after the baby is born	
b. after sometime	
i. after a few hours	
ii. next day	
iii. after a few days	
3. Exclusive breastfeeding (in months)	
4. Length of period breast feeding advised (in months)	

11. ADVICE ON FAMILY PLANNING

11.1. Do you advice on Family Planning to the clients?

Yes

No..... → go to 10.3.

11.2 What methods of Family Planning do you advice?

Types of Family Planning	Yes/No
1. Temporary Method a) Condom b) Oral Pills c) Cu. T d) Any other (Specify)	
2. Permanent Method a) Vasectomy b) Tubectomy	
3. Abstinence	
4. All above methods	
5. Any other method (Specify)	

12. Payment

12.1. Do you get paid by the household after the service?

Yes	
No	
In kind	

12.2. If yes, approximately how much do you get paid for the service?

12.3. Do you get paid by the government for conducting safe deliveries?

Yes	
No	

12.4. If yes, how much?

12.5. What is your opinion about this payment?

13. Supervision

13.1. Is there any supervision about what you do in your health care services

Yes

No..... → go to 13.3

13.2. If yes by whom?

13.3. Is the kit provided to during training you sufficient?

Yes

No.....

13.4. Has it been replenished after it was supplied to you?

Yes

No..... → go to 13.6

13.5. If yes, when and how many times has it been replenished?

i. Number of times	ii. when

13.6. Do you keep any record of the pregnant women and number of deliveries conducted by you and the outcome?

	Yes	No
Number of Deliveries		

Outcome		
---------	--	--

13.7. Do you have any expectation from the health care system in order to perform your tasks more effectively?

Yes

No..... → go to 11.9

13.8. If yes what are your expectations?

1. _____

2. _____

3. _____

13.9. What are the main hurdles and problems that you face in performing your tasks as a Dai in the community and what according to you are the possible solutions?

Problems	Solutions
1	
2	
3	
4	

14. What are the most important problems that women and children face in your village in terms of maternal health? (Specify)

Problems	Solutions
1	
2	
3	
4	

15. What are the urgent needs of women and children in your village in terms of maternal health?

1. _____

2. _____
3. _____

16. How many deliveries have you conducted in the last year?

Number	
--------	--

MOTHER'S QUESTIONNAIRE

(Women who took assistance from trained and untrained Dais)

1. IDENTIFICATION

- 1.1. Questionnaire Number _____ (related to the list of Dais)
1.2. State _____
1.3. District _____
1.4. Tehsil/Taluka _____
1.5. Village _____
1.6. Household Number _____
1.7. Address _____
1.8. Person Code of Woman (from 2.1) _____
1.9. Total number of persons living in the household _____

2. HOUSEHOLD INFORMATION (for each person living in the household)

2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9
Person Code	Male /Female	Age	Has the person been to school (yes/No)	What is the highest grade completed by the person (write grade)	Main work done by the person (write work)	Other subsidiary works done (write work)	Does the person earn in cash for the work (Yes/No)	Average earning per month 1. < 1000 2. 1000 to 5000 3. > 5000
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

<p>Person Codes (in relation to the head of Household)</p> <p>12. Head of the Household</p> <p>13. Son or Daughter</p> <p>14. Son-in-law or Daughter in Law</p> <p>15. Grandchild</p> <p>16. Parent</p>	<p>17. Parent-in-law</p> <p>18. Brother-in-law or Sister-in-law</p> <p>19. Other relatives</p> <p>20. Adopted/Foster Child</p> <p>21. Not related</p> <p>22. Any other (specify)</p>
--	--

3. MATERNAL CARE OF LAST PREGNANCY

3.1. Did you seek any health care during pregnancy?

Yes

No..... → go to

3.2 Whom did you visit and when during pregnancy?

Health Personnel	3.2.a. Record all persons seen	3.2.b. How many times did you visit?	3.2.c. What advice were you given during these visits?	3.2.b. Which month during pregnancy was this visit made?
Doctor				
ANM/Nurse/LHV				
Other Health Professionals				
Dais (trained)				
Dais (Untrained)				
None				
Any other (specify)				

3.2.c. Advise Code

1. Diet 2. Danger Signs 3. Delivery Care 4. New Born Care 5. Family Planning

3.3 Where did you give birth to your baby and given a choice where would you choose to deliver?

	Actual Delivery	Given a choice, where would you choose to deliver
Home		
Your home		

Parent's home		
Other home (specify)		
Dai's Home		
Public Sector		
Government Hospital		
Government Dispensary		
CHC/ PHC/Rural Hospital		
Sub Centre		
Other (specify)		
Private Sector		
Private Hospital		
Maternity Home		
NGO/Trust Hospital		
Any Other (Specify)		

If shifted from one place to another, mark more than one and number the sequence.

3.4. If delivered at home, reason for not visiting health facility for delivery?

Long distance	
No transport	
Travel time	
Long waiting hours	
Lack of faith in public health sector	
Care of remaining children	
Days lost at work	
Decision of the woman's family members	
Don't know where to go	
Better care at home	
Better trust in Dais	
No confidence in health professionals	
Any other reason (specify)	

--	--

4. ANTENATAL CARE (Last Baby)

4.1. When was the first contact between you and the Dai during your pregnancy?

First Trimester	
Second Trimester	
Third Trimester	
At the time of Delivery	
Any other (specify)	

4.2. What was the reason for this contact? (tick as many)

Ante-natal advice	
Problem during ante-natal period/pregnancy	
Delivery care	
Consultation for abortion	
Problem with previous pregnancy	
Any other reason (specify)	

4.3. How long have you known this Dai?

Months	
Years	

4.4. Did you seek any advice prior to delivery?

Yes

No..... → go to 5.

4.5. If yes, what kind of advice did you seek?

	Topic	Advice Given
1	Early contact with Sub center/PHC	
2	TT and IFA	
3	Weight, B.P Urine check-up	
4	Food and rest	
5.	Any special diet / herbal medication for a selective outcome (male/female) (fair complexion etc)	
6.	Not to lift heavy weights	

5. DELIVERY CARE (Last Baby)

5.1. At delivery, when did you/your family call for the Dai?

When the pain started	
When the pain had progressed	
When the baby was about to be delivered	

Any other (specify	
--------------------	--

5.2. Did you make any preparation for the delivery?

Yes

No..... → go to 5.4.

5.3. If yes, what did you do?

5.4. In what position did you deliver your baby?

Squatting	
Sitting	
Lying down	
Any other (specify)	

(if position changed during the labor, mark more than one and number the sequence)

6. IDENTIFICATION OF MATERNAL COMPLICATIONS AND REFERRAL TO A HEALTH FACILITY (Last Baby)

6.1. Did you face any problems during the delivery?

Yes

No..... → go to 7.

