

Outcome of planned home births in an inner city practice

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Abstract

Objective—To assess the outcome of pregnancy for women booking for home births in an inner London practice between 1977 and 1989.

Design—Retrospective review of practice obstetric records.

Setting—A general practice in London.

Subjects—285 women registered with the practice or referred by neighbouring general practitioners or local community midwives.

Main outcome measures—Place of birth and number of cases transferred to specialist care before, during, and after labour.

Results—Of 285 women who booked for home births, eight left the practice area before the onset of labour, giving a study population of 277 women. Six had spontaneous abortions, 26 were transferred to specialist care during pregnancy, another 26 were transferred during labour, and four were transferred in the postpartum period. 215 women (77.6%, 95% confidence interval 72.7 to 82.5) had normal births at home without needing specialist help. Transfer to specialist care during pregnancy was not significantly related to parity, but nulliparous women were significantly more likely to require transfer during labour ($p=0.00002$). Postnatal complications requiring specialist attention were uncommon among mothers delivered at home (four cases) and rare among their babies (three cases).

Conclusions—Birth at home is practical and safe for a self selected population of multiparous women, but nulliparous women are more likely to require transfer to hospital during labour because of delay in labour. Close cooperation between the general practitioner and both community midwives and hospital obstetricians is important in minimising the risks of trial of labour at home.

Introduction

In Britain each day about 20 women deliver a baby at home; half of these home deliveries are unintentional.¹ Most general practitioners do not participate in intrapartum care, and the majority of those who do work in general practitioner maternity units integrated with specialist units.² Birth in hospital has been promoted as the ideal for all women on grounds of safety,^{3,5} though the scientific rationale for this judgment has been challenged.⁶ Campbell *et al*, in a review of perinatal mortality data by intended place of birth, showed the rate to be very low for planned home births.⁷ Obstetricians have tended to argue that a normal labour is a retrospective diagnosis, and this view seems to be shared by most new entrants to general practice.

Our practice did not develop an interest in home births when they became fashionable⁸ but continued in a more selective way the forms of maternity care that had been normal in the 1950s and 1960s in a deprived area of north west London. The development of

consultant maternity units and the failure of associated general practitioner units to thrive left domiciliary birth as the only alternative to hospital delivery. Close proximity to a teaching hospital and longstanding working relationships between the original general practitioner obstetrician (OF) and local consultants and midwives allowed two newer general practitioners (SI and CF) to participate in domiciliary obstetrics from 1979 and 1984 respectively. The practice list size of about 12 000 patients served by six principals, a trainee, three nurses, and two counsellors, together with a low consultation rate (2.2/person/year) permitted flexible working arrangements and five to six hours of antenatal clinic time each week, conducted jointly with community midwives.

We describe our experience of providing intrapartum care for domiciliary births over a 13 year period.

Patients and methods

Women were booked for home birth if they were registered with the practice, were referred by neighbouring general practitioners or local community midwives, or (rarely) after self referral, provided there were no contraindications like previous caesarean section, previous severe postpartum haemorrhage, failure to progress in a previous labour owing to suspected cephalopelvic disproportion, or coexistent malignant disease. A previous (non-rotational) forceps delivery was not considered a contraindication, particularly if it followed induction or acceleration of labour or epidural anaesthesia. Nulliparous women were encouraged not to test themselves in a home birth, but none were refused booking on the grounds of nulliparity alone if they insisted on their right to a birth at home.

A community or independent midwife acted as the key professional worker for all the women having home births, sharing antenatal care with the general practitioners and taking the primary management role in labour. The general practitioners attended each birth in its early stages and returned at the onset of the second stage, or earlier if asked to do so by the midwife.

All women booked for home birth were encouraged to meet a consultant obstetrician at a local hospital and to have a baseline ultrasound scan; not all of them agreed to this. Booking investigations were done as in hospital antenatal clinics and regular antenatal assessments arranged, with care shared between midwives and general practitioners. At all times at least one, and often two, of the three general practitioner obstetricians was available on call and could be contacted by dedicated bleeps. A single maternity bag containing equipment for intravenous infusion as well as intubation of the neonate was kept at the surgery.⁹

Information was recorded for all women who booked with the practice for home confinements in an obstetric register separate from the women's personal

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medical records. This information consisted of date of booking; age at booking; parity; gravidity; place of birth; reason for any transfer to specialist care before, during, or after labour; mode of delivery (normal vaginal, instrumental, or caesarean); and important neonatal outcomes (small for dates, serious congenital abnormality). These data were reviewed for women who delivered in the years 1977 to 1989 and were coded for entry on and analysis with Minitab. In addition, data on the socioeconomic class of the women booking for home confinement were recorded from 1987 onwards by using the registrar general's classification.

