

INSTITUTE OF NUTRITION OF CENTRAL AMERICA AND PANAMA
(INCAP/PAHO)
QUETZALTENANGO HEALTH AREA
QUETZALTENANGO GENERAL HOSPITAL

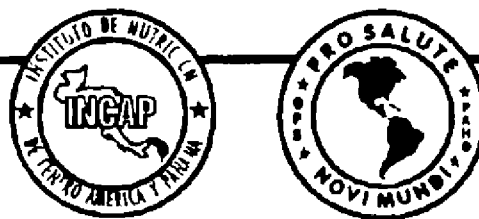


“An Intervention to Reduce Maternal and Neonatal Mortality”

Quetzaltenango Maternal and Neonatal Health Project

Barbara Schieber
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1. EXECUTIVE SUMMARY



The Quetzaltenango Maternal Neonatal Health Project took place between 1988 and 1993 in the Quetzaltenango Health Area of Guatemala. This was a collaborative project between the Quetzaltenango Health Area and the Institute of Nutrition of Central America and Panama, under the direction of the Ministry of Public Health. The objective of the project was to reduce the rates of maternal and neonatal mortality through more efficient utilization of existing resources specifically focused on interventions at the community and hospital levels. The intervention focused on the early detection and adequate management of the most common obstetric complications, hemorrhage, sepsis and eclampsia, and neonatal complications - asphyxia, sepsis and complications due to prematurity and low birthweight.

The project was comprised of three phases: diagnosis, intervention and evaluation. In the diagnosis, studies were performed to determine the limiting factors and other problems in the management of obstetric and neonatal cases at the levels of the families, traditional birth attendants (TBAs), health centers and posts, and the hospital (in this document the term "traditional birth attendant" refers to community-level women who may or may not be trained). To identify the factors which influence the appropriate management of obstetric and neonatal cases and the adequate utilization of the healthcare services, surveys were taken of the users of the healthcare services, health service personnel, and TBAs. Studies were also performed to determine the principal causes of maternal and neonatal death.

One of the principal findings of these studies is that 95% of maternal deaths were caused by hemorrhage, sepsis or eclampsia. Of the perinatal deaths, 92% were caused by asphyxia due to either malpresentation and prolonged labor, sepsis, and complications related to prematurity or low birth weight. Since their initial training, health service personnel had not received any refresher or advanced training in the principal obstetric and neonatal emergencies. Specific management protocols for these complications did not exist. Fur-

thermore, the referral and back-referral system was not functional.

In the second phase of the project, interventions based on the diagnosis were developed to improve the detection and management of the principal obstetric and neonatal emergencies. Health service management protocols were established and training sessions were given for health service personnel and traditional birth attendants (TBAs). Meetings were held with health service personnel to encourage them to improve their working relationship with TBAs and their patients. Attempts were also made to improve the health personnel's perceptions of TBAs. Meetings between personnel at different levels of the healthcare system were arranged in order to strengthen the referral and back-referral system. TBA trainers were taught to improve their technical knowledge of the management of obstetric and neonatal emergencies, and were familiarized with participatory teaching methods for adult education. Practical, low cost, easily constructed visual materials were developed to facilitate TBA participatory training.

In the evaluation phase of the project, the impact of the interventions was evaluated and the monitoring and evaluation systems were established in the health services and communities involved.

Preliminary data show an increase of 396% in TBA referrals of complicated obstetric cases to the hospital. Neonatal mortality in the hospital decreased from 38 per 1000 live births in 1989 to 32 per 1000 live births in 1992. The traditional birth attendants report better acceptance by the hospital personnel, who are beginning to welcome the participation of TBAs during the in-hospital births of their referred patients. In the health centers and health posts the information registered in the clinical charts of prenatal, postnatal and neonatal care has improved. Additionally, an increase in skills performed by health personnel during prenatal clinical exams has been observed.

2. BACKGROUND



Recent information on the pattern of infant mortality in Guatemala indicates that approximately 50% of all infant deaths occur during birth or before the third month of life. Using as a base the infant mortality rate (IMR) of 73.4 per 1000 live births reported in Guatemala in 1987, the aggregate intrapartum/neonatal mortality rate for the country can thus be estimated to be greater than 36 per 1000 live births. In 1989-1990, INCAP conducted research in 26 hospitals located throughout the country, including the Quetzaltenango health area. A maternal mortality rate of 200-230 per 100,000 live births was found.

