Home births in the Mosvold health ward of KwaZulu

E. BUCHMANN, M. KRITZINGER, R. TEMBE, D. BERRY

Summary

A community survey was carried out to determine the frequency and the methods of home deliveries in the Mosvold health ward in northern KwaZulu. Of a sample of 210 mothers interviewed 46% had given birth at home, and of these 48% were delivered by traditional birth attendants; 84% gave birth in a kneeling or sitting position. In 32% of cases handling of the umbilical stump was unhygienic and potentially tetanogenic. Asked their reason for giving birth at home, most mothers gave transport problems and sudden or unexpected onset of labour as their main reason, although a majority of grand multiparas expressed a preference for home delivery.

Various recommendations are made on the basis of these findings.

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Mosvold Hospital is situated in the Ingwavuma district in far-northern KwaZulu and serves a population of approximately 60 000 rural blacks living in scattered traditional homestead settlements. Tribal customs still apply in the region, including those of home childbirth. Through a network of 4 fixed and 8 mobile clinics, the hospital provides regular antenatal services throughout the health ward. During 1987 there were 1 367 births at the hospital and clinics. Five infants with neonatal tetanus were admitted during the year; all had been born at home.

This study was undertaken to gain more knowledge of the frequency and practice of home births in the Mosvold health ward, particularly relating to the risk of neonatal tetanus, and the reasons for home delivery.

Subjects and methods

The study population was defined as all women living in the health ward at the time of the study who had given birth during the previous 24 months. The World Health Organisation's Extended Programme on Immunisation cluster sample method was adapted for this study,[1] so that 210 women, divided into 30 clusters of 7, would be questioned about their recent deliveries. The clusters were selected as numbered squares from a grid-map of the area, and the starting point for each cluster was defined as the nearest accessible homestead to the centre of the square. For each cluster, the interviewer continued from there to the next nearest neighbour and so on until 7 members of the study population had been found.

Community Health Nursing Services, Mosvold Hospital, Ingwavuma, KwaZulu
E. BUCHMANN, M.B. B.CH.
M. KRITZINGER, *4th-year medical student, Innsbruck, Austria*
R. TEMBE, E.N.
D. BERRY, M.B. B.CH.

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Interviews were conducted in Zulu, using open-ended questions from a prepared questionnaire sheet. Simple details were asked of the mother: her parity, the place of delivery and whether she had attended an antenatal clinic. Mothers who had given birth at home were asked about the delivery position, the birth attendant, umbilical cord management and the reason for giving birth at home. Statistical analysis was done using the chi-square test and, where necessary, Fisher's exact test. The level of statistical significance was taken as $P < 0,05$.

Results

Two hundred and ten mothers, who had delivered a total of 212 babies, were interviewed. Their mean parity was 3,5. Numbers of deliveries at home and in clinics or the hospital are shown in Table I; 46% took place at home, and a significant difference in home delivery rates was found between primiparas and multiparas ($P < 0,01$; χ^2 test). Ninety-three per cent of all the mothers had attended an antenatal clinic at least once during the pregnancy.

TABLE I. PLACE OF BIRTH AND PARITY

Parity	No. of births: Home	Hospital/clinic	% born at home
1	12	35	26
2-4	55	48	53
⩾ 5	31	31	50
Total	98	114	46

Since the number of home births (98) is close to 100, percentages are not shown in Tables II - V.

Birth attendant. The findings are shown in Table II. Of the 19 mothers who gave birth alone, a significantly high proportion (63%) were grand multiparas (parity ⩾ 5) with a history of previous uncomplicated home deliveries ($P < 0,001$; χ^2 test). No primipara delivered alone.

TABLE II. BIRTH ATTENDANT

	No. of births
TBA	47
Delivered alone	19
Mother	17
Mother-in-law	10
Others	5
Total	98

Delivery position. The findings are shown in Table III. Eighty-two of the mothers gave birth in upright positions. None gave birth while squatting on her haunches. Upright positions were employed by 91% of traditional birth attendants

TABLE III. DELIVERY POSITION

	No. of births
Kneeling	46
Sitting on floor with legs apart	36
Supine	16
Total	98

(TBAs), compared with 67% of other attendants. This difference was statistically significant ($P < 0{,}01$; Fisher's exact test).

Management of the umbilical cord stump. The methods used for cutting the cord, and for tying and dressing the stump, are shown in Table IV. No significant differences were found between the TBAs and the other birth attendants. Potentially contaminated material or instruments were used at a total of 32 births.