Results

A total of 285 women booked for home birth during the 13 years from 1977 to 1989. The numbers booking each year ranged from nine to 35, with a mean of 22. The women's ages ranged from 19 to 43 (mean 30). The majority were multiparous, with 120 (42%) having had one live birth, 57 (20%) two live births, 15 (5%) three, and five (2%) four live births. Eighty eight women (31%) were nulliparous. Of the 54 women booking for home birth from 1987 to 1989, 31 were from professional, managerial, or clerical backgrounds and 23 were from skilled, semiskilled, or unskilled manual backgrounds. Eight of these women moved away from the area and the outcomes of their pregnancies are unknown. The figure shows the outcomes for the remaining 277 women.

All spontaneous abortions occurred during or at the end of the first trimester; three were in nulliparous women and three in parous women.

Table I gives the reasons for transfer of 26 women to hospital during pregnancy. There was no significant difference between the proportions of nulliparous and parous women transferred to specialist care in pregnancy; seven (8.6%) nulliparous women were transferred (95% confidence interval 2.2 to 13.8) compared with 19 (9.8%) of parous women (5.6 to 14%).

Nulliparous women were significantly more likely to need transfer to hospital during labour than were parous women ($p=0.00002$) (table II). Of the 26 women transferred to hospital care during labour, 24 were nulliparous, of whom the majority (20) were

transferred because of delay in the first or second stages of labour, with only four having signs of fetal distress. Both of the parous women transferred during labour had second stage delay.

Four of the women transferred to hospital care during labour required blood transfusions after delivery. Of the babies born to women transferred in labour, six required oxygen by face mask and two required intubation and were transferred to neonatal units (one after emergency caesarean section following meconium staining of liquor and one after an antepartum haemorrhage). All eight were well on discharge and the duration of stays in the neonatal unit were one and four days respectively.

Four women were transferred to hospital after delivery, three of them needing the help of a flying squad. Two were parous women with postpartum haemorrhages, one was a nulliparous woman with a retained placenta, and one was a parous woman requiring suturing of an extensive tear.

In all, 219 women (79%) had home births, of whom one had an assisted delivery with Wrigley's lift out forceps and one had an unplanned breech delivery after failure to diagnose presentation until the second stage of labour. Two babies born at home weighed less than 2500 g and required special paediatric care, one baby had a diaphragmatic hernia and was operated on in a nearby paediatric surgery unit four hours after birth, and another was referred to hospital paediatricians because of bilateral talipes. No babies required intubation, but four were given oxygen by face mask and one was seen regularly in the neonatal period by the paediatric home care team of the local hospital because it was small for dates.

The only perinatal death occurred at 39 weeks' gestation, without warning and before the onset of labour, after an uneventful pregnancy. Intrauterine death was diagnosed at home by a general practitioner obstetrician after fetal movements had stopped abruptly and slight vaginal bleeding had started, and was confirmed by ultrasound scanning after transfer to hospital. No cause for this intrauterine death was found at postmortem examination.

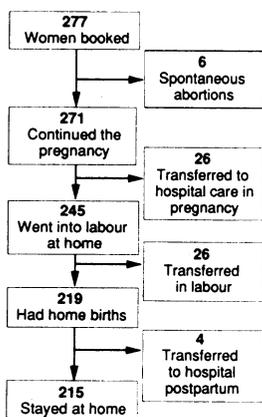
Discussion

PROBLEM OF COLLECTING DATA

It is no longer possible to measure precisely the safety or otherwise of planned domiciliary birth in women at low risk of obstetric complications, because the perinatal mortality is so low. Lilford estimated that it would take a study of over 700 000 women at low risk for a trial to have 80% power to detect a 5% difference in perinatal mortality.¹⁰ If our practice provided the domiciliary birth arm of the trial and we were able to maintain a birth rate of 25 cases a year, our data would be available for analysis in 15 990 AD. Even if a hundred similar practices participated at the same rate, conclusions could not be drawn before 2130 AD. We have no choice but to draw such inferences as we can from the limited data available, remembering that in clinical decision making very small probabilities may be overweighted so that rare events loom larger psychologically than they will in a decision analysis of the problem.¹¹ This may account for some of the inconsistencies in clinical decision making noted in hospital obstetrics¹² and the rising incidence of caesarean sections.

SAFETY AND HOME BIRTHS

In this small series home birth was a safe alternative to hospital delivery for parous women whose pregnancies had been normal. Only four parous women with normal pregnancies (2.3%, 95% confidence interval 0.1 to 4.5%) needed transfer to specialist care during or



Outcome of pregnancy in women booked for home birth during 1977-89

TABLE I—Reasons for transfer to hospital care during pregnancy

Reason	Nulliparous women (n=81)	Parous women (n=190)	Total
Pre-eclampsia/hypertension		1	1
Multiple pregnancy		1	1
Premature labour	1	3	4
Premature rupture of membranes		1	1
Postmature (induced)	1	2	3
Intrauterine death		1	1
Antepartum haemorrhage	1	2	3
Hydramnios		1	1
Intrauterine growth retardation		1	1
Breech presentation	3	1	4
Others*	1	5	6
Total	7	19	26

*Includes unknown reasons where records are incomplete.

