January 2005

Maternal and newborn care: Practices and beliefs of traditional birth attendants in Sindh, Pakistan

Z Fatmi
Aga Khan University, zafar.fatmi@aku.edu

A Z. Gulzar

A Kazi
Aga Khan University

Report

Maternal and newborn care: practices and beliefs of traditional birth attendants in Sindh, Pakistan

Z. Fatmi,[1] A.Z. Gulzar[2] and A. Kazi[1]

رعاية الأمهات والولدان: الممارسات والاعتقادات الخاصة بالدَّايات في السِّند، باكستان

ظفر فاطمي، أشرف ذو الفقار كَلزار، أمبرين كاضي

الخلاصة: تعاني باكستان من ارتفاع معدل وفيات الأمهات والرضع والولدان، حيث تعتمد خدمات صحة الأمهات على الدَّايات (المولِّدات التقليديات TBAs). وقد قام الباحثون بفحص ممارسات الدَّايات في مقاطعة دادو في ريف السند، في المدة من أيلول/سبتمبر حتى تشرين الثاني/نوفمبر 1998 بإجراء مقابلات واستضافة مناقشات مع مجموعات بحثية تضم 17 داية؛ كما تم إجراء مقابلات مع مقدمي الرعاية الصحية والأعضاء الآخرين الهامين بالمجتمع. وقد تبيَّن أن الدايات يعمَلْنَ في المناطق المتميزة بالعائلات الممتدة والنظام القَبَلي والبُعْد الجغرافي وتسليم دفة الأمور لكبار السن. كما تبيَّن أنَّ دايةً واحدة فقط هي التي حظيَتْ بالتدريب في ما مضى، فضلاً عن عدم كفاية المفاهيم الخاصة بالرعاية السابقة واللاحقة للولادة، والنظافة والأدوات. على أن المجتمعات المحلية تثق بالدايات وتؤتيهن أجورهنّ بحسب عوامل تختصّ بكل ولادة على حدة. ويرى الباحثون أن الحاجة مُلحَّة إلى تدريب الدايات، وإلى ربطهن بالقطاع الصحي الرسمي، حتى يمكن إحداث تغيير ملموس، وإنقاص وفيات الأمَّهات والوِلْدان.

ABSTRACT Maternal mortality, infant mortality and neonatal mortality are high in Pakistan where maternal health services depend upon traditional birth attendants (TBAs). We examined the practices of TBAs in Dadu district in rural Sindh from September to November 1998 by interviewing and hosting focus group discussions with 17 TBAs. Health care personnel and other important members of the community were also interviewed. TBAs worked in areas demarcated by extended families, ethnicity or geographical access and a system of seniority was observed. Only one TBA was formally trained and antenatal and postnatal care concepts, cleanliness and equipment were inadequate. Communities trusted the TBAs and remunerated them according to factors particular to each birth. TBAs need training and to be linked with the formal health sector to effect change and to decrease maternal and neonatal mortality.

Soins aux mères et aux nouveau-nés : pratiques et croyances des accoucheuses traditionnelles à Sindh (Pakistan)

RÉSUMÉ La mortalité maternelle, infantile et néonatale est élevée au Pakistan où les services de santé maternelle dépendent des accoucheuses traditionnelles. Nous avons examiné les pratiques des accoucheuses traditionnelles dans le district de Dadu dans la province rurale de Sindh de septembre à novembre 1998 en organisant des entretiens et des groupes de discussion avec 17 accoucheuses traditionnelles. Le personnel de soins de santé et d'autres membres importants de la communauté ont également été interrogés. Les accoucheuses traditionnelles travaillaient dans des zones délimitées par les familles élargies, l'ethnicité ou l'accès géographique et un système d'ancienneté a été observé. Seule une accoucheuse traditionnelle avait été formée, et les notions de soins prénatals et postnatals ainsi que la propreté et le matériel étaient insuffisants. Les communautés avaient confiance dans les accoucheuses traditionnelles et les rémunéraient en fonction de facteurs spécifiques à chaque naissance. Les accoucheuses traditionnelles ont besoin d'une formation et doivent être reliées au secteur formel de la santé pour amener un changement et réduire la mortalité maternelle et néonatale.