Especially in rural areas, babies are usually delivered and receive post natal care in the home. Traditional birth attendants assist 60-70% of all births in Guatemala. This percentage approaches 90% in some of the rural highlands where perinatal mortality and morbidity are highest. Since the actual institutional capacity of the Ministry of Public

Health and Social Assistance has the capacity to attend only approximately 20% of births, the TBA is a key element in all programs designed to reduce peri-neonatal and maternal mortality, especially in rural areas.

To address the needs for better maternal and neonatal care, INCAP began working in the departments of Quetzaltenango and Sacatepequez in 1988. Initial activities were aimed at determining the specific causes of mortality in these populations, as well as the limiting factors in the care given to obstetric and neonatal cases by the healthcare services (hospital, health centers and posts, and TBAs). As a result of the studies undertaken, models for obstetric and perinatal care were developed and tested.

This paper outlines the main findings of these studies and the key aspects of the interventions implemented.

3. INITIAL ASSESSMENT



I. STUDIES OF MATERNAL AND PERI-NEONATAL MORTALITY

A. Case-control study of peri-neonatal mortality

Methods

A case-control study was performed to identify the determinants of peri-neonatal mortality at the community level. From four health districts in the highlands of Quetzaltenango, a total of 120 cases and 120 controls participated in the study. A case was defined as a baby who was born dead or who died in the neonatal period, a control was a baby who was born alive and did not die in the neonatal period (28 days). Both cases and controls were obtained from the civil registries of the municipalities of the communities. The persons responsible for the cases and controls were interviewed in their homes.

Results

Asphyxia, accounting for 42% of neonatal deaths, was found to be the principal cause of mortality in the intrapartum period and during the first day of life. The primary causes of asphyxia were abnormal fetal presentation and prolonged labor.

Other causes of neonatal mortality, from the 2nd to the 28th day, were sepsis (34%) followed by low birthweight, prematurity and related complications (20%).

Peri-neonatal mortality, by age category was estimated as

15.1% stillbirths,
41.2% day 2 to day 28 of life,
43.7% in the intrapartum period or
on the 1st day of life

B. Maternal mortality study

Methods

Factors related to the deaths of women who died due to obstetric causes were examined. The civil registries were examined of all women of reproductive age (15-49 years) who died in the Quetzaltenango Health Area in 1989-1990. Data

on the deaths of all women who died in 1989 and 1990 were obtained from the civil registries of the municipalities. Family members close to the deceased were interviewed to determine the cause of death. When the death occurred in the hospital, the clinical history (patient chart) was reviewed. Of all the deaths of women in reproductive age, 100 were cases of maternal mortality and 61 were due directly to obstetric complications.

Results

Hemorrhage caused the largest percentage (45%) of maternal deaths, followed by sepsis (35%) and pre-eclampsia/eclampsia (15%). Most cases died in the postpartum period. Of postpartum hemorrhage cases, 74% died in the first 24 hours after delivery. Of these, 52% died in the first 6 hours postpartum.

In sepsis cases, the illness lasts from several days to a week, allowing more time for intervention. In 71% percent of the cases of maternal mortality that occurred in the community, the TBA was present at the time of the mother's death.

II. SERVICE PROVIDERS

The care given in obstetrical and neonatal cases was evaluated at all levels of the process: the Department of Gynecology and Obstetrics and the Neonatal Unit of the Quetzaltenango General Hospital, Health Centers and Posts, traditional birth attendants, and parents. The considerations, methods and main results of the studies performed are presented below.

A. The traditional birth attendant. In-depth interviews with the TBAs

Methods

The study population was defined as all the trained and untrained birth attendants in four rural sub-districts and in the Quetzaltenango City sub-district. A sample of 10 trained and 10 untrained birth attendants was selected from each of the sub-districts. A total of 20% of the practicing birth attendants were included in the sample (n=100).

Each of the birth attendants participated in a one-on-one in-depth interview of two to three hours.

duration in her home. The interviews were tape recorded and later transcribed. The responses obtained were then classified and analyzed.

