ABSTRACT

The 1994 rate of initiation of breastfeeding in eastern Nova Scotia was 41%. The purpose of this study is to assess both perceived barriers to breastfeeding as well as the need for programs to promote breastfeeding in this region. Seventy randomly selected subjects (67 F, 3 M) responded to a questionnaire about regional breastfeeding practices. Results showed that perceived barriers to breastfeeding included lack of knowledge about breastfeeding management (35.8%) and lack of support (29.9%). Barriers to exclusive breastfeeding for 6 months included going back to work (76.5%) and lack of support (39.2%). To promote exclusive breastfeeding for 6 months, participants recommended access to: prenatal classes (98.5%), nurse follow-up following hospital discharge (95.3%), and availability of lactation consultants (88.3%). When proposed promotion programs were implemented, breastfeeding initiation increased to 60.5% and duration rates increased to 4 months (90.2%). Regional barriers to breastfeeding can be partly alleviated through educational and support programs.

ABRÉGÉ

En 1994, le taux de recours à l'allaitement maternel en Nouvelle-Écosse était de 41 %. Notre étude visait à évaluer les obstacles perçus à l'allaitement et la nécessité d'avoir des programmes de promotion dans la province. Soixante-dix personnes sélectionnées au hasard (67 femmes, 3 hommes) ont répondu à un questionnaire portant sur les pratiques régionales en matière d'allaitement. Les deux principaux obstacles perçus étaient le manque de connaissances sur la gestion de l'allaitement (35,8 %) et le manque d'appui (29,9 %). Les obstacles à l'allaitement exclusif pendant les six premiers mois étaient le retour au travail (76,5 %) et le manque d'appui (39,2 %). Pour favoriser l'allaitement exclusif pendant les six premiers mois, les répondants ont suggéré : l'offre de cours prénataux (98,5 %), le suivi par une infirmière à la sortie de l'hôpital (95,3 %) et l'accès à des consultantes en lactation (88,3 %). Après la mise sur pied des programmes de promotion proposés, le taux de recours à l'allaitement maternel est passé à 60,5 %, et la durée de l'allaitement, à quatre mois (90,2 %). Les obstacles régionaux à l'allaitement maternel peuvent donc être surmontés en partie par des programmes de sensibilisation et d'appui.

Overcoming Barriers to Breastfeeding: Suggested Breastfeeding Promotion Programs for Communities in Eastern Nova Scotia

S. Eileen Hogan, PhD, PDt

Since 1979, the Canadian Paediatric Society and the World Health Organization (WHO) set the goal to promote and encourage breastfeeding.[1-6] These two organizations recommend exclusive breastfeeding as the most appropriate method of infant feeding to about 6 months of age, followed by breastfeeding supplemented with complementary food for up to 2 years and beyond.[1-5] Throughout the last two decades, the rate of initiation of breastfeeding in Canada has fluctuated from 64% in 1979 to 73% in 1994.[7-11] In Canada, the number of infants exclusively breastfed to 4 months duration rose from 37% in 1979 to 60% in 1994, while infants exclusively breastfed to 6 months rose from 27% in 1979 to 30% in 1994.[7,11]

In 1994-95, Atlantic Canada had the lowest breastfeeding initiation rates in the country (53%).[11] Rates of duration of breastfeeding were about one third to one half the national average.[12-15] Matthews and colleagues reported a breastfeeding initiation rate of 42.9% in Newfoundland and Labrador declining to about 20% at 3 months and 11.4 % at 6 months.[12] In New Brunswick, earlier reports showed a breastfeeding initiation rate of 56% which declined to 31% at 3 months and 16% at 6 months.[13] In 1994, 62.5% of new mothers in Nova Scotia initiated breastfeeding following birth.[14] At 12 weeks, 48-59% of infants were given either exclusive breast milk (breast milk and water or vitamin drops only) or a combination of breast milk complemented with other forms of milk, fluid or solid foods respectively.[14] Throughout Nova Scotia, about 18.8% of infants were exclusively breastfed at 5 to 7 months while 16.8% were fed breast milk along with complementary foods.[14]

