An analysis of breastfeeding initiation in Tasmania by demographic and socioeconomic factors for the period 1981-1995

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Abstract

Breastfeeding initiation and duration trend data is an important component of infant health and nutrition monitoring and surveillance systems. It is also an important basis for identifying breastfeeding promotion needs, prioritising target groups and strategies and in evaluating the effectiveness of breastfeeding promotion efforts. A collation and analysis of available Tasmanian breastfeeding initiation data was undertaken in order to help direct statewide breastfeeding promotion planning and evaluation and to begin the development of a minimum data set for statewide breastfeeding monitoring and surveillance. Perinatally collected breastfeeding initiation data (breastfeeding at discharge from hospital) was analysed against available demographic and socioeconomic variables and compared with initiation rates from interstate Australian populations. Data suggest that breastfeeding initiation rates in Tasmania have been static over the 15 years to 1995 (a three percent increase from 1981 to 1995) and that the associations between breastfeeding initiation and occupational classification, maternal age and parity in Tasmania are consistent with those reported elsewhere. Whilst caution needs to be applied to between-population comparisons, breastfeeding initiation rates in Tasmania appear to be considerably lower than that reported in other states. This suggests relatively greater efforts are required to influence breastfeeding initiation. Further research is required to investigate reasons for this difference.

Keywords: breastfeeding, initiation, monitoring and surveillance, Tasmania


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INTRODUCTION

In the context of developing breastfeeding promotion strategies and services, breastfeeding initiation and duration data report on conceptually different events. Factors that affect breastfeeding initiation are likely to impact before birth and those effecting premature cessation at or after birth (Scott & Binns 1998). There is a considerable literature on the factors which influence the choice to breastfeed (initiation) and the choice to terminate lactation (Scott & Binns 1998, Ryan et al 1991, Cox & Turnbull 1994, Coles, Cotter & Valman 1978, Loughlin et al 1985, Gray-Donald et al 1985). There is much debate, however, about the relative importance of various factors among particular groups and about the most appropriate lifestyle at which to intervene (Scott, Binns & Aroni 1995). There have been a number of studies in Australia in recent years concentrating on identifying and confirming the factors that influence breastfeeding initiation and duration (Scott, Binns & Aroni 1993, Hughes & Landers forthcoming). In the context of identifying breastfeeding promotion opportunities, these can also be interpreted as modifiable (ie amenable to breastfeeding promotion initiatives eg. increasing family and social support, increasing breastfeeding skills) or non-modifiable (eg. age, income etc) (Gray-Donald et al 1985). Because of the range of possible influences on breastfeeding decisions, further categorisation of these factors has been developed to include demographic and socio-economic, psychosocial and cultural, biomedical and health service related (Ford & Labbok 1990).

Just as there have been limitations with comparability of breastfeeding studies due to inconsistencies with the definition of breastfeeding (Labbok & Krasovec 1990), definitions of what constitutes breastfeeding initiation are varied. Ideally breastfeeding initiation refers to infants who receive only breastmilk from the outset of infant feeding (usually within 24 hours of birth). The perinatal record is completed on discharge from hospital and as a result the child's age (days postpartum) at this recording may vary. The difference between the proportion of babies receiving breastmilk as the first feed postpartum and breastfeeding on discharge identifies that section of the maternal population who resort to bottle-feeding whilst still in hospital, and therefore represent a special group in the context of breastfeeding initiation promotion. For the purpose of this study, breastfeeding initiation therefore equates with breastfeeding at or before discharge from hospital.

This data collection and analysis sought to identify breastfeeding initiation trends over the 15 year period 1981-1995 and the potential demographic and socioeconomic variables associated with breastfeeding initiation in Tasmania.

METHOD

Method of feeding is routinely recorded as part of perinatal statistics collection in Tasmania. Perinatal records of feeding method (ie breastfeeding fully and partially at or before discharge) were obtained for the period 1981-1995 and plotted to identify initiation trends. This data was analysed by cross tabulation of breastfeeding initiation rates with maternal occupational classification for the period 1981-1995 (as an index of social status) and by maternal age and parity (demographics) for the period 1990-1995. Comparison with similar descriptive interstate data was made to assess Tasmania's relative initiation rates. Due to the differences in study methods between these interstate studies, no statistical analysis of differences were attempted.