6.2. If yes, what problem(s) did you face and how was it solved?

	Problems	Yes	No	What was done?
1	Failure to dilate			
2	Transverse lie			
3	Breech baby			

4	Cord prolapsed			
5	Placenta prolapsed			
6	Excess postpartum bleeding			
7	Retained Placenta			
8	Any other (specify)			

7. CLEAN SURFACE AND CORD (Last Baby)

7.1. On what material did you deliver?

Mattress	
Cloth	
Jute	
Sand	
Bricks	
Plastic/rubber sheet	
Any other (specify)	

7.2. What kind of clothes did you wear for the delivery?

Clean old rags	
Unclean old rags	
Normal household clothes	
Any other (specify)	

7.3. What material was used to cut the cord?

Clean razor	
-------------	--

Unclean old razor	
Any other material (specify)	

7.4. What was done with the cord?

(Explain in detail, who cut it, how was it cut, what was done with it after cutting)

7.5. What was done with the placenta?

(Explain in detail how it was removed and what was done with it after removal)

8. PRACTICES (Last Baby)

8.1. Did the TBA conduct any of the following during your delivery? (tick as many)

Types of Practices	
1. Examination of the position of the baby	
2. Given abdominal massage	
3. Given advice about food	

4. Tried to change the position of the baby	
5. Woman's pulse or blood pressure taken	
6. Vaginal examination was done	
7. Vomiting forced during delivery	
8. Episiotomy was done during delivery	
9. Vaginal area was massaged with oil	
10. Any other (specify)	

9. POST NATAL CARE (Last Baby)

9.1. Was the weight of the baby checked immediately after birth?

Yes

No..... → go to 9.3.

Don't Know..... → go to 9.3.

9.2. What instrument was used for checking the weight?

Weighing machines	
Any other (specify)	

9.3. Was the baby bathed immediately after birth?

Yes

No..... → go to 9.5.

Don't Know..... → go to 9.5.

9.4. What was method used for cleaning?

Warm Water	
Cold water	
Wipe with cloth	

Any other (specify)	
---------------------	--

9.5. Was the baby kept warm after birth?

Yes

No..... → go to 9.7.

Don't Know..... → go to 9.7.

9.6. What was the method used for keeping the baby warm?

With cloth	
With blanket	
Any other (specify)	

9.7. Did the Dai check on you after the delivery?

Yes

No..... → go to 9.9.

9.8. If yes, when?

Next day	
The following week	
after 10 days	
within 30 days	
any other (specify)	

9.9. Did the Dai check on the baby again after the delivery?

Yes

No..... → go to 9.11.

9.10. If yes, when

Next day	
the following week	
after 10 days	
within 30 days	
any other (specify)	

9.11. Were you under any food restrictions after delivery (specify)

Yes

No..... → go to 9.13.

9.12. What kind of restrictions on food is advised after delivery? (Specify)

9.13. Did the Dai recommend immunization for your child?

Yes		No	
-----	--	----	--

10. ADVICE ON BREASTFEEDING (Last Baby)

10.1. Did you seek any advice on breast feeding from the Dai?

Yes

No..... → go to 10.3.

10.2. What breastfeeding practice was followed by them?

1. Method of breastfeeding	
2. the time to breastfeed	
a. Immediately after the baby is born	
b. after sometime	
i. after a few hours	
ii. next day	
iii. after a few days	
Any other (specify)	

11. What are the most important problems that women and children face in terms of maternal health? (Specify)

Problems	Solutions
1	
2	
3	
4	

12. What are the urgent unmet needs of women and children in terms of maternal health?

1. _____

2. _____

3. _____

DAI'S SEMI-STRUCTURED OPEN-ENDED INTERVIEW

i. Opinion regarding their practice

1. How do members of your society/village perceive your work?
2. What does your family think about your work as a dai?
3. Do you have any sisters/cousins/family members who'd like to follow in your footsteps?
4. Do you feel that most villagers respect your work?
5. Are there any changes that are taking place in the Dai's practice over time? If yes, what are those?

ii. Antenatal care

1. Is your opinion taken and what opinion do people usually seek and why
2. When do you know that there is pregnant woman in the village who might approach her for delivery or any other service?

iii. Delivery

1. When is the Dai generally called for
2. Is there any cleaning process that is practiced for the place of delivery, Dai or mother, explain in detail

3. Who makes decisions regarding who will cut the cord, what will be done with it, placenta removal and what should be done if it is delayed
4. Who is the decision maker for referrals in case of complications?
5. Do you accompany patients in case of referrals?
6. What do you think are the factors that affect people's referral during complications?
7. Why do you think people call you instead of going to the doctor?
8. Are there any restrictions on women after or before delivery, in terms of mobility and pollution?

iv. Complications

1. What do you do when you know there can be a complication?
2. Is there any planning done before hand anticipating any complication could arise and if yes what?
3. Who makes decisions regarding where the woman should go, how and who will accompany her in case of referrals?
4. Have you had any such experiences and how often does it happen in the village

v. Post partum

1. What is the opinion about colostrum, is it good or bad

2. Is there any special care taken of the baby after birth and what is your role

vi. Remuneration for the service

1. How much in terms of cash or kind do you receive for the service? Is this similar for all dais in the village/area or are you better/worse paid because of your skills?

2. Are you satisfied with this?

3. Government's payment for trained Dais and its impact on her services

4. Your opinion about this payment

vii. Training of dais

1. Opinion about the training program and its use and impact on their practices

MOTHER'S SEMI-STRUCTURED OPEN-ENDED INTERVIEW

i. Choice of home birth

1. Where would you prefer go to delivery given a choice and why
2. What is your opinion regarding your Dai and her services

ii. Dais and Antenatal care

1. Do you seek her advice and what kind of ANC advices do you seek from her?
2. When do you inform your Dai that you will need her services?

iii. Delivery

1. When is the Dai generally called for
2. Who makes decisions regarding who will cut the cord and with what material?

iv. Complications

1. In case of health emergency especially in child birth what do you do?
2. Who makes decisions regarding referral, where the woman should go, how and who will accompany her?
3. Is there any planning done before hand anticipating any complication could arise? If yes, with whom? And what?

v. Post Partum

1. When did you first feed your baby with breastmilk and why?
2. What specific care is provided to you and the baby during the postpartum period?

vi. Remuneration for Dais' service

1. Do you pay your Dai or do you prefer to give her a gift?

Appendix 2

TBA Training Information Provided by Pravara Medical Trust

3. DETAILS OF THE TRADITIONAL BIRTH ATTENDANTS TRAINING ORGANIZED BY PRAVARA MEDICAL TRUST, LONI AT AKOLE BLOCK, AHMEDNAGAR DISTRICT DURING 2002-03.

The information in this appendix on the TBA training programme was provided by Pravara Medical Trust through electronic mail before the field work.

3.1. EXECUTIVE SUMMARY OF THE TRAINING PROJECT

With the objectives to train and equip dais (TBAs) for safe delivery in the underserved area of tribal belt of Akole Taluka of Ahmednagar District the project activities commenced from the month of August 2002 after its sanction from MOHFW, Government of India. Project Monitoring and Supervising Committee was constituted and the Committee took decisions regarding execution of the activities under the project. Also, the monitoring and supervising committee did recruitment of the staff for implementation of the project and a Project Implementation Committee was formed. The Project Coordinator undertaken coordination visits along with District Health Officer and Civil Surgeon, Ahmednagar and all Medical Officers of PHCs under the project.

Required training material was prepared by Pravara Medical Trust (PMT) and also some material was procured from DHO, Ahmednagar; IEC Bureau, Pune and Mother-NGO project of PMT, Loni.

A Baseline survey was carried out to assess the level of knowledge and practices used by Dais regarding maternal and child health care. A Baseline Community Needs Assessment survey was also conducted by interviewing 100 mothers in the area. A list of Dais was prepared for inclusion in the training programme. Training activities were started from September 2002 as per the schedule.

A post training Evaluation of Dais was done pertaining to knowledge of Dais regarding Maternal and child health care. Substantial increase in the level of knowledge regarding MCH care was found among participants.

Monitoring visits were given to the village covered under the project. Mothers delivered recently (within 2 months) at home where a Dai had conducted the delivery were interviewed regarding services given by them. Dais had used the Disposable Delivery Kits for conduction of delivery. A substantial improvement in the practices of dais regarding safe delivery was observed.

