BIRTH ATTENDANTS WITH SPECIAL RELEVANCE TO NEWBORN HEALTH

Indira Narayanan*, Teresa Shaver**, Annie Clark***, Dilberth Cordero* and Silvana Faillace*

LOGOS OF BASICS, USAID & ACNM

* BASICS II, ** White Ribbon Alliance for Safe Motherhood Global Secretariat,
  *** American College of Nurse- Midwives
BACKGROUND

The care provided in the antenatal period, at birth and in the postnatal period are critical in the lives of the mother and her baby. Epidemiologically, two thirds of maternal deaths occur around the time of birth, the vast majority of which cannot be predicted by any high-risk approach. In addition, over 3.9 million newborn infants die in the first month and another similar number die before birth (still births). Up to 66% of newborn deaths occur in the first week and up to 66% of these within the first day.

Historically, in developed countries and in 'transitional' countries such as Sri Lanka and Malaysia, improvement of delivery care resulted in reduction in maternal mortality. Regions with the highest proportion of deliveries assisted by skilled birth attendants have also the lowest perinatal and neonatal mortality rates. Thus, good maternal programs addressing pregnancy, delivery and postnatal care can prevent some of the deaths. The skilled birth attendant not only needs to be defined and standardized based on ‘qualifications’ and the required skills but certain basic core standards need to be set, accepted and followed in various countries. Further, improved newborn health also needs focus on additional prevention and management of key problems such as birth asphyxia and sepsis, i.e., a dedicated program of newborn care needs to be incorporated. The mother and baby are of course closely related and both have to be cared for together in an integrated manner. However, as newborn health has not received the focus it has needed in the past, this document will deal mostly with elements relevant to the baby.

SKILLED BIRTH ATTENDANT

A skilled birth attendant (SBA) is a qualified person with a degree recognized by the country university/certifying board who has undergone training on conducting deliveries incorporated in a formal nursing or medical course. They are usually doctors, nurses and midwives. Numerically, midwives attend the largest proportion of the deliveries. The ICM/FIGO/WHO (International Confederation of Midwives / International Federation of Gynecology and Obstetrics/ World Health Organization) definition of a midwife is “a person who, having been regularly admitted to a midwifery educational program, duly recognized in the country in which it is located, has successfully completed the prescribed course of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practise midwifery.”. In developing countries, less than 50% of births are attended by a skilled birth attendant (SBA). In certain areas, especially in those with difficult terrain and strong, hindering socio-cultural factors, less than 10% of births are assisted by SBAs.

With reference to neonatal mortality rate, it is also important to remember that it includes deaths not only at birth and in the first few days of life but also those occurring within the first four weeks. Hence, reduction in newborn deaths and stillbirths ultimately depends on the following:

(a) Trained qualified health workers (skilled birth attendants) with competence to deal with the mother and baby- for supporting, at least pregnancy, delivery, early postnatal care, prompt detection of problems, appropriate care seeking/
referral and actual management of mothers and newborn infants with selected problems or danger signs. In addition to the skills of the health worker, an enabling environment is required to achieve the necessary results. The components are summarized along with the required skills in Table #1.

(b) Trained qualified health workers ('other skilled attendants') with expertise, suitable resources and supplies for management of the more highly vulnerable and sick babies (enabling environment) that are often not dealt with by the birth attendant. If the SBA is responsible for the follow-up care for the mother and baby through this period, her/his primary role then becomes counseling for routine preventive care, identification of danger signs and referral to a suitable unit or hospital where the baby can be managed by appropriate staff. If the SBA is already working at the hospital level that is equipped to provide this care, she/he then generally takes/sends the baby to the concerned unit with staff that can deal with the problem.

Hence, both skilled 'birth' and other attendants are required for the more comprehensive care of the newborn infant.

**Expertise and Skills Associated with the SBAs**

Another interesting feature is the expertise and skills that SBAs actually have relevant to newborn health. During pre-service education, many of them have had some degree of training in the care of the mother but for most of them, competence achieved relevant to newborn care is, at best, inadequate. In addition, in some countries, even after formal training in midwifery, the health worker at the peripheral level is given a number of additional responsibilities that often have no relevance to the birthing process but are overwhelming. As a result, she/he may no longer conduct deliveries to any significant extent and hence is likely to forget some of the skills. An example of this is the auxiliary nurse midwife (ANM) in India who has many responsibilities related to family planning, immunization and other activities that have no connection to birthing and care of the newborn infant. In addition, many of them do not stay near enough to the village homes to be able to attend the deliveries easily. Transport is poor and the ANM is not always equipped with the supplies to handle the mother and baby efficiently at birth. Hence, the skilled birth attendant needs to have and maintain through in-service training, supervision techniques, and continued practice, skills not only for managing the mother but also to deal with the baby.

