

Breast feeding in Scotland

Allison E Ferguson, David M Tappin, Robert W A Girdwood, Robert Kennedy, Forrester Cockburn

Abstract

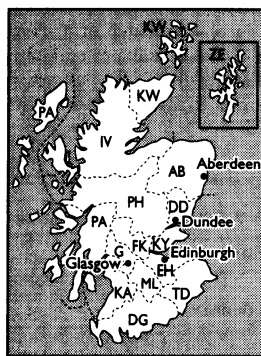
Objective—To measure the prevalence of breast feeding and to examine the value of using information collected on Guthrie cards (used for detecting inherited metabolic disease and hypothyroidism when newborn infants are 7 days old) to calculate this prevalence.

Design—Analysis, by geographical area and maternity unit, of information on breast feeding collected on Guthrie cards for 131 759 babies born in 1990 and 1991, and comparison with prevalences from other sources.

Setting—Scotland.

Results—Of the 131 759 babies, only 46 949 (35.6%) were breast feeding on day 7. The prevalence of breast feeding ranged from 59.1% (376/636) in Shetland to 21.1% (1836/8719) in Lanarkshire and <8% in some postcode districts of cities. Analysis of the data by hospital of birth showed that the prevalence ranged from 51.2% (2701/5275) to 16.4% (507/3090).

Conclusion—The prevalence of breast feeding in Scotland is low and varies among areas and maternity units. Intervention to increase this prevalence is essential, and information collected on Guthrie cards is a useful indication of mothers' intentions to breast feed.



Postcode areas in Scotland

Introduction

Breast feeding has long been known to benefit both infants and their mothers.¹⁻⁶ Despite the increasing evidence of these benefits the percentage of women who breast feed has declined since the late 1970s and remains low throughout Britain, particularly in Scotland.^{7,8}

The late 1980s saw increased promotion of breast feeding, including the launch of the government's joint breast feeding initiative and the publication of a booklet on breast feeding by the Royal College of Midwives.^{9,10} The lack of an accurate means of measuring the prevalence of breast feeding, however, makes auditing these projects difficult. A good method of measuring the prevalence should cover the whole population and be free of sample bias and observer bias. The surveys on infant feeding published by the Office of Population Censuses and Surveys show trends but study only a sample of the population and are biased as they include only those who agree to participate in a postal survey.¹¹ The Common Services Agency has also collated details on breast feeding, using SMR2 forms, which are completed when a mother and her newborn baby leave hospital. In many health boards, however, the section of the form relating to infant feeding is not completed. These forms are not, therefore, a source of accurate national data.

We propose an unbiased method of measuring the prevalence of breast feeding that uses information collected on Guthrie cards for all infants.

Methods

Guthrie cards are used in Britain to screen all babies for inherited metabolic disease and hypothyroidism.

District midwives take blood from the heels of every baby seven days after birth and test it on the specially absorbent card. They also routinely record on the card the feeding method used on the day the infant is seen, the date of birth and address (including postcode), and the hospital of birth; only one method of feeding—bottle or breast—is recorded as there is no scope for recording mixed feeding. Since 1964 Guthrie cards from throughout Scotland have been sent to the Inborn Errors Screening Laboratory, Glasgow, where about 350 cards are analysed each day.

We studied Guthrie cards for 131 759 babies born in Scotland during 1990 and 1991; this represents all babies born except for 1238, whose Guthrie cards either contained no information about feeding (1162) or had been returned from outside Scotland (76). We determined the number of infants for each mode of feeding for each postcode district and for each maternity unit with more than 1500 deliveries a year. We compared these figures with those of the Common Services Agency for 1991 and with the figures on breast feeding in Scotland obtained by the survey on infant feeding carried out by the Office of Population Censuses and Surveys in 1990. We used χ^2 analysis to test the significance of differences between the results obtained from the information on Guthrie cards and those from the sample used by the Office of Population Censuses and Surveys.

Results

Altogether, 35.6% (46 949/131 759) of babies born in Scotland during 1990 and 1991 were breast fed at seven days, with no significant difference in the prevalence between the two years. The figures for 1990 published by the Office of Population Censuses and Surveys suggest a national prevalence of breast feeding of 41% at seven days. This is a significant overestimate ($\chi^2=81$, $P<0.001$).