3.2 WHEN WAS THE LAST TRAINING DONE?

A total of 105 TBAs were trained from September to November 2002 in both theoretical and practical aspects of safe delivery and maternal health. Training programme was carried out in six batches with 15 to 20 dais in each batch. The training programme was of six days for each batch.

Table 3.1. Schedule of Training Programmes

S. No.	Training Dates	Venue
1.	3/9/2002 to 5/9/2002 (Theory)	Rural Hospital, Rajur
	6/9/2002 to 9/9/2002 (Practical)	Pravara Rural Hospital, Loni
2.	16/9/2002 to 18/9/2002 (Theory)	Rural Hospital, Rajur
	19/9/2002 to 21/9/2002 (Practical)	Pravara Rural Hospital, Loni
3.	30/9/2002 to 2/10/2002 (Theory)	Rural Hospital, Rajur
	3/10/2002 to 5/10/2002 (Practical)	Pravara Rural Hospital, Loni
4.	16/10/2002 to 18/10/2002 Theory)	Rural Hospital, Rajur
	19/10/2002 to 21/10/2002 (Practical)	Pravara Rural Hospital, Loni
5.	24/10/2002 to 26/10/2002 (Theory)	Rural Hospital, Rajur
	27/10/2002 to 29/10/2002 (Practical)	Pravara Rural Hospital, Loni
6.	18/11/2002 to 20/11/2002 (Theory)	Rural Hospital, Rajur
	21/11/2002 to 23/11/2002 (Practical)	Pravara Rural Hospital, Loni

3.3. TRAINING MODULE

Dai's were given theoretical training at Government Rural Hospital, Rajur, Akole Taluka for the first three days and the next three days they were brought to Pravara Rural Hospital, Loni (which is 90 Kms away) for practical (hands-on) training. During practical training the batch was divided into three groups and each group was posted in night hours at maternity wards for hands on training on child delivery.

Training was given in local language i.e. Marathi. and included topics on Antenatal Care, Intranatal Care, Postnatal Care, AIDS, Sexually Transmitted Diseases and Safe Abortion.

- i. Antenatal care
 - early registration of pregnancy
 - advice on TT and IFA
 - advice of food and rest
 - identification of high risk women (height and bad obst. history.)
 - identification of maternal complications and referral to a health facility
 - advice on breast feeding

- ii. Delivery Practices
 - Clean practices
 - Improve skills in conducting delivery
 - harmful practices to be avoided

- iii. Post natal
 - essential new born care
(warmth, infection control, exclusive breast feeding)
 - resuscitation (use of mucous suction trap)
 - weight of the baby
 - referral of sick baby
 - advice on immunization
 - advice on birth spacing

- iv . Safe Abortion -
- v. RTI/STI -
- vi. HIV/AIDS -

DAY 4 Demonstration of Normal Labour with dummy & pelvis (Maternity ward)
Visit to Maternity/Gyneac and Pediatric wards and observe patients
Demonstration of Antenatal Care
Video show on Safe delivery and ANC care

DAY 5 Video film on Neonatal Tetanus and HIV/AIDS
Posting at Maternity/Cyneac/Pediatrics wards
Demonstration of Intra-natal Care and Postnatal care

DAY 6 Demonstration on New Born care
On Breast feeding
Posting at Maternity/Gyneac/Pediatrics wards
Video show on Breast-feeding and newborn care
Discussion on Lessons learnt/Feed Back

3.4. TYPE OF TRAINING

Both theoretical and practical (hands-on) training on personal hygiene, ANC, safe delivery, PNC, STI/RTI, AIDS and safe abortion.

3.5. LENGTH AND DURATION OF THE TRAINING

Six days training (3 days theoretical and 3 days practical (hand-on))]

3.6. HOW OFTEN IS THE TRAINING CONDUCTED

Only Once by the PMT. The local PHC staff had trained some of the TBAs previously.

3.7. TRAINING MATERIAL

The following training material/methods tools were used for imparting skills in Dais.

- i) Ice breaking Session - the dais would be given opportunity to ask questions, clear doubts and interact with each other.
- ii) Demonstration with the help of Dummies, Cloth Posters, Flip Chart Books
- iii) Display of Video Cassettes on Safe Motherhood.
- iv) Case Study Presentation and Discussion.
- v) Examination of Pregnant women at ANC clinics
- vi) Practical Experience of delivery at Pravara Rural Hospital, Loni

3.8. MATERIALS PROVIDED TO THE DAIS IN THE PROGRAM

A training booklet was prepared by PMT and some of the IEC material was procured (eg. Flip charts, transparencies, booklets, Videocassettes, etc.) from Mother NGO – RCH Project of Pravara Medical Trust, Community Rural Health Project (CRHP), Bhandaradara; IEC bureau, State of Maharashtra, Pune, and District Health office, Ahmednagar .

At the end of each training session each TBA (Dai) was given two Disposable Delivery Kits (DDKs), a training booklet and a certificate of participation.

3.8.1. Are these materials provided one time, or are they re-supplied to the Dais at some point of time

Supplied only One Time.

3.9. FOLLOW UP PROGRAMS

Refresher course for one day is conducted at six months interval at the respective PHC, which is based on practical field problems. The Sub-centre ANMs are expected to do follow-up/monitor the Post-Training by doing periodic sample survey from the record registers maintained by her and report to PHC MOs. The PHC MOs in-turn forward this information to the Project Coordinator of the Dai Training Project of Pravara Medical Trust, Loni.

The Sub-centre ANM is expected to monitor the Project using the following outcome indicators.

- i) Percentage of early (below 16 weeks) identification and registration of pregnant mother at sub-centre
- ii) Percentage of three complete ANC check-ups by Sub-centre ANM
- iii) Reporting rate of high risk mothers to the nearest FRU
- iv) Level of maintenance of 5 cleanliness methods in home delivery
- v) Percentage of babies getting exclusive breast feeding babies
- vi) Percentage of New born babies whose weight is recorded within 48 hours of birth by TBA.

3.9.1. Supervision provided in the field if any please give details

The Sub-center staff and CRHP, Bhandardhara staff is providing the supervision in the field to the Trained TBAs.

3.10. REPORT ON BASELINE SURVEY

3.10.1. Results of baseline survey done in project area by interviewing 100 Dais with the help of a questionnaire

- Out of the total Dais interviewed 18% had received a training on safe delivery previously.
- 56% of Dais do not go to visit mother in antenatal period.
- 60% of Dais did not have correct knowledge of care to be taken during antenatal period.
- 46% of Dais motivated mothers for registration of pregnancy.
- 64% of Dais do not know regarding danger signals during pregnancy.
- 62% of Dais do not advice to family members of mothers regarding preparation for delivery.
- 10% of Dais knew correctly and 56% partially regarding cleans to be observed at the time of delivery.
- 60% of Dais could not tell about the correct time of breast feeding initiation of the baby after birth.
- 70% of Dais do not visit mother in her postnatal period & only 10% of Dais who visited mother in postnatal period had a correct knowledge on postnatal care.
- 48% of Dais told mothers for registration of birth of the child.
- 20% of Dais knew regarding the disease AIDS.

3.10.2. Results of baseline survey done in project area by interviewing 100 mothers with a child less than one year of age with the help of a questionnaire.

- Out of the total deliveries 82% of deliveries were home deliveries and conducted by Dais.