[1]Division of Public Health Practice, [2]School of Nursing; Department of Community Health Sciences, The Aga Khan University, Karachi, Pakistan (Correspondence to Z. Fatmi: zafar.fatmi@aku.edu).
Received: 11/09/03; accepted: 19/11/03

Introduction

Traditional birth attendants (TBAs) assist in 60%–80% of all deliveries globally and even more in the rural areas of developing countries [*1*]. In South Asia, an estimated 80% of all deliveries were attended at home and mostly by TBAs [*2*]. The maternal mortality ratio, the infant mortality rate and the neonatal mortality rate are high in Pakistan [*3–5*]. Maternal health services in Pakistan also depend primarily on TBAs and approximately 85% of all births occur at home [*3–5*].

A review of TBA training in more than 70 countries in the past 3 decades revealed that, if unsupervised and unsupported by skilled personnel, TBAs were often helpless when delivery complications occurred [*6*]. At the same time, the effect of trained TBAs on reducing maternal and infant mortality was not significant when proper referral systems for essential obstetric and neonatal care were lacking [*7,8*]. Researchers have examined the knowledge and practices of untrained TBAs [*9*]. Other programmes have also tested various instructional methods and curricula for training TBAs in Nigeria and selected countries [*8,10*].

Characteristics and practices of TBAs in Pakistan during pregnancy and newborn care have been briefly studied [*11,12*]. These studies suggest that to reduce maternal mortality, the major challenge in Pakistan is to link TBAs with the formal health sector in the short-term [*13*]. Therefore, our study examined the milieu and practices of TBAs during delivery and after birth and identified reasons for establishing, as well as potential gaps in, a referral system of TBAs with the formal health care sector in rural Sindh, Pakistan.

Methods

Union Council Jhangara is an area of 40 km radius in the district Dadu, province of Sind, Pakistan, that is dependent on farming. Maternal mortality is the highest contributor to death among women and TBAs conduct most deliveries (Z. Fatmi, S. Luby, unpublished report, 1998). *Hakim*, or traditional healers, who emphasize the importance of temperament and body fluids, are the most common care providers. The *hakim* usually prescribe herbal medicines and strict diets and often recommend lifestyle changes. In most cases, treatment involves the application of balms or herbal medicines [*14*].

In addition to *hakim*, government rural health centres provided outpatient care for general medical problems. To use any of the maternal health services of the formal health care sector, women must go to the town of Sehwan to visit a government-run maternity centre. Only one road links the Union Council Jhangara with Sehwan and buses run during the daytime only.

Data were gathered from September to November 1998. We interviewed 17 TBAs, 6 community members, 2 *hakim* and 4 staff members of rural health centres. We then hosted focus group discussions with the TBAs [*15*]. After verbal consent, a female physician and our researchers conducted the interviews in the local language. A guideline was used for interviewing and probing and modifications or reiterations were done as the interviews progressed. We explored aspects of antenatal, natal and postnatal maternal care, newborn care, follow-up procedures for the mother and the newborn, cost of services and referral chains.

The goal of the focus group discussions was to elaborate upon any discrepancies that arose during individual interviews and also to identify factors responsible for non-referral. The purpose of rural health centre staff member, *hakim* and community member interviews was to clarify concerns raised during interviews with TBAs and to complement and triangulate the information.

Results

All TBAs were female, married or widowed, with no formal schooling and of low socioeconomic status. All had learned to deliver babies from senior TBAs. Their ages ranged from 30 to 80 years (mean age = 49 years). Of 17 TBAs, 9 were Sindhi (the major ethnic group in the area), 7 were Balochi (a minor ethnic group in Sindh that is in the majority in Balochistan) and 1 was Saraiki (a minor ethnic group also found in the Punjab, Balochistan and North-West Frontier provinces).

Each TBA attended to a defined area demarcated either by her extended family, ethnic group or subgroup, or geographical access. If more than one TBA worked in an area, they were either relatives or close friends.

Maternal care

There was no concept of antenatal care and pregnant women contact the TBAs only to confirm their pregnancies.

TBAs do not undertake any measures of cleanliness for mothers, newborns or themselves. They do not wash their hands or instruments or clean the perineal surface of the pregnant woman. When questioned, one TBA responded that no specific treatment was practised. Any available rags in the home are used during the delivery; however, a new blade is purchased for each birth to cut the umbilical cord.

