Training traditional birth attendants in Nigeria – the pictorial method

M.K. Matthews, R.L. Walley, A. Ward, M. Akpaidem, P. Williams, & A. Umoh

High maternal mortality and morbidity rates are a challenge for all involved in the care of mothers and babies. One response takes the form of an educational programme led by professional midwives to teach traditional birth attendants to recognize risk conditions and improve their care of mothers and babies. Such a programme was organized as part of a Canadian-Nigerian safe motherhood initiative, and carried out in Akwa Ibom State, Nigeria.

In 1991 in south-east Nigeria, a local study found the rate of recorded maternal deaths to be 1450 per 100000 for that year. The reasons suggested were similar to those reported elsewhere: poverty, isolation, underutilization of existing professional maternity services, lack of resources, and the cultural beliefs and practices of some ethnic groups. A major problem was obstructed labour which led to ruptured uterus, maternal death or vesicovaginal fistula. The typical scenario was that of a woman admitted to hospital in shock or exhausted, infected, dehydrated and anaemic, having for several days been cared for by a traditional birth attendant. These were the cases that contributed to the maternal mortality and morbidity in the region.

Setting up the programme

As a result of these findings, a Canadian-Nigerian safe motherhood project was started in 1992 in a clan area within the catchment area of the government-run hospital in the city of Uyo. The project was aimed at three primary approaches to the prevention of maternal death: educating rural professional midwives in the use of the partograph, training the traditional birth attendants to use a pictorial method to identify and record risk conditions in childbirth, and starting an emergency transport service. In this article we focus on the educational programme for the traditional birth attendants.

Prior to the start of the programme, the project team talked to the chiefs and clan heads of the 41 villages in the area to solicit their support for identifying local traditional birth attendants and carrying out the project. The birth attendants were then all invited to a meeting. About 130 attended this first meeting, which the local team members estimated to be about a third of those practising in the area. A survey was made of the knowledge,

Explaining the pictorial method also gives the trainer (a midwife and nurse) an opportunity to teach safe childbirth practices and to correct dangerous misconceptions and practices.

Ms Matthews is Assistant Professor at the School of Nursing, Memorial University, St John's, Newfoundland, A1B 3V6, Canada. Dr Walley is Professor of Obstetrics and Gynaecology at the same university. Dr Ward is the Director of the Canadian-Nigerian safe motherhood project in Nigeria and is based at St Luke's Hospital in Akwa Ibom State. Ms Akpaidem and Ms Umoh are nurse-midwife coordinators in the project. Mr Williams acted as research assistant for the project.

attitudes and practices of 60 of the birth attendants who came to the meeting. This produced some interesting data which were used to shape the educational programme.

The survey showed that many of the birth attendants were illiterate and only 13% had been trained by a health professional. A small number reported that they would take a mother to the prayer house in the event of complications; a majority did not recognize potentially serious complications occurring in the mother as a cause for concern; a significant minority did not wash their hands, or the mother, prior to the birth; and, in most cases, treatment of the umbilical cord stump was inadequate or harmful. At least three birth attendants were managing the third stage of labour in a dangerous way. However, almost all of them agreed on the importance of training for their work and were interested in obtaining it.

One cannot consider the practice of the traditional birth attendant without recognizing the importance of the prayer house or church in the lives of many of the rural people. There is strong belief in the power of prayer to ward off the evil spirits which are believed to cause the illness and complications of childbirth. Some groups believe that problems in pregnancy are a sign of adultery by the mother. The pastors of the fundamentalist churches, who have a very strong influence on beliefs and behaviour, will usually recommend the prayer house or church as the first response to obstetric emergency. There, the mother may fast for days, further damaging her own and her child's health, before being transferred, as a last resort, to the hospital.

Previously, the attitudes of professional staff to the birth attendants when they brought a mother to the hospital had been very negative, and this had sometimes deterred the birth attendants from making referrals.

Using the pictorial method

After the survey, a method for teaching birth attendants to recognize and record high-risk conditions in the mother was adapted to local needs. It is based on the use of a pictograph, a card with drawings or symbols on it to represent the major risk conditions of childbirth. This method, designed for traditional birth attendants who are unable to read, has been described by several authors, including Egullion in Zimbabwe *(1)* and Kumar & Walia in India *(2)*. The pictograph not only teaches the user about complications of childbirth, but also serves as a prompting device to maintain minimum standards of care and provide accurate information on vital events during pregnancy and labour and after the birth.

Explaining the pictorial method also gives the trainer (a nurse-midwife) an opportunity to teach safe childbirth practices and to correct dangerous misconceptions and practices. It is important for the pictograph to be culturally relevant to the birth attendant, so the cards used for this project were designed by a local artist with the collaboration of the professional midwives and members of the traditional birth attendants' organization.