Out of these –

- Dais visited 24% of mothers during ANC period.

- 84% of mothers were registered for pregnancy and out of these only around 13% of mothers were motivated by Dais.
- 20% of mothers were given advice during antenatal period by Dai.
- 33% of mothers were told by Dai regarding preparation to be done for delivery of a child.
- In 54% of mothers, Dai had observed cleans during delivery.
- 90% of deliveries were normal.
- In 32% of mothers, Dai had taken the child for weighing immediately after birth.
- 14% of mothers were visited during postnatal period by Dai and in 9% Dai had advised regarding postnatal care.
- 23% of mothers were given correct advice by Dai regarding breast feeding.

3.10.3. Conclusion

- Dais had a poor knowledge regarding Antenatal care and also did not visit mother during her antenatal period mostly.
- Around 60% Dais do not tell regarding the preparation to be done to the family members of mother prior to delivery of the child.
- Knowledge regarding the cleans to be observed at the time of delivery among dais is poor.
- More than 70% of dais do not visit mother in her postnatal period and their level of knowledge regarding postnatal care is poor.
- Very few Dais had a correct knowledge of breast feeding initiation of the child after birth.
- Surprisingly around 80% of dais did not know of the disease AIDS

3.11. EVALUATION

To know the change in practices of dais towards safe delivery mothers having a recent delivery (within 2 months) at home were interviewed, where a Dai had conducted a delivery during the months of December, 2002 and January, 2003.

52% of mothers were visited during antenatal period by dais. 91% of mothers received safe delivery services by dais (most of them had used the Disposable delivery kits supplied to them during training). 77% of mothers told that their child was weighed by dai after birth. Around 97% of mothers were advised by dais to initiate breast feeding of the child after birth at proper time. 83% of mothers were visited during postnatal period by dais and received postnatal advice.

Few villages under each Primary Health centers were visited during the months of December, 2002 and January, 2003 to know the changes in the practices of trained TBAs (Dais) towards safe delivery. Several households having recently delivered (within two months) mothers were interviewed regarding various practices rendered by trained Dais. It was seen that all Dais had used the Disposable Delivery Kits (DDKs) given to them for the delivery and also made a follow up of mothers during postnatal period.

When interviewed Dais was well satisfied with the training programme and showed interest in following the instructions given to them. It was proposed that a monthly monitoring of home deliveries conducted by trained Dais to be done by ANMs working at the respective Primary health Centres from February 2003 onwards.

3.11.1. Report on post-training evaluation –

All the trained TBAs (Dais) were interviewed with the help of a structured questionnaire after each training programme. The results of the survey are as follows:

- 69% of Dais had a correct knowledge of advice to be given to mother during antenatal period.
- 89% of Dais told correctly regarding advice to be given to family members for preparation of delivery.
- 65% of dais could enumerate correctly “five cleans” to be maintained at the time of delivery.
- 66% of dais could tell correctly regarding the postnatal advice to be given to the mother.
- 91% of dais had a correct knowledge of newborn care.
- 77% could tell correctly about the age of gestation before which an abortion is legal.
- 57% could tell correctly regarding transmission of AIDS.

Table 3.2. A pre and post training comparison of level of knowledge of dais regarding some of MCH practices.

S. No.	Knowledge of dais regarding -	Baseline survey	Post training evaluation
1.	Antenatal advice to mother	40%	69%
2.	Preparation prior to delivery	38%	89%
3.	Five cleans at the time of delivery	10%	65%
4.	Posnatal advice to mother	14%	66%
5.	Breast feeding initiation of baby	40%	90%
6.	Transmission of AIDS	20%	57%

3.12. SELECTION CRITERIA

NO DETAILS WAS PROVIDED BY PMT

3.13. INFORMATION OF TRAINERS

Resource persons for the training were drawn from local PHCs; Government Rural Hospital (RH), Rajur; Pravara Rural Hospital (PRH), Loni and Comprehensive Rural Health Project (CRHP), Bhandardara.

Table 3.3. List of Resource Persons

S. No.	Designation
1	Medical Officer , RH, Rajur
2	Paediatrician, PPP, RH, Rajur
3	Asso. Prof. ,Dept. P&SM, PMT, Loni.
4	M.O. , RH, Rajur
5	M.O. PHC - Ladgaon
6	ANM, Mutkhel , PHC- Shendi
7	ANM, C.R.H.P., Bhandaradara.
8	ANM, C.R.H.P. , Bhandaradara
9	Sister, RH, Rajur
10	ANM, RH, Rajur
11	ANM, PHC - Vitha
12	ANM, PHC- Vitha
13	Sister, Maternity Ward,PRH, Loni
14	Sister, Paediatric Ward, PRH, Loni
15	Sister, Gyanae./ ANC Ward, PRH, Loni
16	Tutor - School of Nursing, PMT, Loni.

3.14. DEMOGRAPHIC PROFILE OF THE AKOLE TALUKA

Akole taluka is amongst the most backward pockets in Ahmednagar district of Maharashtra. Most of the hinterland in the taluka is tribal, perched on high hills and valleys, practicing primitive methods of agriculture and animal husbandry. The Project area falls under the reserved, Scheduled, Tribal constituency in Maharashtra. Majority of the Population is below the Poverty Line, being landless labourers, small farmers. The

overall literacy level of the target area population was 29 percent, while the female literacy was as low as 14 percent (1991 Census)

The Public Health System as well as a number of NGOs working in the area has been making their best possible efforts to reach the people living villages or small hamlets through various MCH services and to increase the institutional deliveries to minimize maternal and neonatal morbidity and mortality. In spite of various Out-reach Programmes, around 60 - 70 per cent of the deliveries are still taking place at home, assisted only by a Traditional Birth Attendant (TBA local term - *Dai*), usually an illiterate women with no training at all in health or hygiene. Many of their practices such as vaginal examination, massaging the abdomen and applying earth or even cow dung to the umbilical cord are dangerous and lead to maternal and neonatal deaths. As a result of this, the experience of pregnancy and childbirth has remained a major risk to the village mothers. The rural women still keep the faith on the TBAs, she is loved and respected member of the community who cares women in the child bearing years, and advice them on contraceptive gynecological problems and on the care of their infants. The TBA lives where she works. As some communities are very isolated, she is the person with the best knowledge of the general problems of the community itself.

3.14.1. Target Area for the Training Programme

The target area for implementation of the TBA training programme under the RCH Scheme covered a total population of the Shendi, Maveshi, Ladgaon , Ghadgar and Rajur Primary Health Centres of Akole Taluka which is estimated as approx. 1,00,000 (1991 Census). The block has 95 inhabited villages.

Table 3.4. List of Sub-centres and Villages under Primary Health Centres of the Target Area.