In eastern Nova Scotia, however, the 1994 rate of initiation of breastfeeding was only 41%.[14,15] There were no data on the regional rates of duration of breastfeeding. So why are the rates of breastfeeding lower in eastern Nova Scotia than in other parts of the province and what can be done to improve these rates? Research has shown that regional factors influencing increased duration of exclusive breastfeeding in Atlantic Canada were maternal age, level of education and support, income level, attendance at prenatal classes,[12-14] and returning to work.[13,14]

The purposes of this study were to: a) determine the perceived barriers to both breastfeeding in general and exclusive breastfeeding for up to 6 months duration in eastern Nova Scotia, and b) empower participants to make suggestions for community- and hospital-based programs that would improve these rates. Finally, data are also presented on the impact of implementing suggested breastfeeding promotion programs on the improvement in breastfeeding initiation and duration rates in eastern Nova Scotia.

METHODS

Subjects living in the Counties of Antigonish, Guysborough, Richmond, and Inverness in eastern Nova Scotia were chosen by systematic random sampling to participate in the study. Because no appropriate census data were available, subjects were chosen from the local telephone directory since most potential participants had telephones. Sample size determination (n=70) was based on the total population surveyed (n=11,670) and the regional

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prevalence rates of breastfeeding upon hospital discharge from December 1993 to December 1994 (36-45%, 95% CI).[16] Because this geographical area is serviced by St. Martha's Regional Hospital, outcome data to assess changes in breastfeeding rates due to community-based suggestions were obtained from the medical records of the perinatal program of St. Martha's Regional Hospital.[17]

All study procedures conformed to the standards decreed by the Human Ethics Committee at St. Francis Xavier University, Antigonish, N.S.

Subjects were contacted by telephone, informed about the study, and invited to participate. If subjects agreed to participate, they were forwarded the self-administered questionnaire, a letter explaining the study and a consent form. Seventy subjects (67 F, 3 M) age 21-80 years (mean 44.8±14.1 years) participated (70% response rate). Reasons for non-participation (30.3%) included too old (22.2%), no experience with breastfeeding (2%) or no reason (17.2%). There was no difference in the demographic profile between respondents and non-respondents. A pilot study was conducted to select the best method of distribution of the questionnaire and to test the survey instrument. Following the pilot study, the survey questions were revised as needed. A list of factors known to be barriers to breastfeeding were compiled from literature reviews, consultation with health professionals, and suggestions of participants of the pilot study. The questionnaire was comprised of both open- and close-ended questions. Open-ended questions included comments on reasons for feeding choices and suggestions for community- and hospital-based programs that would address the barriers to breastfeeding. The close-ended questions elicited data on barriers to breastfeeding in general and barriers to exclusive breastfeeding for 6 months. For those who breastfed their children, information on feeding choice as well as who encouraged, discouraged or supported breastfeeding were requested. For the purposes of this study, an infant was considered "exclusively" breastfed as long as the infant received breast milk and water only, with no more than 1 cup (250 mL) of formula or juice feeding once per week. The results of the study provided some counsel in the restructuring of the perinatal program at St. Martha's Regional Hospital.

All data were analyzed using the statistical package from the social sciences (SPSS 8.0).[18] Frequency data are presented.

