Brief Report

Impact of a Training Package for Community Birth Attendants in Madagascar

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Summary

This brief report assesses the impact of community birth attendant training and explores barriers to safe delivery in rural Madagascar. We assessed the knowledge of 25 community birth attendants using interviewer-administered questionnaires and explored attitudes to delivery in 4 focus groups of 10 women of reproductive age and 1 focus group of 10 birth attendants. We found a mismatch between hygiene knowledge and reported practice. Clinical experience appears to reinforce training to achieve longer lasting change in practitioner knowledge (e.g. of labour complications). Focus groups helped to identify practical barriers to clean (delivery kits) and safe delivery (cost) despite this knowledge. We proposed that a facilitated women's group programme may complement such training.

Key words: community-based observational study, traditional birth attendant, training, safe delivery, institutional delivery.

Background

Madagascar's current maternal mortality rate is estimated at 510 per 100 000 live births with a 32% institutional delivery rate and 51% skilled trained birth attendant rate [1]. The Madagascar Action Plan 2007–2012 aims to halve maternal and infant mortality by 2012 [2]. This will require significant strengthening of the Malagasy primary health care services based on 3000 *Centre Santé de Bases* (CSBs) [3]. In May 2006, a grassroots NGO (ONG Azafady) held a 4-day traditional birthing attendant (TBA) training programme at the CSB in the rural commune of Mahatalaky for 43 untrained TBAs [4]. The training was based on the 'four pillars' of safe motherhood. This brief report describes a student-led study to assess the impact of this training and better understand the barriers to safe motherhood in this low-income setting.

Method

Our study aimed to assess the impact of the training on attendant knowledge, attitudes and CSB delivery rates. A survey of both TBAs and mothers was conducted in 8 of the original 12 villages that had been selected for TBA training in the rural commune of Mahatalaky.

In all, 25 of the original 43 TBAs were interviewed using a semi-structured questionnaire. The majority (72%) were aged between 45 and 64 and were illiterate. Five mothers of children under 2 years in each of the eight villages were also interviewed. Four focus groups of mothers and one focus group of 10 (randomly selected) TBA trainees were held. Both community consent and individual informed consent was sought from village elders and respondents, respectively.

We analysed the quantitative data using SPSS and following translation, we evaluated the focus groups through application of grounded theory. We collected institutional delivery numbers from January 2006 to September 2008 at the CSB in Mahatalaky and analysed this data using Poisson regression.

Results

Table 1 presents TBA knowledge and practice of clean delivery. A total of 48% of trainees either used razor blades or household scissors to cut the cord. In all, 74% of trainees sterilized the equipment appropriately for cord cutting.

Six main categories were derived from the focus group analysis. Two categories explored the barriers encountered by TBAs and mothers in seeking antenatal and delivery care; three related to TBA

doi:10.1093/tropej/fmq036 Advance Access published on 4 June 2010

TABLE 1
TBA knowledge and practice of clean delivery (n = 25)

	Number of Azafady-trained TBAs (%)
Three cleans principle	
Handwashing with soap	22 (88)
Clean surface	21 (84)
Clean cord care	19 (76)
Equipment used to cut umbilical cord	
Azafady scissors	13 (52)
Blade	10 (40)
Household scissors	2 (8)
Sterilization technique	
Boiling water only	14 (56)
Alcohol only	1 (4)
Boiling water and alcohol	4 (16)
None	6 (24)
Surface for delivery	
Clean mat	23 (92)
Everyday mat	2 (8)

TABLE 2
TBA knowledge of danger signs during pregnancy and labour

	Number of Azafady-trained TBAs (%)
Danger signs during pregnancy	
Vaginal bleeding	8 (32)
Convulsions	0 (0)
Severe headache	3 (12)
Fever	8 (32)
Contractions <37 weeks	11 (44)
Water breaking <37 weeks	4 (16)
Swelling of feet/legs	5 (20)
Swelling of hands/face	1 (4)
Abdominal pain	3 (12)
Other (dizziness, pallor)	3 (12)
Danger signs during labour	
Significant bleeding	6 (24)
Convulsions	1 (4)
Prolonged labour >12 h	20 (80)
Prolapsed cord	5 (20)
Non-cephalic presenting part	18 (72)
Shoulder dystocia	1 (4)
Others (retention of placenta, dizziness)	4 (16)

experience of training, attitudes to institutional referral and future needs and one related to mother and TBA attitudes towards choice of birthing attendant. An emergent theme highlighted the increased awareness of the importance of cleanliness in intrapartum care (by both the TBAs and women) following the training. Many trainees explained that they 'used to use dirty ripped mats for deliveries and they now use clean new mats and wash their hands before delivery'. Those who owned clean home delivery kits (CHDKs) were more likely to apply good hygiene practices than those using razor blades from packets which were often believed, mistakenly, to be sterile. Despite improved hygiene knowledge, a lack of CHDKs limited the implementation of good hygiene at delivery.