S. No.	Subcentre	Villages
PHC – Shendi		
1.	Shendi	Murshet, Chinchodi, Shendi
2.	Udadavane	Panjare, Udadavane
3.	Samrad	Samrad, Ratanwadi
4.	Shinganwadi	Lavhalwadi, Shinganwadi
5.	Mutkhel	Koltembhe, Mutkhel
6.	Bhandardara	Bhandardara, Guhire
7.	Ghatghar	Ghatghar
8.	Katlapur	Katalapur, Terungan, Malegaon, Kelungan
PHC – Vitha		
1.	Rajur	Rajur, Jamgaon , Kohandi
2.	Vitha	Vitha, Chitalwedha
3.	Padalane	Padalane, Chinchawane
4.	Shelad	Shelad, Induri
5.	Induri	Mehenduri, Bahirwadi, Ambad
6.	Rumbhodi	Rumbhodi
7.	Nimbral	Nimbral, Nilwande
PHC – Ladgaon		
1.	Ladgaon	Ladgaon, Titvi, Ambevangan
2.	Shenit	Shenit
3.	Devgaon	Pabhalwandi, Devgaon
4.	Piparkane	Piparkane, Shelvihire, Dongarwadi
5.	Pimpalgaon Nakida	Pimpalgaon, Digambar, Sherankhel
6.	Randha (b)	Randha(bk), Randha(kd), Kodani
7.	Waki	Waki, Manhere
8.	Waranghushi	Bari, Jahagirdarwadi, Penshet
PHC – Maveshi		
1.	Maveshi	Maveshi, Manikozar
2.	Sawarkute	Sawarkute, Baldhan, Purushwadi
3.	Dhamanwan	Dhamanwan
4.	Shirpunje	Shirpunje,(bk), Shirpunje (kd)
5.	Ambit	Ambit, Pachnai, Kumshet
6.	Khadki (kd)	Khadki(kd), Khadki(bk), Wanjulshet, Siswad
7.	Sakirwadi	Sakirwadi, Kauthwadi, Gondoshi

Appendix 3

Traditional Birth Attendants (TBAs) Training Manual Distributed to TBAs by Pravara Medical Trust during the Training

दाई-पुरितका

DAI - HANDBOOK

प्रवरा मेडिकल ट्रस्ट, लोणी
ता. राहाता, जिल्हा अहमदनगर.

PRAVARA MEDICAL TRUST, LONI,
TALUKA. RAHATA, AHMEDNAGAR DISTRICT

संकलन : सामुदायिक वैद्यक शास्त्र विभाग,
ग्रामीण वैद्यकीय महाविद्यालय व रुग्णालय लोणी,

ता. राहाता, जिल्हा अहमदनगर.

EDITED BY - MEDICAL SCIENCE DEPARTMENT,
RURAL MEDICAL COLLEGE AND HOSPITAL,
TALUKA RAHATA, AHMEDNAGAR DISTRICT.

ह्या पुस्तकात वापरलेल्या चिन्हांचा अर्थ काय आहे ?

THE LEGEND OF THE SYMBOLS USED IN
THIS BOOK



असे करणे योग्य आहे
किंवा
माता व बालक सुरक्षित आहेत.

THIS IS
APPROPRIATE AND
IS SAFE FOR THE
MOTHER AND CHILD.



असे करणे अयोग्य आहे
किंवा
माता व बालकाला धोका आहे.

THIS IS
INAPPROPRIATE
AND IS HARMFUL
TO MOTHER AND
CHILD

मातेस स्वास्थ्यकेंद्रास
नियमित भेट देण्यास
सांगणे.

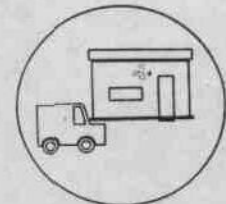
मातेची नोंदणी करा.

ADVISE MOTHER TO VISIT THE HEALTHCENTRE



मातेला त्वरित
प्राथमिक आरोग्य
केंद्रात किंवा
रुग्णालयात पाठवा.

SEND MOTHER IMMEDIATELY TO HEALTH
CENTRE



महिला आरोग्य
सेविकेला वोलवावे

CALL FOR A LADY HEALTH
WORKER



गरोंदरपणात
DURING PREGNANCY



सकस आहारामुळे आईचे
आरोग्य चांगले राहते.

गर्भाची वाढ व्यवस्थित
होते.

चित्रातील सर्व पदार्थ
आईच्या प्रकृतिकरिता
आवश्यक आहेत.

WHOLEsome MEALS KEEPS
THE WOMAN HEALTHY.

THE BABY WILL GROW
PROPERLY.

ALL THE ITEMS IN THE
DIAGRAM IS NECESSARY
TO BE EATEN.



दररोज स्वच्छ आंघोळ
करण्यास व स्तनाला तेल
लावण्यास गरोंदर स्त्रीला
सांगा.

ADVISE THE
WOMAN TO
BATHE AND
APPLY OIL ON
THE BREAST
EVERY DAY.



बाईची तपासणी करा.

EXAMINE THE LADY.

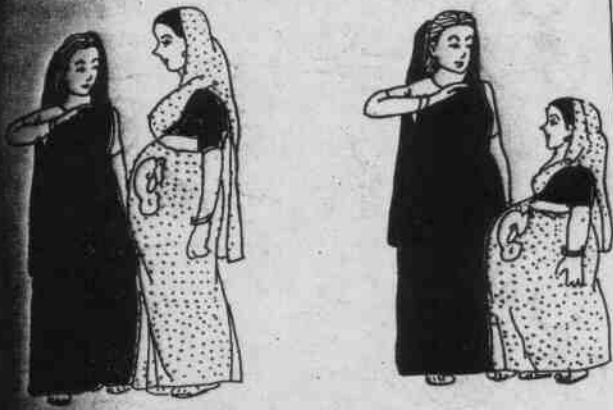


CHECK IF HEAD OF THE BABY IS DOWN
WARDS.



मूलाचे डोके खालच्या
वाजूला आहे किवा नाही
ते पहा.





जर मातेची उंची कमी
असेल तर

IF THE MOTHER IS
SHORT STRUCTURED,



जर मातेच्या चेहऱ्यावर,
हातावर सूज असेल तर
IF THE MOTHER
HAS SWELLING ON
HER HANDS AND
FACE,



जर मातेला अतिशय
डोकेदुखी असेल किंवा
तिला अंधुक दिसत असेल
तर
IF THE MOTHER
HAS A SEVERE
HEADACHE OR IF
HER VISION IS BLURRY,

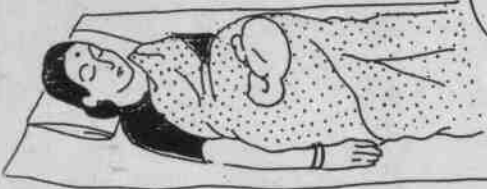
मूल पायाळू असेल

IF THE BABY IS
IN A BREECH
POSITION,



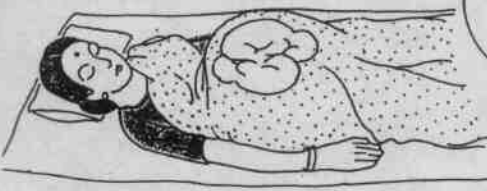
मूल आडवे असेल

IF THE BABY IS IN
A TRANSVERSE
POSITION,



किंवा जुळे असेल

IF THERE ARE
TWINS,



वाई पहिलटकरीण असेल
IF IT IS THE
MOTHER'S FIRST
PREGNANCY,



वयाने लहान असेल
IF SHE IS
VERY YOUNG-
INAGE,

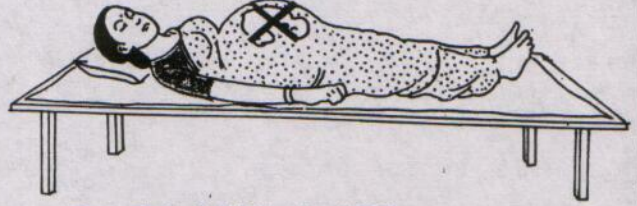


किंवा वयाने फार मोठी
असेल
IF SHE IS
VERY OLD,



जर तिची किंवा
सिन प्रमेक्षा जास्त बाळंतपणे
झाली असतील तर

IF SHE HAS ALREADY
GIVEN BIRTH TO 3 OR 4
CHILDREN,



IF THE BABY IS NOT
MOVING IN THE WOMB,

पोटातील गर्भ फिरत नसेल
तर

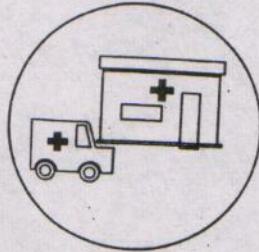


IF YOU ARE NOT ABLE
TO HEAR THE HEARTBEAT
OF THE BABY,
मुलाच्या हृदयाचे ठेके ऐकू
येत नसतील तर



वाईच्या अंगावरून जात
असेल तर

IF SHE BLEEDS,



THEN SEND THE
MOTHER IMMEDIATELY
TO THE HEALTH
CENTRE.
तिला ताबडतोब प्राथमिक
आरोग्य केंद्रात पाठवा.