TBAs use medicines prepared and provided by the *hakim*. *Butreeh*, literally "32" in the Sindhi language, is a mixture of 32 herbal medicines used in raw resin or syrup forms; it is used for all kinds of illnesses during pregnancy, whether to induce contractions, to relieve false labour pain or to treat antepartum or postpartum haemorrhage. The mixture is bought from the *pansari*, the grocers who sell herbal medicines under the supervision of the *hakim*, and is commonly known as the "drug of TBAs". *Butreeh* is applied in a crude ground form in the vagina and sometimes is also given orally in its syrup form. When asked how they applied *butreeh* during labour, TBAs indicated that when women had pain they put it in cotton, tied a thread around it and inserted it in the vagina. If the baby is due (full-term), the pain will increase; if not, the pain will subside on its own.

TBAs also said that they did not cut the cord until the child and placenta were delivered and that they cut the cord from the middle with the blade.

To remove the placenta, TBAs said they applied pressure on the stomach; if then the baby still didn't come out, they put their hand inside (the womb) and pulled the baby out. When asked how they apply pressure, they said, they applied pressure with their knee on the stomach

In response to questions of cleanliness, the majority of TBAs agreed that after handling the neonate they washed their hands, because as a human being it is dirty. They also tended to take bath and change clothes. No mention was made regarding hand-washing before the delivery.

No specific postpartum care was provided to the women. However, *rubri*, a locally made concentrated milk product, was

given for the first 3 days after delivery to the mothers because of its nutritional value.

Neonatal care

TBAs also gave advice and offered help during the early neonatal period. They said that most babies were usually all right; they only needed massages after birth and again on the sixth day. They believed that no other special care was required for the newborn.

Practices regarding management of neonatal asphyxia varied; however, in most cases the TBAs turned the child upside down and patted the baby's back with the hand in the interscapular region. There was some belief that women should not be given too much water to drink so that the child does not sink in it (feel suffocated). One TBA reported breathing into the child's mouth to provide air. There was also the belief that it was God's will that some babies survive and some die.

Almost all babies were breastfed and hence received colostrum. Further breastfeeding was recommended by the TBAs and some teach mothers how to breastfeed the baby. They believed that the baby should receive only breast milk and no other kind of milk, whether commercial preparation or other animal. Some recommend breastfeeding for more than 2 years.

In response to questions about which prelacteals were given before breastfeeding and why, the TBAs said they gave give bits of butter or honey. They also took *eilichi* and *misri* (a sugar), ground it and filtered it in cloth and spoon-fed it to the newborn. They believed it cleaned the intestine and made it soft so the baby could easily pass the meconium without any problem. For treatment purposes, if a child had a stomach-ache, they give them butter and mashed mint leaves.

TBAs apply oil and *surma*, a mixture of ground lead and other ingredients, to the eyelid and around eyes to make the eyes appear big, beautiful and bright. They also apply it to the umbilical cord of newborns. Celebrations of the birth are held on the newborn's sixth day of life. Special treatment is given to the newborn's bath and dress by the TBA on that day.

TBAs stay at the mother's home for a few days before and after the delivery to perform household chores such as cleaning, cooking and washing clothes, as well as taking care of the mother and the child.

Charge for services

Besides cash, TBAs also accepted cattle, foods like rice, wheat, sugar or ghee, clothes, utensils, and in some circumstances, gold. One TBA reported that parents give about 500–700 rupees along with clothes and food to eat (US$ 1 = 45 rupees). If a son is born, then as a gesture of happiness, parents tend to give more. One said that TBAs sometimes do not take money at all and that whatever amount the villagers gave them, they accepted humbly.

Links to the formal health care sector

TBAs were able to identify some complicated deliveries such as breech, obstructed labour and haemorrhage. To manage complicated cases TBAs consult with senior TBAs or take the mother to the hospital.

When in the field, the immunization officer of the rural health centre collects information from TBAs regarding the number of deliveries expected in each month. This information is passed to the rural health centre in charge of the area and is in turn submitted to the district health officer of the area on a regular basis. During an interview, the director of a rural

health centre showed us supporting paperwork and told us the number of pregnancies expected in two villages. In an effort to encourage TBAs to refer complicated deliveries to the formal health care sector providers, they receive money for referring the cases to them.