RESULTS AND DISCUSSION

Sample

The mean number of statewide perinatal record cases (ie births) over the 15 year period was 6960 infants with a lower range of 5755 birth records from 1994 to an upper range of 7416 in 1981. Perinatal data collections are required for all new-born children in Tasmania so these figures represent close to all of the new-born population of Tasmanian infants. Estimates of the proportion of infants not captured in this data collection are not available, limiting accurate assessment of the coverage of this data collection as a proportion of the total population of newborns.

Breastfeeding initiation trends

A three month review by Hughes (1997) of initiation rates as recorded by definition as “first feed” versus “on discharge” amongst a sample of births from a private hospital in Hobart showed a discrepancy of approximately 5% between the different recordings. Breastfeeding initiation as recorded “at discharge” was reported to be lower than rates of breastmilk as “first food”. This suggests a small percentage of mothers choose to commence breastfeeding (initiate) but resort to bottle-feeding before the perinatal statistics collection near the time of discharge. The scope for potential misinterpretation of breastfeeding initiation as described by different data collection methods and periods reinforces the importance of standardising what event is described by breastfeeding initiation. Similar differences between first food consumed and feeding method on discharge have been reported (Scott, Binns & Aroni, 1995, Hughes & Landers forthcoming). The reason for this short duration of breastfeeding is undiscernable from these results and warrants further investigation.

Figure 1 depicts the total perinatal record cases (new births) for the years 1981-1995.

Figure 1: New births as recorded by perinatal cases in Tasmania for the period 1981-1995. (1987 data missing)

Breastfeeding initiation data (as determined by perinatal data collection ) for the period 1981-1995 is presented in Figure 2. The trend suggests that the proportion of infants fully breastfeeding on discharge has not fluctuated more than three percent over the last 15 years and has shown a trend of a gradual increase from 75.6% in 1981 to 78.47% in 1995. The relative stability of breastfeeding initiation rates in Tasmania support Scott and Binns (1996) finding that breastfeeding rates have been stable in a Western Australia over the period 1984-1993.
for breastfeeding on discharge over the most recent years of this data set. There was a 20.6% difference between the proportion of professional and unemployed mothers in 1995 compared to a 37% difference in 1988. Despite the 2% increase in breastfeeding initiation amongst professional mothers there is also a noticeable down-turn in breastfeeding on discharge between 1988 and 1995 in this group (down from 97% to 92%). Most other social groups have experienced stable or slightly improving breastfeeding on discharge. This suggests that breastfeeding promotion initiatives should not neglect the professional and high socio-economic groups with respect to breastfeeding promotion, particularly given their history of being leaders in breastfeeding behaviour change, as observed in the changes back to breastfeeding since the mid 1970's (Lester 1994).

**Socioeconomic factors**

The relationship between social class and breastfeeding success is well documented (recently reviewed by Scott and Binns 1998) and is confirmed by data plotting the proportion of infants breastfeeding on discharge from hospital in Tasmania against maternal occupational. Social class may be influenced by variables such as income levels, education and occupational status. It is interesting to note from Figure 3 that there seems to be a convergence of the upper and lower social classification groups.

**Demographic factors**

Maternal age is one demographic factor that have been shown to influence breastfeeding initiation (Scott, Binns & Aroni 1995, Hughes & Landers forthcoming). In Tasmania mothers in the 30 to 35 year age group are most likely to initiate breastfeeding and the trend indicates a gradual decline in breastfeeding with older mothers.

The data presented in Figure 4 clearly identifies young mothers as a target group for breastfeeding promotion and support.