बाळंतपणाची तयारी
PREPARATIONS FOR DELIVERY



शेवटच्या महिन्यात
गरोदर वाईला
बाळंतपणासाठी लागणारी
तयारी करण्यास सांगा.

DURING THE NINTH MONTH, ASK THE
MOTHER TO MAKE THE FOLLOWING
PREPARATIONS.



WASH OLD COTTON CLOTHES AND DRY IN HOT SUN. जुनी, फाटक्या साड्या व धोतरे घुवून कडक उन्हात वाळवावी.

वाळतपणानंतर वापरायला नागणाच्या कापडाच्या रड्या ह्या वाळलेल्या साड्या किंवा धोतरापासून तयार कराव्यात.



THE CLOTHES THAT WILL BE NEEDED AFTER BIRTH (OLD SAREES AND PHOTIS) SHOULD BE KEPT READY.



जुने वर्तमानपत्र किंवा कॅलीची मोठी पाने तयार ठेवावीत. KEEP OLD NEWS-PAPERS AND BANANA LEAVES READY.



OIL, SOAP AND CLOTHES THAT WILL BE REQUIRED BY MOTHER AND BABY SHOULD BE KEPT READY.

माता व बालकासाठी तेल, साबण व स्वच्छ कपडे तयार ठेवावेत.

पी-४००-६

C

कधी एक डॉक्टर



खोली स्वच्छ आहे काय CHECK IF THE DELIVERY ROOM IS CLEAN. घरातील एखादी बाई मदतीस घ्यावी. ASK ONE OTHER WOMAN TO HELP. मातेच्या अंथरुणाजवळ स्वच्छ वर्तमानपत्र पसलून ठेवा. KEEP A NEWS-PAPER OPEN NEAR THE MOTHER'S BED. तुम्हाला लागणारे सर्व साहित्य वर्तमानपत्रावर व्यवस्थित ठेवणे. KEEP ALL THE ITEMS THAT WILL BE REQUIRED.

FILL CLEAN WATER IN A BIG VESSEL.

PUT INTO IT A SCISSOR, SOME SMALLER VESSELS, BLADE, BALLS OF COTTON, A THREAD FOR TYING THE CORD, AND PIECES OF CLOTH.



ALL THESE ITEMS WILL SAFEGUARD THE BABY FROM INFECTION (SEPSIS).



मोठे भांडे स्वच्छ पाण्याने भरून ठेवणे.

त्या भांड्यात एनिमाचे भांडे, छोट्या वाट्या, कात्री, ब्लेड, कापसाचे बोल्ले, नाळ बांधण्याचे धागे, गांज (जाळीदार कापडाचे तुकडे) व कपड्यांचे तुकडे टाकावेत.

ते पाणी २० मिनिटे उकळावा.

गरज लागेपर्यंत सर्व वस्तू भांड्यातच राहू द्याव्यात.

BOIL THE WATER FOR 20 MINUTES.

KEEP ALL THE ITEMS IN THERE, UNTIL REQUIRED BY YOU.

ह्या सर्व वस्तू उकळण्याने जाळीचे धनुवांतापासून संरक्षण होईल.



थोडे उकळते पाणी एक भांड्यात काढून घ्या त्यात कापसाचे बोल्ले व कापड ठेवा.

TAKE SOME BOILING WATER IN ANOTHER SMALL CONTAINER. AND PUT IN IT BALLS OF COTTON AND CLOTH PIECE.



एक भांड्यात नाळ बांधावयाचा दोरा, कात्री व ब्लेड टाका.

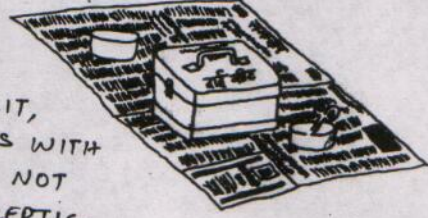
मोठ्या भांड्यातून, दुसरे लहान भांडे, कापसाचे बोल्ले व उकळत्या पाण्यासहीत काढा.

IN ANOTHER SMALL VESSEL PUT THE THREAD, SCISSOR AND BLADE.



ADD SOME ANTISEPTIC MEDICINE IN THE VESSEL.

डे एका कागदावर ठेवा त्यात जंतुनाशक औषध कण्यास सांगा.



KEEP THE DELIVERY KIT, THE VESSELS WITH WATER, DO NOT ADD ANTISEPTIC LIQUID IN IT.

पेटी व गरम पाण्याचे दुसरे भांडे कागदावर ठेवा. त्यात जंतुनाशक औषध टाकू नका.



मातेची कंबर व पाठ चोळावी.

MASSAGE THE BACK OF THE MOTHER,

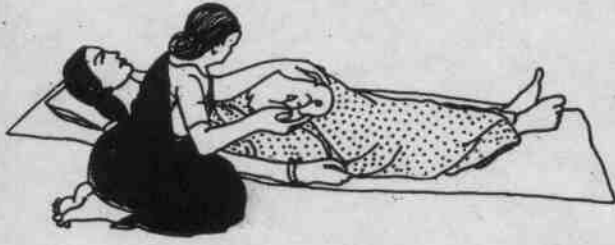
कळ आल्यावर मातेला दीर्घ श्वास घेण्यास सांगावे. तिला जोर करू देऊ नये.

ASK THE MOTHER TO TAKE DEEP BREATHS WHEN LABOR BEGINS. DO NOT FORCE HER.



WHEN THE WATER BREAKS ASK THE TO FOLD HER LEGS AND SLEEP ON THE BED.

पाणमोटली फुटल्यावर मातेला गुडघे वाकवून पाठीवर झोपावयाम सांगणे.



CHECK IF THE BABY IS
MOVING DOWNWARDS.

गर्भाचे डोके खाली सरकते
की नाही ते तपासून घ्यावे

बाळाच्या हृदयाचे ठोके
ऐकावेत.

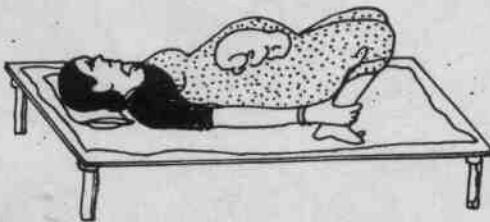
CHECK TO HEAR THE
BABY'S HEART BEAT.



१२

प्रसूतीच्या वेळी

DURING DELIVERY



दाईने आपली अंगठी
काढून ठेवावी.

REMOVE ANY
FINGER RINGS.



नखे कापलेली
असावीत.
CUT YOUR NAILS.