Supervision and monitoring of SBAs should include indicators relevant to both the mother and baby. In addition, a long-term goal should be to improve the pre-service curriculum so that the skilled birth attendant acquires the necessary core competencies to provide basic care for the mother and the baby.

**Need for Uniformity in Use of Terminologies**

The common terms used for birth attendants are “skilled birth attendants” and “trained birth attendants”. The two are obviously not synonymous. This is clear by a careful review of the data shown in figure 2. While in general, countries with a higher percentage of deliveries attended by trained birth attendants have lower neonatal mortality rates certain anomalous findings are obvious. Some countries with similar
proportion of deliveries attended by "trained" personnel have significantly different neonatal mortality rates. For example, in Sri Lanka and Maldives 90-94% of the births are assisted by trained birth attendants, but there is a marked difference in the neonatal mortality rates, the latter being 15 / 1000 live births in Sri Lanka in contrast to 35 / 1000 live births in Maldives\textsuperscript{10}. Further evaluation of the nature of the “trained birth attendant” in Maldives reveals that 44.7% of the deliveries are actually assisted by \textit{trained traditional birth attendants}\textsuperscript{11}.

In general, at the facility level, birth attendants are usually the qualified SBA with formal training and, in countries where the process exists, with certification. However, in some countries, at peripheral facilities less qualified persons assist at deliveries, e.g., the “matrones” in Senegal who are women selected from the community and who undergo training for a few months. Thus, data on deliveries assisted by SBAs may not be reliable, as there has not been a standardized definition of SBAs during collection of data in various countries. Hence it is necessary at all levels to have standards and uniformity in the use of terminology.

\textbf{Place of Delivery}

Ideally, SBAs should be available both at facility level and at home. However, in practice, this is not often feasible. Historically, they have been available primarily at facility levels as shown by experiences in Sri Lanka, Malaysia and in the state of Kerala in India\textsuperscript{9,10}.

With the exception of areas where there are qualified private providers, it is difficult to have fully qualified SBA with the necessary equipment and supplies, living close enough to the homes, especially in rural areas. Further, both roads and safe transport to take the SBA to the homes are also grossly inadequate. Hence, except in selected places, delivery assisted by a true SBA is mostly facility-based.

\textbf{Postnatal Visit(s)}

Conventionally, postnatal visits have been taking place between 4 – 6 weeks after delivery. This, however, is \textit{after} the neonatal deaths have already taken place. In recent years as a large number of deaths take place in the first week, besides care and counseling at birth, early postnatal visits are recommended. Several early postnatal visits in the first week as in the SEARCH model have had good results\textsuperscript{12}. However, it may not be currently sustainable to have so many visits in many countries. The exact timing and minimum number of visits that are effective, feasible and sustainable at scale is yet to be defined. In addition, from lessons learnt from antenatal care\textsuperscript{13,14}, it is important to consider not only the number and timing of the postnatal visit(s), but also the \textit{quality of care}. Thus goal oriented or focussed postnatal visits need to be defined and implemented.

For the newborn, in addition to dealing with care at birth and the early postnatal period, it is also necessary to deal with problems that arise later in the first month. Based on the causes of mortality, sepsis is a top priority. This may need additional skills and supplies.
Where the SBA cannot provide them, she/he needs to be able to identify and refer such babies after initiating the necessary preliminary emergency care. Needless to say, prompt referral is effective only if the referral center has the staff competency and resources to deal with the problem.

**THE TRADITIONAL BIRTH ATTENDANT (TBA)**

TBAs constitute one of the most controversial topics. Currently there appear to be no clear cut answers. Some of the issues are noted below.