TABLE IV. UMBILICAL CORD MANAGEMENT

	No. of births
Cut	
New razor blade	81
Reed	9
Old razor blade	4
Other	4
Tied	
Commercial material	64
Bark-fibre or grass	23
Not tied	8
Other	3
Dressed	
Nothing	63
Commercial antiseptics	18
Petroleum jelly	10
Carbon from cooking-pot	4
Red clay	3

Reason for home delivery. Mothers were asked their main reason for having a home delivery, and their answers were classified into several groups and then placed into either intended or unintended home delivery groups, as shown in Table V. Significantly more grand multiparas had intended to deliver at home ($P < 0{,}01$; χ^2 test).

TABLE V. REASONS FOR HOME DELIVERY

	No. of mothers
Intended	32*
Expected no problem	28
Afraid of hospital	2
Other	2
Unintended	65†
Sudden labour/no transport	39
Premature birth	11
No money	10
Children alone at home	3
Other	2

* Parity: 1 — 2 mothers; 2-4 — 13 mothers; ⩾ 5 — 17 mothers (33 babies were born to the mothers in this group — there was one set of twins).
† Parity: 1 — 10 mothers; 2-4 — 41 mothers; ⩾ 5 — 14 mothers.

Discussion

Five major points arose from the results.

Unintended home deliveries. Most home deliveries were unintended, and this is in part a reflection on the poor transport network in the region. Buses only run once daily to the hospital from most localities, while taxis, when available, can prove very expensive, particularly at night. The hospital and clinics provide accommodation for women from their 38th week of pregnancy. These waiting areas remain the best means of ensuring a safe supervised delivery. However, these facilities need upgrading and expansion to accommodate comfortably up to 10 mothers at each of the clinics and 70 mothers at the hospital.

High-risk obstetric status. At Mosvold Hospital, primigravidas and grand multiparas are assigned high-risk obstetric status, and all are advised by the antenatal clinic staff to deliver in hospital. In this study, 26% of the former and 50% of the latter delivered at home. While this had been unintentional on the part of the great majority of the primiparas, most of the grand multiparas had been quite confident of their ability to deliver safely at home, often to the extent of giving birth alone. The antenatal clinic staff need to emphasise the high risks that accompany grand multiparous deliveries.[2] Maternal mortality due to haemorrhage is strongly associated with high parity,[3] and, with no resuscitation measures available, may be the tragic consequence of grand multiparous home deliveries. More attention also needs to be given to the prevention of grand multiparity; these patients can be counselled at the antenatal clinic on the possibilities and benefits of postpartum sterilisation, which has proved to be an economical, acceptable and convenient method of family planning.[4]

The TBA. The role of traditional midwives in KwaZulu has been well described by Larsen *et al.*[5,6] who suggested that they could be a valuable asset to rural obstetric services. In the Mosvold study TBAs were used in almost half of the home deliveries, and therefore in almost a quarter of all deliveries in the health ward. Hospital obstetric staff need to initiate discussions with these important members of the obstetric team. Such contact could progress to regular meetings and workshops which could be of great benefit to both hospital midwives and TBAs and improve total obstetric care in the health ward.

Delivery positions. Upright delivery positions were preferred by the vast majority of women who gave birth at home. This differs from findings among rural and urban Pedi women in the Transvaal, who expressed unwillingness to use these positions.[7] Mosvold Hospital doctors and midwives are unfamiliar with these obstetrically acceptable positions,[8] but there is no reason why low-risk hospital and clinic deliveries should not be carried out in sitting or kneeling positions if this is requested by the mother.

Umbilical cord management. Umbilical cord management is still potentially tetanogenic in many home deliveries. Neonatal tetanus is closely associated with unhygienic handling of the umbilical cord after birth, particularly when contaminated materials are used to cut, tie and dress the stump.[9,10] Routine antenatal antitetanus immunisation, together with high antenatal clinic attendance rates, have made neonatal tetanus an uncommon disease at Mosvold Hospital. To eliminate the disease, strict cord hygiene needs to be observed at all deliveries in the health ward. Antenatal clinic attenders should be advised that, in the event of a home delivery, a new razor blade and new or boiled string should be used to cut and tie the cord. Contact with soil or faeces must be avoided.

Home deliveries will continue to take place in the Mosvold region for many years to come, and they need to be recognised as part of the total obstetric responsibility of the hospital. The future role of TBAs needs to be examined and further research is needed to determine perinatal morbidity and mortality of home births.

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