TABLE II—Transfer to hospital before and during labour, by parity. Figures are numbers (percentages) of women

	Remained at home	Transfer before labour	Transfer during labour	Total
Nulliparous women	50 (62)	7 (9)	24 (30)	81
Parous women	169 (89)	19 (10)	2 (1)	190
Total	219 (80.8)	26 (15.2)	26 (9.6)	271

Successful home birth compared with transfer in labour, by parity, $p=0.00002$ by exact probability test. Successful home birth compared transfer before and during labour, by parity, $\chi^2=25.8$, $df=1$, $p<0.001$.

soon after labour. This is less than the 10% of low risk births liable to develop an abnormality during labour according to the Royal College of Obstetricians and Gynaecologists,¹³ which would have yielded 17 transfers in our population, with a possible range from nine to 25 (5.5 to 14.5). Dixon's survey of unexpected emergencies arising in a population of women who would have been accepted for domiciliary delivery (had such an option existed) on the grounds that they were low risk cases found that 12% would have needed intrapartum or immediate postpartum specialist care.¹⁴ In our population this would have yielded 20 transfers (range 10-31, 5.8 to 18.2) during or soon after labour.

NULLIPAROUS WOMEN

A domiciliary birth service for parous women attracts the attention of women in their first pregnancy. Zander has noted that women may opt for home birth not because they have experienced childbirth in hospital and wanted the benefits of a home birth in subsequent pregnancies, but because of negative attitudes to hospital births among the wider population of women.¹⁵ Marsh and Channing noted a growing belief in the use of technology for minor problems in virtually normal labours in their audit of 26 years of general practitioner intrapartum care,¹⁶ and from our experience we believe that aversion to technological intervention is a powerful motivation in some women seeking birth at home.

Over a third (35%, 24.2 to 45.8%) of the nulliparous women in our series who had had normal pregnancies required specialist care because of problems arising during or soon after labour. Transfer in labour is known to be hazardous and associated with adverse outcomes,¹⁷ and we believe that nulliparous women seeking domiciliary birth must be made aware of the risks of transfer in labour. However, as nulliparous women have a legal right to opt for home birth, it is also our view that refusal to support them simply shifts the problem to colleagues in midwifery and to general practitioners obliged by their contracts to visit their patients in an emergency. In cases of potential obstetric risk the early involvement of an enthusiastic general practitioner with an active interest in and experience of intrapartum care seems more appropriate than the late arrival of an apprehensive and resentful doctor summoned by unsupported midwives.

OPTIONS FOR DELIVERY

Birth at home may seem to be an interest of the eccentric middle classes, but our experience is that an appreciable number of working class women will opt for home birth if the service is available. Further improvements in the quality of hospital maternity services as experienced by users may reduce women's

anxieties about modern obstetrics and should allow general practitioner obstetricians to concentrate on parous women with low risk pregnancies, and we welcome such improvements. Widening the range of options on place of delivery and type of care¹ is also happening: in our area Domino schemes and community based, consultant led antenatal clinics now exist.

Easily accessible local maternity units with supportive senior staff allow the risks of trial of labour at home to be minimised for our self selected population and their babies, and having a large group practice with flexible staff and a relatively low list size allows us to avoid significant disruption of other clinical work. Recent publications and correspondence suggest that such collaborative relationships between hospital and general practitioner obstetricians are not universal,^{18,23} but without them we would not be able to offer the option of domiciliary births to our patients.

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THE MEMOIR CLUB

However inappropriate some people may consider private beds to be in general hospitals under the National Health Service, they are of considerable value to health service patients as well as to private patients. Their abolition takes the senior staff away from the hospital even more often than in the past. Already many of them are too frequently absent in outlying consulting rooms, private hospitals, and nursing homes when needed for their hospital duty and so are less readily available than they should be for those daily informal discussions with their colleagues, students, and visitors which form such an important part of specialised hospital practice. The coffee break and the canteen lunch are important occasions in a teaching hospital for informal discussion, as full time professors know so well. A government primarily concerned with the welfare of all patients might consider encouraging or even actively supporting the building of more private patient blocks within the grounds of NHS hospitals rather than abetting the establishment of more distant, independent private hospitals. This could be combined with a move towards local full time appointments for most of the staff, thus keeping

more specialists working in one place while allowing the service to pay them less than they would otherwise have to do. Such an arrangement would both save money and discourage many of the best of our doctors from electing to work abroad while seeing that hospital staff were able to keep in closer touch with their patients, assistants, visitors, and students.

Another of the wild, impractical suggestions to which I was prone was that the top salaries in the nursing profession should be paid to ward and theatre sisters, by which I meant those in charge, where the buck stops; the idea when I was at St Thomas's that there might be two Sisters Florence would have been greeted with hollow laughter by most and a faint shudder by a few. This suggestion had nothing to do with the fact that deputies and staff nurses were sadly underpaid. Those who were "promoted" to administration, whether called matron or some dull modern equivalent, should have the finest uniforms, a flat in the hospital and lots of prestige, but lower pay.

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