The prevalence of breast feeding varied greatly around the country, from 59.1% in Shetland to 21.1% in Lanarkshire (table I). In each postcode area the prevalence differed significantly among postal districts:

TABLE I—Proportion of babies born in each postcode area of Scotland in 1990 and 1991 who were breast fed, according to information recorded on Guthrie cards

| Postcode area | Total No of babies | No (%) of babies breast fed |
|-------------------------------|--------------------|-----------------------------|
| ZE (Lerwick, Shetland) | 636 | 376 (59.1) |
| AB (Aberdeen*) | 11 056 | 5 866 (53.1) |
| IV (Inverness*) | 5 456 | 2 660 (48.8) |
| PH (Perth*) | 3 486 | 1 657 (47.5) |
| TD (Galashiels, Selkirkshire) | 1 900 | 864 (45.5) |
| KW (Kirkwall, Orkney) | 1 044 | 456 (43.7) |
| KY (Kirkcaldy, Fife) | 8 654 | 3 681 (42.5) |
| EH (Edinburgh*) | 22 381 | 8 751 (39.1) |
| DD (Dundee*) | 6 920 | 2 698 (39.0) |
| DG (Dumfries*) | 3 482 | 1 396 (40.1) |
| PA (Paisley, Renfrewshire) | 9 096 | 2 994 (32.9) |
| FK (Falkirk*) | 6 425 | 1 951 (30.4) |
| KA (Kilmarnock, Ayrshire) | 10 028 | 2 911 (29.0) |
| G (Glasgow*) | 32 476 | 8 852 (27.3) |
| ML (Motherwell, Lanarkshire) | 8 719 | 1 836 (21.1) |
| Total | 131 759 | 46 949 (35.6) |

Total number of babies born in Scotland in 1990 and 1991=132 997.
*And surrounding areas.

Department of Child Health, Royal Hospital for Sick Children, Glasgow G3 8SJ

Allison E Ferguson, registrar
David M Tappin, senior registrar
Forrester Cockburn, professor of child health

Scottish Inborn Errors Screening Laboratory, Stobhill General Hospital, Glasgow G21 3UW

Robert W A Girdwood, consultant bacteriologist
Robert Kennedy, fellow in medical laboratory services

Correspondence to: Dr Ferguson.

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in Glasgow the average prevalence was 27.3%, but the prevalence ranged from 7.6% in the postcode district of Easterhouse (G34) to 65.9% in Hyndland and Hillhead (G12).

Table II shows the prevalence of breast feeding, according to information obtained from Guthrie cards, and, when available, from SMR2 forms, for all maternity units in Scotland with more than 1500 deliveries a year.

Discussion

The prevalence of breast feeding among babies born in Scotland in 1990 and 1991 was low, with wide variation among districts. Howie *et al* have shown that the prevalence is lower in socially deprived areas than in other areas.³ The large differences in prevalence among hospitals may reflect partly the prevalence in the population of each catchment area and partly the hospitals' policies on breast feeding and the motivation of staff.

Data from Guthrie cards could be used to study the rates in large sections of the country (postcode areas), small localities (postcode districts), and individual hospitals. These data would be valuable in audits of current initiatives on breast feeding and would also enable subsequent initiatives to be targeted at those areas where the prevalence is low.

The prevalence of breast feeding at seven days, from information on Guthrie cards, shows the number of women who continue to breast feed in the first few days

Clinical implications

- The prevalence of breast feeding in Scotland is low
- The prevalence of breast feeding varied considerably among areas and maternity units
- Guthrie cards, which are used to screen for inherited metabolic disease and hypothyroidism are a source of unbiased national data on breast feeding at 7 days of age
- These data could be used to target breast feeding initiatives at areas where the prevalence of breast feeding is lowest and to audit the outcome of these initiatives

after leaving hospital. To show how many women continue to breast feed, accurate figures are needed at six weeks and three, six, and 12 months. The new national child health surveillance record will provide information at six weeks.