Results

Some of the most important findings of the traditional birth attendant study were:

1. The TBAs generally consider that the objective of prenatal care is "to assure the mother that everything is going well" (90%), rather than to "detect high risk events or conditions".
2. The majority of TBAs (85%) could not explain why a woman should receive a tetanus vaccine.
3. Only 5-10% of TBAs demonstrated an understanding of the concepts of detection and management of "risk" in relation to events such as fetal malpresentation (transverse, podalic), placental retention or hemorrhage. In the majority of cases, the TBAs know that some situations are "dangerous", but in general they do not have techniques to prevent and manage these events. Good or bad results are frequently attributed to "luck", "the will of God", or "the evil eye".
4. Forty-one percent of the TBAs report using intramuscular injections of oxytocin to "give strength during labor". This practice results in significantly higher perinatal mortality (Bartlett, 1989). Other harmful practices associated with a higher risk of perinatal morbidity and mortality include: (a) vaginal examinations, (b) having the woman begin pushing in the initial phase of labor, (c) inadequate cutting and care of the umbilical cord such as the use of powders and pomades on the stump, (d) inadequate care of the newborn, (e) lack of adequate attention to newborn's temperature, (f) lack of encouragement to immediately initiate breastfeeding.
5. A significant language barrier exists because 20% to 30% of TBAs do not speak Spanish and very few health professionals (1-2%) speak indigenous languages. Translations during training sessions are the responsibility of the health promoters and TBAs. Given that the

quality of the translations is not controlled, there is no guarantee that the transmission of information is accurate.

6. The majority of TBAs (78.1%) feel that the healthcare services do not give sufficient support to either patients or TBAs. Few positive comments were expressed in relation to the attention given to patients by healthcare personnel. The TBAs frequently reported maltreatment and scolding from healthcare personnel. Coordination between untrained TBAs and the healthcare system is virtually nonexistent. Some TBAs neither consult nor report to healthcare services.
7. The TBAs are not supervised by healthcare personnel on a regular basis, and almost never in homes or while they are attending a birth. This is generally due to a lack of human resources as well as a lack of transportation and travel allowances.
8. TBA's are reticent to refer their clients to other health services. The referral is seen as a "failure", implying the loss of payment for the birth and often maltreatment of the TBA and her patient in the healthcare services. In addition, the TBA has reservations about the ability of the healthcare system to resolve the problem for which the patient is referred. Further complicating the situation, when a patient is referred, it is often too late to allow a positive result such that the mistrust of the system is reinforced.
9. The TBAs participated enthusiastically, speaking readily and openly with the interviewers about their experiences and problems. According to what they said, however, they do not share the same level of trust with healthcare personnel, as they fear criticism and scolding.

B. The community: Interviews with community members who have children

Methods

Four communities each with more than 1000 inhabitants and four with fewer than 1000 inhabit-

ants were selected in each of the four rural sub-districts. These were accessible communities representative of the sub-districts. In the urban area, three low income neighborhoods were selected at random. In each community or neighborhood, a sample was systematically taken, interviewing a total of 200 mothers and 200 fathers of families.

Results

The most outstanding aspects of the study on knowledge, attitudes and practices in the community are:

1. The majority of the mothers and fathers (80% and 96% respectively) identify some situations as high risk (example, breech or transverse presentation, hemorrhage, and retained placenta) because of their association with a higher probability of death in the mother and/or the baby (60-100%). When asked to identify the most qualified or competent resource for managing these conditions, the majority chose: the hospital or doctor (60-70%) and the TBA (15-30%). Doctors were believed to have "better knowledge, medicine and equipment". In practice, however, and despite this opinion, patients and family members often refuse to be referred to the hospital.
2. The community frequently expects the TBA to manage high risk problems in the home. The reasons mentioned for the unwillingness to be referred to health centers or hospital include: "people die there (27%), women will be operated on or sterilized, the language barrier, maltreatment (20%), long waiting periods (20-30%), economic considerations, lack of transport (8%), and husbands who didn't want male doctors examining their wives (17%)".
3. Regarding how the acceptability of being referred could be improved, parents stated that healthcare personnel should: improve the quality of the medical attention (30%), improve the social interaction (27%), and inform the people what services are available in the healthcare establishments (23%).
4. Half of the mothers and fathers interviewed knew about the use of oxytocin in labor and the justification for its use. Of those interviewed

who had previous knowledge of oxytocin, 25% had received oxytocin injections during the most recent delivery.