Community trust of TBAs

By living and serving in a specific community throughout their entire lives, TBAs have gained the trust and faith of the locals. People listen to their advice and act accordingly. This was evident from their statements. One health care provider who lived and worked in the area said that women were not usually taken to Sehwan or to the doctor as TBAs were relied upon to make the deliveries. They were generally only taken to the doctor when the TBA advised this. Another health worker indicated that TBAs do not leave the women and go with them when they are taken to a female doctor.

Discussion

The sociodemographic profile of TBAs in our study was similar to studies of TBAs in other developing countries [*16*]. In Sindh, all TBAs were female unlike in some countries where male TBAs also deliver babies [*9*]. Also in Sindh, most TBAs were uneducated and had some erroneous beliefs about pregnancy, delivery and newborn care.

As we expected, most TBAs were not formally trained (16 of the 17 TBAs). Through the Family Health Project the government has trained TBAs in only 10 of the 21 districts in Sindh, and the study area, the Dadu district, was not one of these. Our TBAs learned to deliver babies either through their own experiences of childbirth or from close relatives and senior TBAs. In any event, there is a need to increase the coverage of training of TBA.

TBAs had information regarding number of pregnant women and deliveries in their areas and worked together as a network in these rural areas. One characteristic of this network is that TBAs tend to attend deliveries in populations defined by ethnicity, extended families or geography. This tradition is important and should be considered when the government plans training programme covering the different areas. There also seems to be a system of seniority with one TBA who is consulted in times of complications and junior TBAs who handle normal deliveries. There also always seem to be consultations with senior TBAs before families take women to hospital for care. Therefore, identifying senior TBAs, giving them the responsibility for early referral of complications and linking them to the nearest maternity centre is important. Operational research should investigate options to accomplish this.

TBAs primarily provide services during delivery and during the first week of the child's life. Practices and beliefs surrounding maternal and newborn care are inadequate. Practices are often based on superstitious beliefs and do not conform with recognized medical practice. There is no concept of antenatal care in the communities and TBAs offer no services during this period, except to confirm the pregnancy, often unreliably. TBAs count the gestational period in lunar months (Muslim calendar months); a full-term pregnancy comprises 10 lunar months. This suggests that TBA training programmes should refer to this system of counting for gestational age.

The equipment used by TBAs during labour is meagre and unsanitary. A common herbal medicine used by TBAs is *butreeh*;

however, the effects of this drug are unknown and need further investigation. Other herbal preparations are also used. The use of *surma*, the ground lead mixture, on the umbilical cord and the baby's eyes is practised. There is no awareness that this could be harmful for the child. Indeed it is believed that the use of *surma* encourages the growth of eyebrows and increases the child's beauty. Honey and butter are also believed to give strength to the child and are frequently fed to newborns. A strongly held belief is that this facilitates the easy passing of meconium.

TBAs do not understand the complications of pregnancy very well if at all. They must be trained to identify complications early so that referral can be made at the appropriate time.

One characteristic of the services of TBAs is flexibility in service charges as they accepte any amount of money present in the household at the time of birth. This might also be an important factor that leads women to use their services. TBAs are also willing to accept payment in instalments which is easier for poor households to pay compared with the fixed and one-time charges of the formal health-care sector.

An evaluation of the TBA programme in Pakistan indicated that it was unable to develop an effective link between health facilities and the TBAs [*17*]. Past evaluations of TBA training in Pakistan identified the need for effective referrals, but no policy has yet been formulated. For instance, the Pakistan government started a training programme of TBAs in 1950 and abandoned it in 1970 because it did not result in a decrease in maternal mortality. In Sindh province, the Sindh Dai Training Project (SDTP) was begun in 1982 and emphasized "safe and clean deliveries". An SDTP evaluation showed that the main problem of the programme was that it did not develop an effective link between the health facilities and the TBAs [*18*].

An appropriate referral system requires a referral protocol specifying when and where to refer. It also requires coordination, communication, confidence and understanding between the TBAs and their supervisors, who are often midwives or Lady Health Visitors, the basic health care workers who provide outreach services in areas of Pakistan. Furthermore, requires the availability of health centres and hospitals with surgical facilities.