TABLE I
Socio-demographic Data of Study Population Compared to Provincial Data

Status Indicators	Eastern Nova Scotia (%)	Province of Nova Scotia *(%)
Educational Level		
Grade 9-12	31.0	31.0
Technical/College	27.9	20.0
University level	19.0	21.7
Income Level		
<$20,000 per year	38.0	17.4
$20,000 - $40,000 per year	41.0	31.3
>$40,000	38.0	17.4
Employment Level		
Unemployment Rate	10.3†	7.9†

* Ref. 19
† Statistics Canada, 1995

TABLE II
Perceived Barriers to Breastfeeding in General (n=67)

	Number	Percent
Less freedom*	26	38.8
Lack of knowledge*	24	35.8
Not comfortable*	24	35.8
Too embarrassing*	20	29.9
Inconvenient*	20	29.9
No support†	20	29.9
Lack of confidence*	18	26.9
Inadequate milk*	17	25.4
Infant at day-care	15	22.4
Not possible for medical reasons	15	22.4
Too time consuming*	14	20.9
No encouragement†	14	20.9
Painful*	12	17.9
Smoking*	12	17.9
Too tiring*	11	16.4
Breast engorgement*	11	16.4
Flat nipples*	8	11.9
Formula supplementation given in hospital	3	4.5
Don't know	10	15.0

* Issue concerning knowledge of and management of breastfeeding
† Issue concerning support for breastfeeding

TABLE III
Perceived Barriers to Exclusive* Breastfeeding for Duration of 6 Months (n=51)

	Number	Percent
Returning to work‡	39	76.5
Lack of support†	20	39.2
Exclusive breastfeeding too demanding‡	18	35.3
Not enough milk‡	17	33.3
Never taught to breastfeed‡	14	27.5
Too tiring‡	12	23.5
Lack of encouragement from spouse or partner†	11	21.6
Medical complications	8	15.0
Smoking	7	13.7
Other	6	11.8
Lack of encouragement from physician†	4	7.8

* Exclusive breastfeeding is defined as giving an infant breast milk and water only, with only 1 cup (250 mL) of formula given once a week
† Issue concerning support for breastfeeding
‡ Issue concerning knowledge of and management of breastfeeding

RESULTS

Table I compares the socio-demographic data of eastern Nova Scotia with that of the whole province.[19] The eastern region of Nova Scotia is less economically advantaged with higher unemployment rates and lower average annual income than other parts of the province.

Eighty percent of subjects were mothers. Only 46% had breastfed their infants, however most did so for 3 months (89%). Although 90% of subjects reported that breast milk provided the best nutrition for infants to age 6 months, only 61.5% thought exclusive breastfeeding could provide the only nutrition needed in that period. Seventy-eight percent agreed that discreet breastfeeding could be done anywhere.

Barriers to breastfeeding

The main barriers to breastfeeding in general included lack of knowledge about and management skills required for breastfeeding, and lack of support for breastfeeding (Table II). Barriers to exclusive breastfeeding for 6 months or more included the difficulty of continuing to breastfeed while returning to work (Table III). Once again, lack of support and knowledge about the

TABLE IV
Responses to Question "Who Supported You (or Your Partner) While You Were Breastfeeding?" (n=33*)

Supported by	Number	Percent
Spouse/partner	29	90.6
Family physician	16	50.0
Nurse	15	46.9
Female friend	15	46.9
Mother	14	43.8
Public Health nurse	11	34.4
Mother-in-law	7	21.9
Sister	7	21.9
Other female relative	6	18.8
Father	5	15.6
Brother	3	9.4
Male friend	2	6.3
Grandparents	2	6.3
Dietician-nutritionist	2	6.3

* responses included only those individuals who breastfed their children

TABLE V
Community Resources to Support and Overcome Barriers to Breastfeeding and Percent of Subjects Who Made These Suggestions

Community Resources	Subject Responses (%)
Offer pre-natal nutrition classes to introduce benefits of and management strategies for breastfeeding	98.5
Community health nurses do home visits	95.3
Community health nurse telephone hot-line to answer questions and offer support	92.4
Health professionals provide videos on breastfeeding	92.4
Hospitals hire lactation consultants to provide breastfeeding education and support	88.3
Employers provide a "time-out" room – a private clean, and comfortable environment for breastfeeding upon returning to work	80.0
Education about breastfeeding should start in junior high, middle school and/or high school	60.0

TABLE VI
Initiation and Duration of Breastfeeding at St. Martha's Regional Hospital Servicing Eastern Nova Scotia*

Date	Rate of Initiation *	Rate of Duration *
1993-1994 (Pre-study)	41.0%	unknown
1997 (Post-study)	67.0%	80.0% at 3 months
1998	60.5%	90.2% at 4 months

* Reference 17

ability to breastfeed were stated to be the greatest barriers to exclusive breastfeeding for 6 months.