C. Healthcare services of the Ministry of Public Health

Methods

Various diagnostic studies were performed related to the care given to obstetric and neonatal cases in the healthcare services in four health centers, 19 health posts and in the Quetzaltenango General Hospital. These include:

1. Evaluation of technical knowledge regarding the management of obstetric and neonatal cases. This evaluation was given to all healthcare personnel (n=68) in four health districts. The responses were analyzed by district and by profession. A more specific test was given to the gynecology/obstetrics residents and the neonatology residents of the Western Guatemala General Hospital.
2. A test of attitudes of healthcare personnel towards the TBA (n=68). A questionnaire with open-ended questions was administered to all healthcare personnel in four health districts.
3. Observation of prenatal care in health centers and posts (n=42). No postpartum or neonatal cases were observed because no such patients presented at the health service centers during the time of the study.
4. Chart review of pregnant patients (n=321), postpartum patients (n=38), and newborns (n=28) in the four sub-districts.
5. Evaluation of the efficiency conditions as defined by WHO, was carried out for the Maternal-Infant Program in four health centers, 19 health posts and in the departments of Gynecology and Obstetrics and Neonatology of the hospital. The people responsible for the services were interviewed using a questionnaire to evaluate the characteristics of the personnel, physical resources, materials, standards, logistics, education and other aspects of the healthcare services.

6. Interviews with the people responsible for the TBA programs (n=8).

Results and Conclusions

1. An approach focused on the detection and management of high risk is not used in either the hospital, health center or health post.
2. Formal institutional standards for the management of high risk cases need to be developed at the hospital level. In the health centers and posts, the personnel require greater familiarity with the Ministry of Public Health's standards for the detection and management of high risk cases.
3. Healthcare personnel at all levels require further training in the management of obstetric and neonatal complications. The "newborn" stage is not recognized or treated as a high-risk period that requires vigilance and special interventions. It is, however, the period most critical characterized by the highest mortality rate per unit time during infancy and requiring vigilance and special interventions.
4. The health centers and posts frequently do not have the most basic equipment necessary to perform adequate physical exams (i.e. stethoscope, functional sphygmomanometer). The efficiency level of the health services' Maternal-Infant Program was 50%, an unacceptable level.

5. The system of referral and back-referral between the health posts, health centers and the hospital should be improved. In general, the information registered in the charts is insufficient for the proper management of high risk conditions. The information that is collected could be better used to develop solutions.
6. Healthcare personnel should be better informed of the work TBAs perform and of their importance in the community. Some traditional practices are considered dangerous although a scientific justification for their implementation does exist. For example, cauterization of the umbilical cord and birth in the squatting position are two medically sound techniques practiced by the TBA but poorly regarded by health services personnel. Of all the healthcare personnel, nurses have the best understanding of TBAs and their work.
7. The graduate nurses who train TBAs require specialized training in the detection and management of high risk obstetric and neonatal cases, and in educational methods for teaching adults. The educational materials used to train TBAs should be adapted to the level of scolarity of the TBAs. The nurses expressed concern about the ineffectiveness of the training course for TBAs and about the lack of adequate TBA supervision.

4. INTERVENTION STRATEGIES



A. BASIS FOR THE INTERVENTION

Positive findings

In evaluating the obstetric and neonatal care, factors that may contribute to improving the care given to this population group were identified:

1. The community recognizes the TBA's capacity in the management of low risk cases and also recognizes that the hospital is the appropriate center for referral in high risk situations.
2. The TBAs recognize the importance of maintaining a good working relationship with the healthcare personnel and of having their support. The healthcare system recognizes the importance of the TBA as the first level of attention.
3. TBAs and healthcare personnel at all levels expressed a need and interest in more education on management of obstetric and neonatal complications. The need for strengthening programs at the local level and improving the delivery of healthcare services to mothers and children is recognized.

The first step in the intervention consisted of analyzing and discussing the study findings with the hospital and district personnel. A plan of action was developed with the participation of the health services personnel, and responsibilities were assigned.

The aim of the intervention is to avoid death when disease is already present. This approach was adopted in view of the difficulties currently faced by the health care system: insufficient resources to deal with high risk factors which require complex, long term interventions ie. illiteracy, low birthweight, grand multiparity etc. The reasons why women at risk were not selected, utilizing the traditional focus based on multiple maternal risk factors, are the following:

- According to studies from Guatemala and other developing countries, more than 70% of women present one or more of the risk factors identified by WHO/PAHO/CLAP. This implies that more than 70% of births should be attended in more complex centers. The institutional ca-

capacity of the Ministry of Public Health and Social Assistance of Guatemala only permits attendance of 20% of the nation's births. Therefore, if all referred pregnant women did seek hospital care, they could not all be attended.