The TBAs have informal links to the formal health personnel of the area. When TBAs refer a complicated pregnancy to the formal health personnel, they receive monetary incentives. The TBA accompanies the woman from home and stays with her as long as she remains in the health facility. Studies in other countries also suggest that monetary incentives for TBAs could improve outreach services and lead to compliance by TBAs for referral of cases [*19*]. In fact, in 1995 it was recommended that monetary compensation was needed to make TBAs part of the mainstream health system in Pakistan [*20*]. These monetary compensations could be formal fees-for-referral.

Conclusions

The World Health Organization (WHO) recognizes the need at the time of birth for skilled attendants such as midwives, nurses with midwifery education or physicians with appropriate training and experience; however, TBAs are not skilled birth attendants [*21*]. Studies have shown that TBAs cannot prevent or treat most life-threatening obstetric complications, and therefore, some critics charge that training them is a waste of resources [*22*]. However, TBAs could be very effective if a formal link

could be made between them and the well-equipped formal health sector [*23,24*]. Studies have also found that TBAs can be trained to identify delivery complications [*25*]. Most infant mortality is due to neonatal deaths, and among neonatal deaths, asphyxia is the major cause [*26*]. Timely intervention by a skilled attendant is vital to decrease neonatal deaths as well [*27*]. TBAs should be better trained to manage neonates in this regard.

Our study used a triangulation technique to complement and validate oral reports from different sources, i.e. besides interviewing TBAs, we interviewed health care personnel from the government health facilities, *hakim* and other health workers and community members. Furthermore, we have been working in the area for the establishment of a health care system for a couple of years prior to this study and our accumulated observations are also reflected in the results. Our paper provides qualitative research of the working scenario of TBAs in an area of Sindh.

Operational research is needed to strengthen links between TBAs and formal health care providers. In the immediate future, we need to train and link TBAs to the formal health sector to decrease maternal and neonatal mortality in Sindh and other similar areas. In the long run, we need to train midwives who will also need strong links to the communities and to the formal health sector to have any effect.

Acknowledgements

We have worked to establish a primary health care system in Union Council Jhangara for more than 2 years prior to this study. We are indebted to primary health care workers Dr Nusrat Lakhiar, Ms Hamidah Bajar, Ms Shireen Channa, Ms Mujahida Jabbar and Mr Mehtab Hussain Jokhio for their contributions to this study. We also thank the Jhangara community health workers who helped lead the way in these remote villages.

References

1. Alisjahbana A. How to improve training of the traditional birth attendants. In: Kessel E, Wiknjosastro GH, Alisjahbana A, eds. ***Maternal and infant mortality – closing the gap between prenatal health services. Proceedings: Fourth International Congress for Maternal and Neonatal Health, Bandung, Indonesia***. North Carolina, Chappel Hill Southern Printing, 1991:75–82.

2. Mathur HN, Sharma PN, Tain TP. Traditional ways of maternal and child health care in Rajhastan, India. In: Aviado DM, Del Mundo F, Cuyegkeng EI, eds. ***Primary maternal and neonatal health: A global concern***. New York, Plenun, 1983: 473–81.

3. Fikree FF et al. Maternal mortality in different Pakistani sites: ratios, clinical causes and determinants. ***Acta obstetricia and gynecologica scandinavica***, 1997, 76(7):637–45.

4. United Nations Children's Fund. ***The State of the World's Children, 2000***. New York, Oxford University Press, 2000.

5. ***Pakistan Demographic and Health Survey, 1990–1991***. Islamabad, Pakistan and Columbia, Maryland, National Institute of Population Studies and IRD/ Macro International, 1992.

6. Bergstrom S, Goodburn E. The role of traditional birth attendants in the reduction of maternal mortality. In: De Brouwere V,

Van Lerberghe W, eds. ***Safe motherhood strategies: a review of the evidence***. Antwerp, Belgium, ITG Press, 2001:77–96.