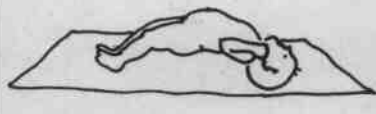
साबणाने व ब्रशाने हात व तळहात स्वच्छ
धुवा. WASH YOUR HANDS CLEAN
WITH SOAP AND BRUSH.



एकदा धुतलेले हात पुसू नका. कोणत्याही
वस्तूला स्पर्श करू नका.
ONCE WASHED, DO NOT WIPE YOUR
HANDS AND
DO NOT
TOUCH ANY
OTHER
ITEM.



THIS KEEPS THE
BABY SAFE FROM INFECTION.
(SEPSIS)



हात स्वच्छ धुतल्यामुळे
मुलाला धनुर्वात होत
नाही.

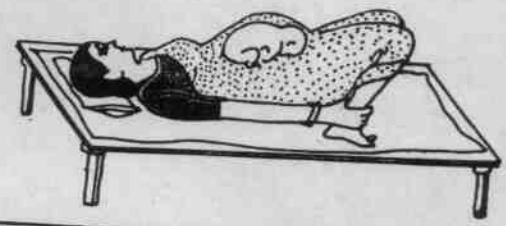
बाळंतीणीचे जननेंद्रीय
जंतुनाशक पाण्यामध्ये
बुडविलेल्या कापसाने
स्वच्छ करा.

WIPE THE MOTHER WITH
THE CLOTH DIPPED
IN ANTISEPTIC WATER.



कळामधील अंतर हळूहळू कमी होऊन
कळ जोरात येऊ लागल्यावर बाळंतीणीला
कळ घेण्यास सांगा.
कळ गेल्यावर शांतपणे पडून श्वास
घेण्यास सांगा.

AS THE TIME
BETWEEN
CONTRACTIONS
REDUCE,



शौचाच्या जागेवर उकळून
गार केलेले फडके घरा.

HOLD THE CLOTH
THAT WAS IN THE
HOT WATER AS A
SUPPORT
FOR
THE
WOMAN



कळ येत असताना
बाहेर येणाऱ्या
डोक्याला आधार द्या.
डोके हळू बाहेर येऊ
द्या.

SUPPORT THE BABY'S
HEAD AS IT COMES OUT.
LET THE HEAD COME
OUT SLOWLY.



नंतर डोके वरती उचला.
म्हणजे दुसरा खांद्या बाहेर
येईल.

THEN LIFT THE HEAD
UPWARDS, THEN THE
OTHER SHOULDER WILL
COME OUT.



मुलाचे डोके दोन हातात
धरा.

डोके हळूच खाली दाबा
म्हणजेच एक खांद्या
बाहेर येईल.

HOLD THE BABY'S HEAD
WITH BOTH HANDS. SLOWLY
PRESS THE HEAD
DOWNWARDS THEN ONE
SHOULDER
WILL COME
OUT.



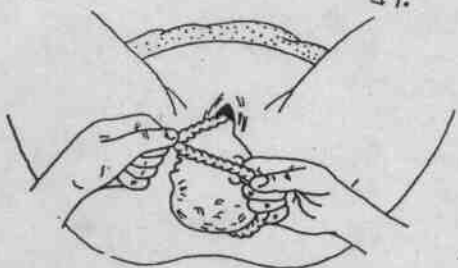
DO NOT PULL ON THE HEAD
WITH FORCE. ALSO DO NOT
ASK THE MOTHER TO PUT
FORCE.

डोके जोराने ओढू नका.
वाळतीपीला सुद्धा जास्त
जोर करण्यास सांगू नका.



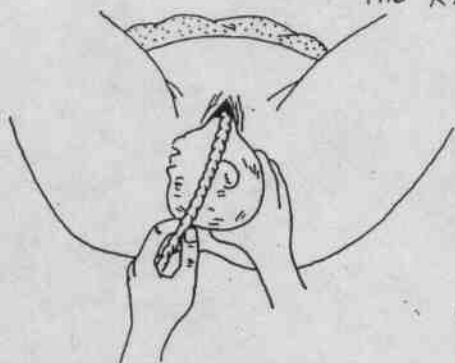
मुलाच्या मानेभोवती नाळ
घट्ट वसली असेल तर ती
नेल करा.

IF THE CORD
IS AROUND THE
NECK OF THE
BABY, RELEASE
IT.



व नंतर गाठ सोडवा.

AND FREE
THE KNOT



SUPPORT THE
BABY AS IT
COMES OUT.

मूल बाहेर येताना त्याला
आधार द्या.



KEEP THE BABY
IN BETWEEN
THE MOTHER'S
LEGS.

आईच्या पायांमध्ये त्याला
ठेवा.





CHECK IF THE PULSE IS THERE ON THE CORD.
नाळेमध्ये नाडीचे छेके चालू आहेत का पहावे.

AS THE PULSE STOPS TIE A KNOT IN TWO PLACES.



नाळीचे छेके बंद झाल्यावर तिला दोन ठिकाणी बँलगाठ मारावी.



CUT THE CORD BETWEEN THESE TWO KNOT WITH THE STERILISED SCISSOR OR BLADE.



या दोन गाठीच्या मधला नाळेचा भाग उकळून घेतलेल्या कात्रीने अगर ब्लेडने कापावा.



खुरपे, दगड किंवा इतर कोणत्याही न उकळलेल्या वस्तूने नाळ कापू नका.
DO NOT USE A SICKLE, STONE OR ANY OTHER MATERIAL TO CUT THE CORD.



निर्जंतूक द्रव्य नाळेला लावा.
PUT AN ANTISEPTIC OINTMENT ON THE CORD.



नाळेवर उकळून ठेवलेले गॉज लावा.
PUT A GAUZE ON THE CORD.

THE USE OF CLEAN INSTRUMENT TO CUT CORD SAVES THE CHILD FROM INFECTION (SEPSIS).



नाळ कापण्यासाठी स्वच्छ हत्याराचा उपयोग केला असता बाळ्याचे धनुर्वातापासून संरक्षण होते.

एक उकळून घेतलेला गॉजचा तुकडा करंगळीवर घेऊन मुलाचे तोंडातील धापा काढून टाका.

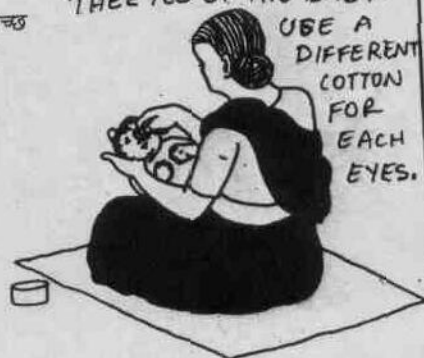
REMOVE THE DIRT FROM THE BABY'S MOUTH WITH A GAUZE.



उकळलेल्या पाण्यात बुडविलेल्या कापसाच्या बोल्याने मुलाचे डोळे स्वच्छ करा. दोन्ही डोळ्यांसाठी वेगळा बोल्ला वापरा.

USE THE COTTON BALLS BOILED IN WATER CLEAN THE EYES OF THE BABY.

USE A DIFFERENT COTTON FOR EACH EYES.



कापसाच्या वातीने नाकपुड्या स्वच्छ करा.

CLEAN THE NOSE WITH THE COTTON.



मूल रडत नसेल व निस्तेज दिसत असेल तर

IF THE BABY IS NOT CRYING OR SEEMS INACTIVE, THEN WRAP THE BABY IN CLOTH, LOWER THE HEAD OF THE

कपड्यात गुंडाळून घ्या.