Table 2 presents TBA knowledge of danger signs. Eighty per cent of the trainees were able to describe 1–3 danger signs during pregnancy. The majority of trainees (14) knew only one potential complication during labour, namely prolonged labour >12 h. When asked about their practice, the complications they could describe were typically those they had been faced with, and had to manage in clinical practice.

In all, 12 (48%) trainees had referred a pregnant woman to the CSB for delivery and 8 (32%) had referred a labouring woman to the CSB due to a complication. Under the category of TBA attitudes towards importance of referral, two themes emerged. One theme related to the knowledge of TBAs who understood the concept of mobilizing women to avoid potential complications. The other theme highlighted attitudinal barriers acting to prevent TBA referrals to the CSB. Referral not only causes loss of income to TBAs but also due to a strong sense of locality, it is claimed to cause offense or trigger conflict with their client.

Among the 40 mothers interviewed, 21 last delivered with an Azafady-trained TBA, the remaining 19 delivered with untrained birthing attendants. The principal emergent barrier to CSB delivery care for mothers was cost. As local custom dictates the need for all the family to be present at a birth, women not only need to pay the direct cost of the delivery at the CSB (2–5 times more than a village delivery), but they must consider the cost of transporting and feeding their whole family, while losing time in the fields.

A general theme which emerged from the focus groups for both mothers and TBAs throughout the district was their sense of intimidation by the perceived authoritarian attitudes of healthcare professionals. This inferiority complex, compounded by the traditional value of giving birth at home and the cost involved in reaching the CSB, all act as barriers in seeking institutional delivery.

Figure 1 presents CSB delivery numbers over a 33-month period, between January 2006 and September 2008. In the absence of any seasonality, a 0.014 (95% CI 0.007–0.022, $p < 0.001$) increase in the number of institutionalized deliveries was seen per month.

This increase in institutionalized deliveries in the Mahatalaky commune is noteworthy but is likely to

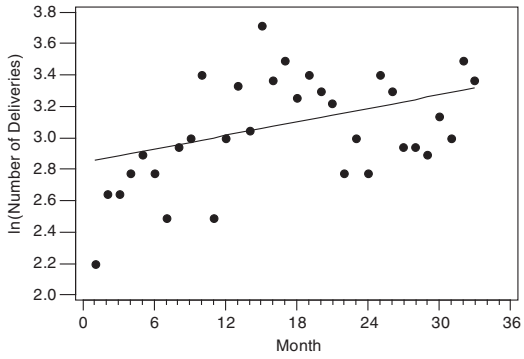

FIG. 1. Trend in numbers of CSB deliveries between January 2006 and September 2008. Poisson model fitted to relate the natural log of the number of CSB deliveries against time.

be multifactorial—due both to the impact of the training and awareness raising programme of ONG Azafady and an underlying secular trend.

Discussion

The evidence for a beneficial impact of the TBA training package on maternal and infant health is not compelling. Apparent improved TBA knowledge arising from the training may not have translated to health gains due to important barriers we identified—both cultural and financial. Thaddeus and Maine's three delays model, groups the factors which may delay a woman in labour receiving timely intervention [5]. Delays associated with awareness of the need for care can be reduced by training programmes such as that described here. But structural barriers resulting in delays reaching an adequately equipped health centre may be compounded by villagers' fear of the anticipated cost of the available services [6, 7].

The impact of TBA training that focusses on the supply side of labour care services, is inherently problematic in the absence of close links with institutional centres where life-threatening obstetric emergencies can be managed [8]. However, demand side interventions focussing on the empowerment of women to enable more informed care seeking has been shown to be effective. We therefore hope to encourage the formation of women's groups who have been shown in South Asia to be a powerful low-cost mechanism to overcome barriers to better neonatal and maternal health [9]. As a locally embedded NGO, ONG Azafady are well placed to facilitate such groups as well as support the practical issues arising from this study (e.g. distribution of CHDKs to help TBAs and mothers implement their improved hygiene knowledge).

Within the limitations of a brief, student-led, low-cost, uncontrolled observational study, we have identified some of the barriers to improving maternal and infant mortality in a deprived area of Madagascar. With 10 years of working experience in the Mahatalaky commune, ONG Azafady are well equipped to take these suggestions forward into their next community development phase.

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