A simple card was designed, and tested to see whether the birth attendants would use it. Represented symbolically on the card were questions about the mother's previous pregnancies including stillbirths and abortions, the month of gestation when the mother was first seen by the birth attendant, referral for immunization, and maternal and neonatal birth outcomes. Eighty-seven of these pictographs were used by the birth attendants. When their use of the cards was analysed, the major dif-

ficulties found were the illiteracy of the users, the unfamiliarity of the moon symbols used to represent time in months, and the defective hearing and sight of some of the older users.

The pictograph was then combined with a high-risk record card which had been made by the local team with a group of 10 birth attendants and the artist. It represented the 14 complications the birth attendants feared most in childbirth. The artist made drawings based on their description of each complication. The sketch of each complication was then brought back to a larger group of birth attendants for identification. Sketches they could not recognize were redrawn and tested with other groups, until all of them were identified correctly. Educational sessions were then started and the pictorial record card was prepared for general use.

Twelve educational sessions to explain the antenatal card were held in three centres in the clan area. The sessions, which included safe practice instructions used in the state curriculum for birth attendants, were conducted by the two team midwives. The antenatal cards were distributed to the group for use with all mothers and the accuracy of use was monitored at each educational session. The birth attendants brought all their completed cards to the session and discussed them with the midwives. The data collected were corrected as necessary and recorded in a log book for final analysis. Referrals were followed up and the outcomes recorded.

During this process, the midwives developed excellent relations with the birth attendants. Two interesting results of this collaboration were the reporting of unsafe practices being used by birth attendants not participating in the project, and the improvement in relations between the birth attendants and the hospital medical and midwifery staffs. Previously, the attitudes of professional staff to the birth attendants when they brought a mother to the hospital had been very negative, and this had sometimes deterred the birth attendants from making referrals. All referrals were followed up in the community by the project midwives who visited the birth attendants to review the problems with them and reinforce their referral decision.

The typical scenario was that of a woman admitted to hospital in shock or exhausted, infected, dehydrated and anaemic, having for several days been cared for by a traditional birth attendant.

Evaluation

By the end of the course, which took seven months, 107 of the 120 birth attendants who had been registered were left in the programme. Five had died, five (including the only male birth attendant) had dropped out, and three were unable to complete the course because of sickness.

Evaluation of the programme was focused on whether the birth attendants had learnt to recognize the complications of childbirth and were recording them accurately on the pictorial record card. The maternal and neonatal outcomes for the mothers cared for by the group were also analysed.

A midwife tested and scored each birth attendant on her ability to find the symbol on the card which corresponded to a description, in the Ibibio language, of each complication. The number of antenatal record cards the birth attendant had used was checked against the number of births she had attended and recorded in her delivery record book. In addition, each birth attendant's home was visited and advice was given when the facilities were considered to be inadequate.

The tests showed that 70% of the group were able to recognize all the symbols. The younger, literate birth attendants had no problems with using the card, but the older, illiterate ones with poor eyesight were still confusing some of the symbols, and

Only seven mothers were transferred by the emergency transport service; the other 39 were transferred by public transport, which included motorcycle, taxi or bus.

accounted for most of the low scores. In conversation, they showed that they knew about the complications and with extra coaching and encouragement their recording improved. Eighty-nine of the 110 birth attendants in the sample (including three who were sick) had used at least one antenatal card during the seven months that the programme had been in operation. Reasons for not using it included low case-load, loss of the client to another birth attendant, and difficulty with recognizing the symbols. However, we collected pictorial antenatal cards for 816 mothers cared for by this group of birth attendants.

The accuracy of the records was validated as far as possible by the clinical team. There were some missing data from some items, but parity was recorded for 97% of the mothers, type of delivery for 98.5%, gestation when first seen by the birth attendant for 92% of mothers, and gestation at delivery for 89%.

Referrals

For the period 1 October 1993 to 15 May 1994 there were 46 referrals of mothers with complications in childbirth, either to the referral hospital or to one of the rural maternity centres. This was 6% of the total number of mothers in the group. Only seven of these mothers were transferred by the emergency transport service; the other 39 were transferred by public transport, which included motorcycle, taxi or bus. This group included a mother with severe postpartum haemorrhage who died within 15 minutes of admission to hospital. The birth attendant had transported her by taxi, as it was faster than taking her to the maternity centre to wait for the emergency vehicle.

Reasons for referral were as follows: prolonged labour (9), antepartum haemorrhage (9), postpartum haemorrhage (6), grand multiparity (4), short stature (3), breech presentation (3), very young mother (2), prolapsed cord, previous caesarean section, eclampsia, transverse lie with hand prolapse, prolapse of the uterus in the late postpartum period, third-degree laceration, threatened abortion, ectopic pregnancy, and one apparent intrauterine death (subsequently found to be a 2.5-kg fibroid).