- The traditional birth attendant known as ‘accoucheure traditionelle’ (francophone Africa) or ‘partera’ (LAC region) continues to be a well-recognized and accepted part of the community across the various continents. Just as her name in individual countries varies in the local language/dialect, her accepted role also seems to be very variable in different communities. Some of the factors influencing her role appear to be dependent on her status within the community and the ability and willingness of the family to make reimbursements, even in kind. Thus, it may include being sent for early in labor, providing full support to the mother, actually delivering the baby and attending to the immediate care of the mother and baby, including cutting the cord, cleaning the mother, bathing the baby, and disposing of the placenta. It also involves postnatal visits, during which she often massages the mother and the baby and bathes the baby. On the other hand, she may be called in only *after* the birth, mainly to cut the cord and dispose of the placenta. In certain communities, such as in some regions of India, some TBAs are considered "unclean" or too "low" in the social structure to be allowed to do much else. TBAs also vary considerably in their ages, their literacy/educational standards, and the number of deliveries in which they assist. All these factors will influence their roles, the manner in which they can attain and retain necessary skills and, hence, the actual impact of training.

- Training programs for TBAs have also not been standardized. At times they have included elaborate training on providing care in the antenatal period, at delivery and in the postnatal period. At other times they cover only cursory inputs at birth and in the early postnatal period, recognition of danger signs in the mother and/or baby and promotion of appropriate care seeking. A meta analysis of studies on TBA training showed that there was some improvement in knowledge, behavior, and ability to give advice. There was also a small but significant decrease in neonatal complications, and a slight decrease in perinatal/neonatal mortality and deaths due to specific causes such as birth asphyxia and sepsis. Studies on ARI/pneumonia were too few to make a meaningful evaluation. So too were the studies relevant to maternal mortality. In a recent meeting organized by USAID reviewing home births, it was concluded that there were too few well-controlled studies of comparable quality to come to any meaningful conclusions. In addition, it was felt that there is not enough evidence to indicate which activities are most feasible, have the best impact and are most cost effective. Is it capacity building of the TBAs, other activities such as social mobilization and communication for behavior change or a combination of several activities? There also needs to be consistency and an improvement in research designs and methods, intervention characteristics, and in the reporting of results. In this way studies can be compared with more meaningful conclusions.
In some countries young women who may or may not have assisted in deliveries earlier are selected by organizations or even ministries of health based on the literacy/educational status for training to conduct deliveries. While some may be useful, others are not always accepted by the community that is more familiar with the available traditional birth attendants.

TBA training should not take place in isolation of involvement of family caregivers, but should actually be carried out in the context of a more holistic approach of community based interventions noted below. They need to be planned, implemented and evaluated with great care. A more holistic approach to community based care is all the more important where deliveries take place with the support of relations and family members or even occur without any assistance at all. Strategies such as home based life saving skills deal with such issues.

OTHER CATEGORIES OF BIRTH ATTENDANTS

Some countries have yet another category of birth attendants who are "in between" the true skilled birth attendant and the traditional birth attendant. Examples of these are ‘matrones’ in Senegal and some of the other francophone countries, community midwives of Indonesia and the ‘auxiliary’ nurses in Nigeria and in some LAC regions. These ‘intermediate’ types of birth attendants may work at the facility or community level or both. These are often women selected from the community with varying levels of school education, given training for variable periods such as 3 – 6 months (‘matrones’) or even 1 or more years (community ‘midwives’ in Indonesia). Their competence varies not only depending on their basic educational level, ability to learn, and the nature of the training program and supervision, but also on their place of work. Those working at bigger centers and hospitals, dealing with large numbers of suitable cases have a better opportunity to retain and even augment their skills. Ministries of Health may, initially, even be involved in or support part of the training. However, there are no prescribed standards for their training or evaluation. Further, all of them may or may not be recognized by the university certifying boards, the associations of the physicians, nurses or midwives or even by the Ministries of Health, themselves. It is therefore necessary to have terminology that clearly distinguishes registered or certified qualified birth attendants from others who may have developed skills through alternate types of training.

There is another factor that influences who actually assists at birth, namely that of gender. In certain countries such as Senegal, there are skilled attendants such as nurses at the peripheral centers. However, many of the nurses are male and women in traditional societies, especially in the rural areas, frequently prefer to be attended by female health workers. Hence, most of the births are assisted by the less skilled ‘matrones’. To complicate issues relevant to data collection, ‘matrones’ also work at the level of facilities such as health posts and centers. Facility based births are invariably counted as "deliveries by skilled birth attendants". It is possible that "matrones" may at times be erroneously contributing to an apparently higher percentage of use of SBAs in such a region/ country, unless care is taken to separate them out in the collected data, a process that may not always be easy to implement.
STANDARIZATION OF COMPETENCY

It is essential that standards are defined and followed in the pre-service and continuing education programs of skilled birth attendants both for maternal and newborn health. These are laid out in several countries but standards may not always be maintained in all the centers and many need updating. Standards such as ‘core competencies’ set by the International Confederation of Midwives are of value. Increased focus on newborn care including resuscitation would also be beneficial. Ultimately, the true skilled birth attendant needs to be recognized not just by some organizations but also the MOH and most important of all by the law, accreditation councils and professional bodies.