Since January 1992 the mother's date of birth has been recorded on Guthrie cards. This would indicate which age groups breast feed their babies. If rates for young mothers are poor, intervention through education at school may be appropriate.

The data on Guthrie cards provide accurate and readily accessible information about women who start to breast feed and about breast feeding in individual maternity units and postcode districts. Together with the national child health surveillance record, Guthrie cards provide an ideal means of auditing the outcome of initiatives on breast feeding.

TABLE II—Numbers (percentages) of babies born in each maternity unit with over 1500 deliveries a year in Scotland in 1990 and 1991 who were breast fed

| Hospital | Source | | |
|--------------------------------------|------------------|------------------|------------------|
| | Guthrie (1990) | Guthrie (1991) | SMR2* (1991) |
| Aberdeen Maternity Hospital | 2005/4005 (50.1) | 2701/5275 (51.2) | 2439/4706 (51.8) |
| Eastern General Hospital, Edinburgh | 866/1820 (47.6) | 1037/2167 (47.9) | 1160/2318 (50.0) |
| Raigmore Hospital, Inverness | 810/1708 (47.4) | 1004/2053 (48.9) | 1000/2179 (47.0) |
| Simpson Memorial Hospital, Edinburgh | 2160/4606 (46.9) | 2489/5399 (46.1) | 2705/2816 (49.0) |
| Ninewells Hospital, Dundee | 1108/2630 (42.1) | 1284/3232 (39.7) | 1068/2812 (38.0) |
| Maternity Hospital, Dunfermline | 424/1032 (41.1) | 548/1262 (43.4) | NA |
| Forth Park Maternity Hospital | 567/1431 (39.6) | 748/1820 (41.1) | 980/1535 (39.0) |
| Queen Mother's Hospital, Glasgow | 931/2500 (37.2) | 1164/3107 (37.5) | NA |
| Paisley Maternity Hospital | 542/1758 (30.8) | 664/2176 (30.5) | NA |
| Ayrshire Central Hospital | 945/3141 (30.1) | 1090/3745 (29.1) | NA |
| St John's Hospital, Livingston | 566/1942 (29.1) | 632/2081 (30.4) | 709/2146 (33.0) |
| Rutherglen Maternity Hospital | 697/2470 (28.2) | 887/3039 (29.2) | NA |
| Stobhill General Hospital, Glasgow | 352/1257 (28.0) | 514/1794 (28.7) | NA |
| Falkirk Royal Infirmary | 311/1209 (25.7) | 435/1623 (26.8) | 493/1700 (29.0) |
| Southern General Hospital, Glasgow | 489/1912 (25.6) | 574/2222 (25.8) | NA |
| Glasgow Royal Maternity Hospital | 554/2423 (22.9) | 698/3123 (22.4) | NA |
| Bellshill Maternity Hospital | 507/3090 (16.4) | 681/3739 (18.2) | NA |

*Form completed when mother and her newborn baby leave hospital.
NA=Not available.

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Acquired immunodeficiency without evidence of HIV infection: national retrospective survey

A McNulty, J M Kaldor, A M McDonald, K Baumgart, D A Cooper

The term idiopathic CD4 T lymphocytopenia has been introduced to describe the syndrome of depletion of CD4 lymphocytes in people with no evidence of HIV infection or other explanation for immunodeficiency.¹ We report a retrospective national survey to identify and characterise cases of unexplained CD4 lymphocytopenia in Australia.

Correspondence to:
Dr Kaldor.

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Methods and results

The National Centre in HIV Epidemiology and Clinical Research asked all specialists in clinical immunology and infectious diseases and other medical practitioners known to have an interest in immune disorders to provide information on any patient who had been diagnosed as immunodeficient on or after 1 January 1985 on the basis of a reduced CD4 lymphocyte count (no specific value was defined) or specific illnesses related to cell mediated immunodeficiency. The patients had to have had a negative result on serological testing for HIV-1 infection, and congenital conditions and immunosuppressive treatment had to have been excluded as causes of immunodeficiency.

Overall, 96 practitioners were contacted in writing. The 42 specialists in infectious diseases and clinical immunology who did not submit a case were contacted by telephone. Twelve case reports were submitted, of