**Table 1: Comparison of reported breastfeeding initiation (full and partial breastfeeding) rates from recent Australian studies**

<table>
<thead>
<tr>
<th>Study population</th>
<th>Proportion breastfeeding at discharge</th>
<th>Proportion breastfeeding at or before discharge</th>
<th>Proportion breastfeeding (full and partial)</th>
<th>Year of study</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tasmania</td>
<td>78.5%</td>
<td>1.7%</td>
<td>80.2%</td>
<td>1995</td>
<td>Redman et al, 1992</td>
</tr>
<tr>
<td>Newcastle</td>
<td>-</td>
<td>-</td>
<td>87%</td>
<td>1992</td>
<td>Landers Boulton &amp; Mackerras, 1995</td>
</tr>
<tr>
<td>Toowoomba</td>
<td>-</td>
<td>-</td>
<td>88%</td>
<td>1995</td>
<td>Hughes &amp; Landers, forthcoming</td>
</tr>
<tr>
<td>Darling Downs, QLD</td>
<td>57.2%</td>
<td>25%</td>
<td>82%</td>
<td>1996</td>
<td>Scott, Binns &amp; Aroni, 1995</td>
</tr>
<tr>
<td>Perth</td>
<td>77.7%</td>
<td>6.1</td>
<td>83.8%</td>
<td>1993</td>
<td>Scott, Binns &amp; Aroni, 1995</td>
</tr>
<tr>
<td>Melbourne</td>
<td>72.4%</td>
<td>13.2</td>
<td>85.6%</td>
<td>1995</td>
<td>Nutbeam et al, 1993</td>
</tr>
<tr>
<td>Target 2000</td>
<td>-</td>
<td>-</td>
<td>90%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A downward trend in breastfeeding initiation indirectly related to parity can be observed in Figure 5. Whilst the data does not enable delineation of multiparous mothers who have experience with breastfeeding from those who always bottle-fed this trend reflects findings in prospective cohort studies in Perth and Melbourne (Scott, Binns & Aroni 1995) and in the rural Darling Downs of Queensland (Hughes & Landers forthcoming) that showed multiparous women being over two times less likely to initiate breastfeeding than primiparous mothers.

The decline in breastfeeding initiation with increasing parity suggests that breastfeeding promotion efforts may be required to develop and increase social and family supports for breastfeeding.

CONCLUSIONS

Tasmanian data of breastfeeding initiation presented in this paper highlights a number of important considerations for local breastfeeding promoters. The first and most obvious is that breastfeeding initiation rates in Tasmania differ from that observed in other parts of regional Australia, particularly with respect to the apparent "all or none phenomenon" observed with low partial breastfeeding rates. This may be a reflection of demographic and socio-economic variables in the Tasmanian population and or the limitations of the data collection system. Regardless of the cause, this result indicates a need for concerted efforts in breastfeeding promotion, with an emphasis on maintaining and increasing initiation rates. This is likely to require concerted, coordinated and multi-disciplinary interventions and campaigns that have their impact well in advance of pregnancy as this is the time most influential in making decisions about feeding method (Scott, Binns & Aroni 1995, Hughes & Landers forthcoming). Critical investigation and analysis of perinatal data collections is required. The ongoing collection of breastfeeding initiation data through perinatal data collection will be an important component of a minimum data set required to assist breastfeeding monitoring and surveillance in Tasmania.

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NMAA-ALCA

Consensus Statement

NMAA and ALCA are two Australian organisations whose primary focus is breastfeeding. We advocate the importance of breastfeeding and breastmilk to the health and well-being of the Australian community.

Our mutual aims are to:
1. empower women to breastfeed successfully
2. protect, promote and support breastfeeding
3. create community awareness of the value of breastfeeding and breastmilk
4. educate and support health workers in breastfeeding knowledge and skills
5. support the International Code of Marketing of Breastmilk Substitutes and the Australian Agreement on the Marketing of Infant Formula
6. encourage high standards of research in lactation. We recognise the complementary roles each plays and urge all members to work together to achieve these aims.

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Seminars/Conferences

International Board of Lactation Consultant Examiners, Inc. (IBLCE)
Examinations held on last Monday of July each year; applications close at end of April.
Enquiries: IBLCE Regional Administrator
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Tel (03) 6223 8445  Fax (03) 6223 8665

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Phone/fax Robyn Noble (07) 3396 9718

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Enquiries: Professor Lesley Barclay
University of Technology
Centre for Graduate Nursing Studies
St Leonards Campus
PO Box 123, Broadway, NSW 2007

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Contact: Jen Byrne/Ellen McIntyre
PO Box 336, Unley, SA 5061
Tel (08) 8271 8740 or (08) 8391 0527

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Enquiries LLLI Conference, PO Box 4079, Schaumburg, IL 60168-4079 USA
Web site: www.lalecheleague.org

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