Standards are even less clear or consistent for some of the “third” category of birth attendant noted above and their competence and recognition vary greatly in the different countries that have this category of staff. Lastly, regarding the traditional birth attendants, as noted above there are no set standards and training courses and skills acquired vary grossly. In addition, the retention of skills will also depend on the workload. Traditional birth attendants who are rarely called to assist at births are clearly likely to rapidly lose any acquired skills and hence the decision to train them, the course content and the degree of supervision have to considered carefully.

NUMBER OF PERSONS ASSISTING AT BIRTH

At larger hospitals, there are frequently two persons who assist at the delivery, one focusing on the mother and the other on the baby. In some cases the provider dealing with the baby is competent to deal with problems such as asphyxia. In others, the Pediatric resident staff is called in for problems; which is not necessarily beneficial, as asphyxia cannot always be predicted and delay in adequate resuscitation carries the risk of potential long term damage. Ideally, all persons attending deliveries should be competent with basic resuscitation, at least in establishing clear airways and in ventilation. In smaller and more peripheral centers and in the community, there is frequently only one person attending the birth. One of the exceptions is the SEARCH model where the community health worker works effectively with the traditional birth attendant, the former caring for the baby and the latter looking after the mother.

A two-person team certainly seems advantageous, especially when the mother, baby, or both develop problems. While in the present situation, it may not always be possible to have two equally qualified workers together all the time, a little forethought and planning may provide alternatives. It would be useful to train the health center/post staff in the basic care of the mother and baby. The more competent person can then carry out the more complicated tasks assisted by another person who is at least familiar enough with the activities so as to be able to provide meaningful assistance. Thus, careful planning for key aspects of care of the mother and baby at birth and in the postnatal period is essential for improving outcomes. Birth preparedness therefore, is not a strategy just for the families in the community, but also for the care providers at the facility level.
COUNTRY OPTIONS

There is no controversy in the recommendation that ultimately all births should be assisted by skilled birth attendants supported by an enabling environment. It is also clear that this target is not likely to be achieved in the immediate future. Further, this goal cannot be achieved both at the facility and community levels in the immediate foreseeable future. In most developing countries ensuring true skilled birth attendants for deliveries is currently a possibility only at the facility level. At the same time, planning to have all or most of the deliveries at the facility level in the present situation is also not practical, as there are not adequate numbers of health care providers with the necessary skills and supplies to deal with such a contingency. The community too may not be ready at this time to accept this option. Hence, the main issue remains- what should be done during the interim period? It is also possible that the role of the TBAs may change, with greater focus on conveying messages or effecting referral for problems. Currently, there does not seem to be a single solution for all countries and regions. Besides all the points noted earlier, the distance of the community to suitable centers and out-reach services, the nature of the terrain and the difficulties in organizing transport may determine development and implementation of plans for the community. Some options are noted in Table # 2.

CONCLUSION

Standardized, effective care at birth with appropriate follow-up inputs in the early postnatal period will go a long way in saving mothers and newborn infants. Countries have to not only develop long-term plans and put in place strategies and interventions to have suitably trained skilled staff supported by an enabling environment, but also consider possible use of alternative arrangements to meet the short-term goals in the interim period.
The long term goal is to ensure that all mothers and babies have the benefits of services from a skilled birth attendants with adequate skills working in an enabling environment. This includes implementing plans to have additional personnel to meet the demands.

In the meantime interim, measures to be implemented include the following.

- The knowledge, skills and attitudes (behavior) of existing SBAs need to be upgraded to meet the requirements of the mother and baby through improved pre-service education, and in-service training and supervision. SBAs also need to be supported by an enabling environment.
- Appropriate community based interventions need to be instituted to alleviate the situation and promote healthy behavior and improve newborn survival and health, the components of which will vary according to feasibility, local situation and requirements.