A further 15 referrals were attempted, but the mothers refused to go. This group included five cases of prolonged labour, one mother with breech presentation, two twin pregnancies, three grand multiparae, three very young mothers and one mother with retained placenta. Of this group the mother who had a retained placenta died at the church where her relatives had taken her. She was reported to have had a great fear of the hospital. Other reasons for refusal were not always known, but in the case of six mothers it was because of lack of money.

All together, there were 170 mothers who by modern obstetric criteria would be considered at risk and should have been referred to hospital. These included primigravidae, grand multigravidae (five or more pregnancies), multiple gestation, breech presentation and prematurity. According to these criteria, the

total of mothers at risk in the sample was 231 or 28%. Only a quarter of these (26%) were referred or refused referral.

Deaths

There were two maternal deaths (mentioned above) in the sample of 816 mothers cared for by the birth attendants in the project. This gives a maternal mortality rate of 245 per 100000 births – significantly lower than the figure for the region, which is approximately 750 per 100000 when deaths related to abortion are excluded.

These figures must be viewed with caution, however, as it is possible that not all outcomes were recorded, and deaths could have occurred later in the postpartum period, after these results were analysed. At all events, the records show that there would certainly have been more adverse outcomes if the mothers had not been taken to a hospital in time for treatment, especially in the case of haemorrhage.

The perinatal mortality rate was much higher. Twenty of the 795 babies for whom we had records were known to have died, a rate of 25 per 1000. Of these deaths, eight occurred in the group of mothers transferred to hospital. The other twelve babies had died at birth in the villages.

Effectiveness of the project

A major problem in evaluating the effectiveness of the project is the lack of accurate information on the performance of birth attendants before the project started. Maternal and neonatal deaths which occurred in the villages were not recorded, and the extent and quality of birth attendant practice in the area were unknown. For the same reasons comparisons could not be made between project and non-project birth attendants. There are also difficulties in verifying the pictorial records, as the team midwives were not present for the births. Furthermore, late maternal and neonatal deaths may not have been recorded. This limitation applies to all maternal and neonatal mortality and morbidity statistics in countries which do not have a well-developed system for reporting and recording maternal and perinatal outcomes.

The records show that there would certainly have been more adverse outcomes if the mothers had not been taken to a hospital in time for treatment, especially in the case of haemorrhage.

The programme had many benefits. It increased the awareness of the birth attendants of the importance of recognizing complications and rapidly transferring mothers to hospital. The birth attendants were integrated into the health care system through the team midwives who acted as a link between them and the medical and midwifery staff in the labour ward. In the past, the participation of birth attendants had not been welcomed and this inhibited some of them from making referrals early. We are also developing a very good database on the birth attendants and on maternal and neonatal outcomes in the villages. These data will help guide the planning of similar projects or the extension of this one.

There are, however, some dilemmas which had not been foreseen. The project directors viewed the programme as an unfortunate, but necessary, interim measure to improve the practice of traditional birth attendants until sufficient midwives and other health professionals were trained, but it was clear from the birth attendants' interest in the programme that it was, if anything, legitimizing their role.

Another dilemma is that sometimes a birth attendant who tried to refer a mother to hospital lost her client to a non-project birth attendant because the mother knew that the untrained one was less likely to take her to hospital. This led to a loss of face in the community, especially if the birth turned out to be uncomplicated. It was also clear that some of the programme participants were not established birth attendants, but saw the programme as an opportunity to get trained as one. Some of the young, literate participants had potential to take more advanced training, and we felt they should have been taking a midwifery course rather than this one. There was resentment from the underfunded, underutilized rural midwives at the resources (such as delivery kits) being given to these birth attendants when the rural maternity centres lacked even the most basic of equipment.

The reality is, however, that traditional birth attendants can give culturally appropriate care to mothers and babies and can have a profound influence on the health of their communities. Furthermore, they are the first choice of most of the mothers in the area for care in childbirth. Integrating them into the health care system and improving their practice with projects such as this, are major steps towards providing adequately for the health of mothers and their children. ■

References

1. **Egullion C.** Training traditional midwives in Manicaland, Zimbabwe. *International journal of gynaecology and obstetrics,* 1985, **23**: 287–290.
2. **Kumar V, Walia I.** Pictorial maternal and neonatal records for illiterate traditional birth attendants. *International journal of gynaecology and obstetrics,* 1981, **19**: 281–284.

Tobacco: the "equal opportunity" killer

Tobacco is a unique consumer product because of the number of deaths and diseases to which it is directly linked as a causal factor. The effects of tobacco consumption have been extensively documented for developed countries and to a lesser extent for developing countries. It is now clear that smoking-related diseases have become "equal opportunity" diseases, affecting women and men in similar ways, if they have similar exposure to tobacco and smoking behaviour. Furthermore, women have additional specific risks related to reproduction. Smoking also contributes to poverty and malnutrition.

■ C. Chollat-Traquet. *Women and tobacco.* Geneva, World Health Organization, 1992: p. 31.