- Complications and deaths also occur in women who do not present risk factors. The sensitivity of some risk factors is low, especially in obstetrical complications such as hemorrhage or pre-eclampsia, and neonatal sepsis.
- The specificity of some risk indicators is low. As a consequence, women classified as at risk may be false positives. If these cases accept a hospital referral and turn out to be low risk cases, the referral system loses credibility in the eyes of the community.
- A high percentage of women in rural areas do not have a favorable opinion of the hospital services, and thus regardless of the obstetric risk, they prefer to give birth in their homes.

This study identified the most common causes of death in mothers as being: hemorrhage, sepsis and pre-eclampsia. The most common causes of peri-neonatal death were asphyxia secondary to malpresentation and prolonged labor, sepsis, prematurity and low birthweight. The focus of this intervention is the early detection of these conditions in order to provide immediate care at the local level before referral to the hospital.

Specifically, the obstetrical complications to which highest priority for care should be given were: premature rupture of the membranes, premature or prolonged labor, malpresentation, twin pregnancy, previous cesarian section, pre-eclampsia, hemorrhage, and signs of postpartum infection. Newborns with signs of sepsis, asphyxia, low birthweight and prematurity also warrant highest priority care. With the TBA, the health centers and posts, and the hospital, the detection and management of these cases was emphasized.

The interventions proposed in this project encourage the most effective and efficient use of human resources, materials, and the existing infrastructure of the Ministry of Public Health and Social Assistance in this area. They therefore obtain better results in the care given to obstetric and neonatal cases. Fundamental to the interven-

tion strategy is the motivation and training of the care providers such that they perform concrete actions with clear, precise goals and objectives.

B. INTERVENTIONS

1. Interventions at the level of the TBA

a. The purpose of this intervention was to improve the technical knowledge of the educators and to give them more confidence in training the TBAs. TBA educators were trained in the detection and timely, adequate management of obstetric and neonatal complications. Participatory educational methodologies adapted to adult education were used to reinforce the educators ability to lead groups in a participatory manner. Basic principles of adult education were taught in order to encourage the successful transmission and comprehension of the messages.

b. In the TBA training, the technical content was simplified and focused on the detection, management, and timely referral of complicated obstetric and neonatal cases which present the greatest mortality risk. Harmful practices such as the abuse of oxytocin and liquor during labor were discouraged.

A participatory methodology of adult education was used. The curriculum, methods and teaching guides sought to encourage the participation of the TBA in order to enhance the acquisition and retention of new knowledge. Active low cost, easily constructed audiovisual support materials appropriate for adult education were developed. The methods, curriculum and teaching guides were developed in coordination with the healthcare personnel.

2. Intervention at the level of Health Centers and Posts

The training of personnel from health centers and posts focused on strengthening technical problem solving abilities in the detection and management of the maternal and neonatal cases that present the greatest mortality risk. Management protocols which serve as a guide to care-giving in

these cases were also elaborated together with the healthcare personnel.

3. Actions in the Hospital Departments of Gynecology and Obstetrics and Neonatology

a. Standardization

At this level the care given to complicated priority cases was standardized. Medical chiefs, residents and nurses participated in the standardization process.

b. Training

Medical and paramedical personnel were trained regarding the appropriate use and importance of the protocols for patient care.

4. Strengthening the referral and back-referral systems

Meetings with personnel from the hospital and the health districts were held in order to systematize referrals and back-referrals and to promote the best response possible at each level. To this end, personnel from the health districts visited the hospital and vice versa.

The TBAs also visited the hospital to become familiar with its physical structure, to become better acquainted with the personnel who attend cases referred to the hospital, and to improve the relationship between the TBAs and the healthcare establishment.

Personnel from health centers and posts met periodically with personnel from the hospital in order to maintain communication about activities undertaken by the TBAs and the communities. The purpose of these meetings was to emphasize the importance of respecting the TBAs and patients referred to the hospital. These meetings also served to motivate healthcare personnel and contribute to the successful functioning of the referral system, thereby improving the image of the healthcare service in the community.