THE BABY, SLOWLY GIVE MOUTH TO MOUTH RESUSCITATION

डोक्याकडचा भाग खाली करून झोपवा.

हळुवारपणे कृत्रिम श्वासोच्छ्वास द्या.



वार बाहेर येण्याच्या वेळी
WHEN THE PLACENTA
COMES OUT.

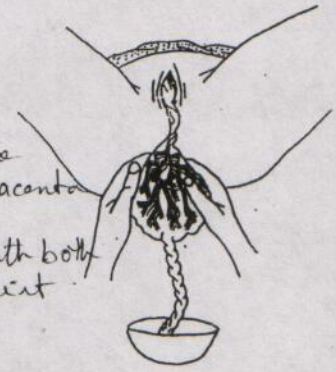
- THE CORD
LENGTH
INCREASES.
- THERE IS
SLIGHT BLEEDING. ON PRESSING
THE STOMACH YOU CAN SEE
THE PLACENTA.



नाळीची लांबी वाढते.
थोडे अंगावर जाते.
ओटीपोटाचा आकार वाढतो
पोट दाबल्यावर वार दिसू
लागते.

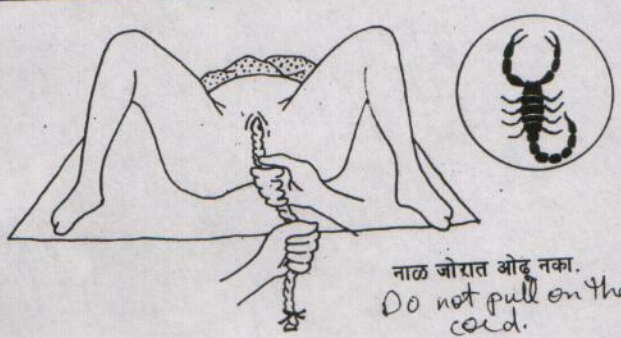
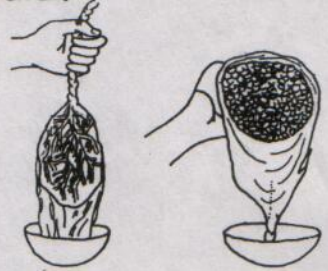
वाळतीपीस खाली जोर
करावयास सांगा.
वार बाहेर येताच दोन्ही
हातामध्ये पकडा व हळूहळू
बाहेर काढा.

Ask the woman to
push to assist placenta
delivery.
Hold the placenta with both
hands and deliver it
slowly.



वार पूर्ण बाहेर आली आहे
याची खात्री करून घ्या.

Make sure that the entire
placenta is delivered.



नाळ जोरात ओढू नका.
Do not pull on the
cord.

नाळेवर स्वच्छ पट्टी बांधा.

Put a clean gauze on the
cord.



मुलाला कपड्यात गुंडाळून
ठेवा.

Wrap the baby with
cloth.



मुलाला आईजवळ झोपवा.

Keep the baby near
the mother.



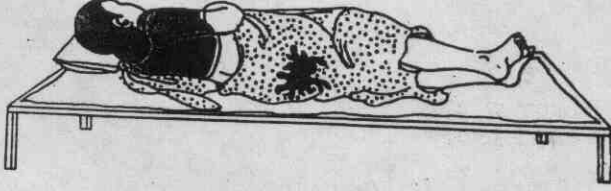
वाळतपणानंतर दोन तीन
तासांनी मुलाला अंगावर
पाजण्यास सांगा.
पुढे प्रत्येक तीन तासानंतर
पाजण्याविषयी सूचना द्या

Breast feed within
2-3 hours after
delivery.
later feed
after
every 3 hours.



अंगावरून रक्त जास्त जात
असल्यास तुम्हाला
बोलाविण्यास सांगा.

Ask the woman to
call you in case she
bleeds excessively.



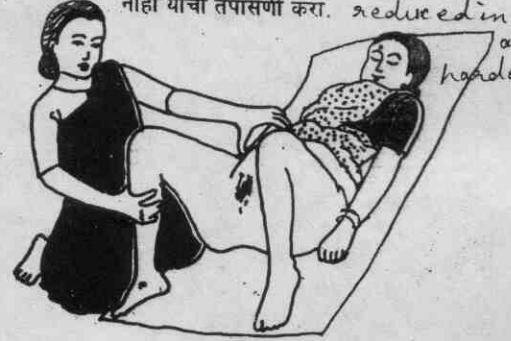
बाळंतपणानंतर घरी भेट
द्या. घरी गेल्यावर—

Pay a homewisit
after delivery



गर्भाशयाची पिशवी लहान
व कडक होते आहे किवा
नाही याची तपासणी करा.

check
During this
visit if the
uterus has
reduced in size
and
hardened

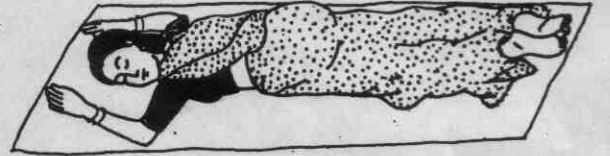


मुलाला पाजण्याआधी
प्रत्येक वेळी स्तन स्वच्छ
करण्याविषयी आईला सांगा.

Clean the breast
before every feed



झोपताना पोटावर
झोपण्याचा सल्ला द्या.



Advice to sleep on
the stomach.



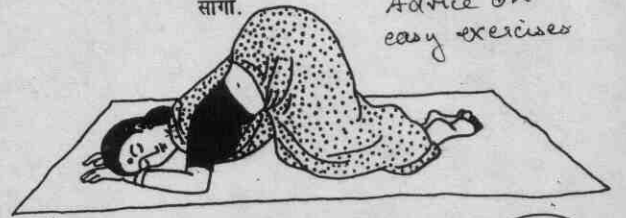
दोन दुधांच्या भुकांमध्ये
उकळून गार केलेले पाणी
पाजण्यास सांगा.

Feed the baby
boiled water
between two
breast feeds.



सोपा व्यायाम करण्यास
सांगा.

Advice on
easy exercises



आईची व बाळाची प्रकृती
चांगली रहावी म्हणून सकस
अन्न घेण्याविषयी सल्ला द्या.

Advice the mother
to eat wholesome
meal to improve her
health.



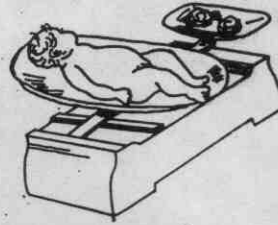
मुलाला आरोग्य केंद्रात
नेण्याचा सल्ला द्या.

Advice to take
the baby to a
health centre.



म्हणजेच नियमित वजन
करता येईल.

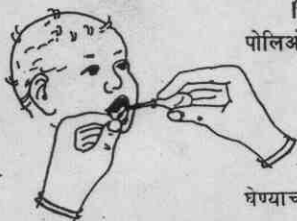
It is then
possible to
regularly weigh
the baby.



ADVISE MOTHER TO
GIVE IMMUNIZATION
OF
क्षय रोग प्रतिबंधक लस
TUBERCULOSIS



त्रिगुणी लस
TRIPLE POLIO, B.C.G.



POLIO DOSE
पोलियोचे डोस



घेण्याचा सल्ला द्या.

Advice the
couple on the
family planning
for spacing
between two
babies.

पाळणा
लांबविण्यासाठी
संततिप्रतिबंधक
साधनांचा वापर
करण्याविषयी सल्ला
द्या.