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REFERENCES:


Figure 1 6,7
Correlation between proportion of deliveries conducted by trained birth attendants and neonatal mortality rates

Source: Health situation in SEAR 1998-2000, WHO

Figure 2
TABLE # 1

SKILLED BIRTH ATTENDANCE RELEVANT TO NEWBORN HEALTH

A. CARE PROVIDER SKILLS REQUIRED FOR NEWBORN HEALTH

2.) Specific skills for care of women of reproductive age, during pregnancy, labor and post-partum period based on recommendations by WHO that will also have an impact on the baby.

3.) Provision of minimum (essential) care to the baby to ensure safe transition to extra-uterine life with proper attitudes and behaviors that promote optimal relationships with mothers, families and the community are important and include the following.

- **For Normal Babies at Birth**
  - Immediate preliminary basic care of the baby at birth as required, such as clean delivery practices and avoiding needless procedures (e.g., unnecessary oropharyngeal suction)
  - Temperature maintenance
  - Eye care at birth where indicated
  - Cord care
  - Early and exclusive breastfeeding
  - Identification and referral of babies with problems/danger signs
  - Key elements of PMTCT (prevention of mother to child transmission of HIV-AIDS) interventions where appropriate

- **For Babies with Birth Asphyxia**
  - Resuscitation
  - All the components of care noted above for normal babies
  - Identification of danger signs and appropriate referral, after establishment of respiration and stabilization

- **Postnatal Care for Normal Babies**
  - Continued monitoring for basic preventive essential care as at birth including appropriate advice based on informed choice in PMTCT.
  - Counseling of mothers/families on
    - Continued essential home care of babies
    - Routine follow-up care including immunization, and growth monitoring, as appropriate
    - Identification of danger signs and appropriate care seeking

- **For Babies with Subsequent Problems (Priority - Infections)**
  - Identification and management of minor problems such as conjunctivitis, skin and umbilical infections
  - For those with major problems
    - Identification of danger signs
    - Administration of initial treatment such as first doses of antibiotics
    - Referral to suitable centers / units with appropriate advice where babies cannot be managed locally.

B. PRESENCE OF AN ENABLING ENVIRONMENT

Based on the components for maternal health (WHO, 2002) inclusion of the following components with the focus here on the requirements of the newborn infant.

- Availability of resources including equipment and drugs with sizes and strengths appropriate for newborn infants (normal size and low birthweight)
- Supportive supervision for baby care
- Existence of suitable referral hospitals providing higher-level care (at least level II care)
- Authority and ability to refer babies with danger signs to such hospitals
- Suitable transport and adequate resources for effecting referral
**TABLE # 2**

**COUNTRY OPTIONS RELEVANT TO ATTENDANCE AT BIRTH**

- Establish acceptable standards and improve the skills of existing skilled birth attendants both relevant to maternal care and care for the newborn infant and provide an enabling environment. There is not much point in promoting facility deliveries and appropriate care seeking for problems if the required care is not available at the health structure.

- Develop and commence implementation of plans, policies, and strategies to increase the numbers of skilled birth attendants to the necessary level. This needs to be started **now** even if it is to be realized only after several years.

- Develop strategies at the community level. This is not only as an interim step but community involvement is always important, as mere provision of services does not necessarily imply immediate acceptance by families. Each country will have to develop, preferably by consensus among the key players, the major strategies for implementation. They may include the following, singly or in combination.
  - Social mobilization and communication for behavior change at the community level including families (mothers, grandmothers, and fathers), leaders and community based organizations, for improved essential newborn care at home, and appropriate care-seeking for problems/danger signs and utilization of provided services.
  - Involvement of community workers/volunteers including TBAs. Key players need to define the roles of these personnel and tailor their training and supervision to meet the requirements. The goals need to be realistic. It is possible that the major activities would be more of health promotion and identification and referral for problems.

- Avoid an “either/or” situation relevant to facility based and community based care. Rather, establish a link between the facilities (skilled birth attendants) and the community (family and community health workers/volunteers including TBAs) to support a continuum of care. TBAs should be encouraged to go with the patients that they refer and facility health workers, including SBAs should learn to treat TBAs with respect and provide support. Facilities should supply optimal care, be user-friendly and acceptable to the community.

- Even in the situation where mothers have a facility delivery, many are discharged very early, some after only a few hours. Hence community-based interventions will need to continue to assist in follow-up care.

- It is essential that as far as possible these interim measures are carefully developed, implemented, monitored and evaluated so that lessons learned will be useful for sharing with other groups/countries. At the same time it behooves organizations that focus on community based care that they do not forget to promote advocacy for the long term goal of providing optimal care through skilled birth attendants working in an enabling environment.