7. Sibley L, Sipe TA, Koblinsky M. Does traditional birth attendant training improve referral of women with obstetric complications: a review of the evidence. ***Social science and medicine***, 2004, 59(8): 1757–68.
8. Itina SM. Characteristics of traditional birth attendants and their beliefs and practices in the Offot Clan, Nigeria. ***Bulletin of the World Health Organization***, 1997, 75(6):563–7.
9. Matthews MK et al. Training traditional birth attendants in Nigeria—the pictorial method. ***World health forum***, 1995, 16(4): 409–13.
10. Sibley L, Armbruster D. Obstetric first aid in the community—partners in safe motherhood. A strategy for reducing maternal mortality. ***Journal of nurse midwifery***, 1997, 42(2):117–21.
11. Jafarey SN. Characteristics and practices of traditional birth attendants (Dais) a preliminary survey. ***Journal of the Pakistan Medical Association***, 1981, 31(12): 288–91.
12. Islam A, Malik FA. Role of traditional birth attendants in improving reproductive health: lessons from the family health project, Sindh. ***Journal of the Pakistan Medical Association***, 2001, 51(6):218–22.
13. Kamal IT. The traditional birth attendant: a reality and a challenge. ***International journal of gynaecology and obstetrics***, 1998, 63(suppl. 1):S43–52.
14. Zaman R. Hakims and Vaids the most popular doctors in Bangladesh, but they know little about AIDS. ***Aids analysis Asia***, 1996, 2(1):12–3.
15. Verderese M, Turball L. ***The traditional birth attendant: A guide to her training and utilization***. Geneva, World Health Organization, 1975 (WHO offset publication, No. 18).
16. Egullion C. Training traditional midwives in Manicaland, Zimbabwe. ***International journal of gynaecology and obstetrics***, 1985, 23(4):287–90.
17. Kamal IT. Impact of training on the practices of traditional birth attendants (TBAs). ***Journal of the Pakistan Medical Association***, 2001, 51(7):239–40.
18. Tinker AG. ***Improving women's health in Pakistan***. Washington DC, The World Bank, Human Development Network, health, nutrition and population series, 1998.
19. ***Utilization of trained traditional birth attendants***. Bangladesh, International Centre for Diarrhoeal Disease Research, 1994, 13(131):5–6.
20. Greene P. Discussion: TBA training programme. ***International journal of gynaecology and obstetrics***, 1995, 50(suppl. 2):141–3.
21. ***Revised 1990 estimates of maternal mortality: a new approach by WHO and UNICEF***. Geneva, World Health Organization, 1990 (Document WHO/ FRH/ MSM/96.11; UNICEF/PLN/96.1).
22. Rosario S. Traditional birth attendants in Bangladeshi villages: Cultural and sociological factors. ***International journal of gynaecology and obstetrics***, 1995, 50(suppl. 2):145–52.
23. Leedam E. Traditional birth attendants. ***International journal of gynaecology and obstetrics***, 1985, 23(4):249–74.
24. Marshall MA, Buffington ST. ***Life saving skills manual for midwives***, 3rd ed. Washington DC, American College of Nurse Midwives, 1998.

25. Minden M, Levitt MJ. The right to know: women and their traditional birth attendants. In: Murray SF, eds. ***Midwives and safer motherhood***. London, Mosby, 1996.

26. Bang AT et al. Neonatal and infant mortality in the ten years (1993 to 2003) of the gadchiroli field trial: effect of home-based neonatal care. ***Journal of perinatology***, 2005, 25(suppl. 1):S92–107.

27. Kumar R et al. Reproductive health behaviour of rural women. ***Journal of the Indian Medical Association***, 1995, 93(4): 129–31.

Health service planning and policy-making: a toolkit for nurses and midwives

The purpose of this toolkit, consisting of 7 booklets, is to provide nurses and midwives with tools to effectively participate in and influence health care planning and policy-making. The tool-kit has been designed for use by any nurse or midwife who has an interest in advocating for change in their work environment. This includes chief nurses and midwives who are in a position to impact policy decision-making at a country level, as well as clinical nurses and midwives advocating for community development or other programmes at the operational level. Each module in the tool-kit has objectives and reference lists and provides definitions, examples, exercises and accompanying guiding exercise sheets. Additional supportive materials are provided in Information and Skills Sheets. Further information on this publication can be obtained from WHO Press:http://www.who.int/bookorders/anglais/home1.jsp?sesslan=1