5. Support for the establishment of the Maternity Center at San Carlos Sija, Quetzaltenango

Technical cooperation was provided for the establishment of a maternity center. Community representatives, the health center, the area headquarters of the Ministry of Health, and the Obstetrics Department of the hospital all participated in the development of the center. The principal objectives of the maternity center are:

- The in-service teaching of healthcare personnel and TBAs about the management of obstetric and neonatal cases.
- Interaction and familiarization of the hospital personnel with the people of the community.
- Better healthcare services where little access to specialized services presently exists. Aa

5. MONITORING AND EVALUATION OF THE INTERVENTION



A monitoring and evaluation system was designed for all levels of intervention

1. Hospital

Patterns of maternal and peri-neonatal mortality and of cases referred by TBAs were monitored

2 Health Centers and Posts

The coverage of care provided to obstetric and neonatal cases was monitored. Charts and technical knowledge were evaluated

3. Community

A monitoring system was established for home births in the community. Information was obtained by mothers regarding the management and detection of normal and complicated cases by the TBAs

Information was also gathered concerning the referral process, the outcome of the referral, and the delivery

6. PRODUCTS



In addition to meeting the objectives of the project, standards of care appropriate for rural and poor urban materials were produced which may be used in or adapted to other contexts

The technical documents produced include

- 1 Methods for the initial assessment of maternal-neonatal health in hospitals, health centers and posts, traditional birth attendants and the community
- 2 Methods for the monitoring and evaluation of interventions in maternal and per-neonatal mortality at the community level and in healthcare services
- 3 Visual materials for training traditional birth attendants
- 4 Training manual for educators of traditional birth attendants
- 5 Protocols for the management of obstetric and neonatal cases for health centers/posts
- 6 Practical guide for the care of pregnant, postpartum and newborn patients in health centers and posts (poster)
- 7 Clinical history chart for pregnant, postpartum and newborn patients at health centers and posts.
- 8 Protocols for the management of the principal neonatal and obstetric emergencies in hospitals
- 9 Practical guide for the care of pregnant, postpartum and newborn patients in hospitals (poster)
- 10 Preliminary results demonstrating an important reduction of intrapartum and neonatal mortality (Sacatepequez)
- 11 Posters for healthcare services on the themes of
 - Respectful treatment of traditional birth attendants
 - Respectful treatment of patients
 - Respecting patients' modesty
 - Retaining referral sheets and sending back-referral sheets

7. LESSONS LEARNED



In addition to the specific products developed as part of this project, we have identified a series of issues to consider in the execution of maternal-infant health programs aimed at reducing maternal and peri-neonatal mortality.

The lessons learned during the development of this program include:

1. *To achieve an impact on maternal and peri-neonatal mortality, coordinated action at all levels of care is required, including: hospitals, health centers and posts, and the community including traditional birth attendants.* Complications such as sepsis and hemorrhage need attention at the hospital level for optimal treatment. Nonetheless, appropriate management and prevention of these complications must be initiated at the community level. The clearest example of the need for the integration of care is postpartum hemorrhage. The results of this study suggest that 52% of cases die in the community within the first 6 hours postpartum.
2. *The technical capacity of healthcare personnel in health centers/posts and in the hospital must be strengthened in the area of managing obstetric and neonatal complications.* Complicated cases are often referred as they should be to health services where more complex care should be available. In reality, the necessary care is not always provided leading to dissatisfaction on the part of the patient and family. The TBA is thus discouraged from making referrals and patients do not respond positively to being referred.
3. *The detection and management by TBA's of the principal causes of maternal and peri-neonatal death must be improved since they attend 60-80% of births in Guatemala.* Ninety-two percent of the mortality directly attributable to obstetric causes is due to hemorrhage, sepsis and eclampsia. Of peri-neonatal mor-

tality, 96% is caused by asphyxia secondary to malpresentation and prolonged labor, neonatal sepsis, and complications associated with prematurity and low birthweight. Despite their important role, TBAs are not adequately trained to detect and appropriately manage such complications in the community.

4. *The technical capacity of TBA educators must be strengthened in the areas of managing obstetric and neonatal emergencies and in participatory adult education.* Such training will enable TBA educators to better transmit messages that the TBAs can understand and remember. Traditionally, TBAs have been trained in lecture style classes using very technical language and academically oriented information. What is required, on the contrary, is practical training in how to detect complications and the correct management of these complications in the community and while the patient is being transferred to the hospital.
5. *The relationship between TBAs and healthcare personnel must be improved by initiating a change in attitude in the healthcare personnel such that the work of the TBA is respected and valued.* The complaint most frequently expressed by the TBAs is that when they take patients to healthcare services they are mistreated, scolded or ignored. They may not even be allowed to accompany their patient inside the health facility.

After such mistreatment, many TBAs refuse to return with a patient. The chain of referrals to corresponding levels of care for complicated cases is thus broken. The TBA will not approach healthcare services unless she senses respect and appreciation of her work and of herself as a person.

Likewise, the treatment of the patient by the healthcare personnel must improve in order to facilitate the timely arrival of patients to the health services available.

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