Many respondents (60.5%) stated that "no one" discouraged them from breastfeeding; however, a few (10.4%) reported that their mothers discouraged breastfeeding. Most of the support for breastfeeding came from the spouse or partner, family physician, female friend, hospital nurse or mother (Table IV). There was very little support from fathers, brothers, male friends or dietician/nutritionists.

In this region, the prevalence of women smoking during pregnancy is about 30%.[15] Thirteen percent of participants reported that smoking deterred them from breastfeeding.

Perceived need for community resources to support breastfeeding

Table V shows the perceived need for community resources to support breastfeeding and the percent of participants who offered these suggestions. Participants stated that more support for breastfeeding should come from family members, especially men, in-laws, employers, as well as hospital and community-based health professionals. Finally, subjects suggested that small support groups of women who were presently breastfeeding or had previously breastfed infants be available to provide education and experiential information. Overall, respondents suggested that barriers to initiation and duration of breastfeeding may be partly alleviated through such carefully planned community- and hospital-based programs.

OUTCOME

Data obtained from this study were used in part to revise the prenatal program at St. Martha's Regional Hospital. In 1996, a staff nurse was trained as a Lactation Consultant to educate, promote, support, follow-up and encourage mothers to breastfeed. In the community, public health nurses continued to offer prenatal classes that included information on knowledge of and management skills for breastfeeding, in addition to making home visits to all mothers requesting pre- and post-natal counselling. Advocates for breastfeeding were invited to the community to discuss breastfeeding. Local community organizations including the LaLeche League offered support and education. Educational material on the advantages of and managerial skills required for breastfeeding were obtained and distributed in the community. Women with previous breastfeeding experience became available to answer questions and support new breastfeeding mothers. Community initiatives also developed breastfeeding-friendly environments and efforts were underway to integrate breastfeeding education into the school curriculum.

In 1998, medical records from the Perinatal Program of St. Martha's Regional Hospital showed that following the incorporation of these breastfeeding promotion initiatives, regional breastfeeding initiation rates increased to 60.5% and the duration of breastfeeding increased to 4 months in 90.2% of mothers (Table VI).[17]

DISCUSSION

In 1994-95, eastern Nova Scotia, a region of economic restraint, had the lowest breastfeeding rates in the province. Bourgoin et al.[20] and Williams et al.[21] reported that factors positively affecting breastfeeding duration in Ontario and in Vancouver respectively were higher family income and higher education,[20,21] while reasons for discontinuing breastfeeding at[20] or after 6 months[22] included returning to work. Mother's top choices of services to encourage breastfeeding duration included support via home visits, and educational programs.[20,23] Other Canadian studies have reported returning to work as the most perceived barrier to exclusive breastfeeding for a duration of 6 months.[13,14,17,20,22] In New Brunswick and Nova Scotia, researchers reported returning to work as the main reason for weaning.[13,14]

Other prenatal health indicators in this region may have contributed to the increase in breastfeeding initiation and duration. At the time of the study, the live birth rate in the geographical region of the study was about 500 per year.[15] Of those nulliparous and multiparous mothers who delivered between April and June, 1994 and July and September, 1994, only 5% and 3% respectively had attended prenatal classes.[15]

The objectives of the Canada Prenatal Nutrition Programs promote breastfeeding and reinforce the value of establishing partnerships between health professionals and the community to help empower individuals to make suggestions for health promotion programs and initiatives that may improve their health.[24-27] Since 1995, the outcome accrued by the existing Canada Prenatal Programs in Antigonish and Guysborough Counties may also have contributed to the increase in breastfeeding initiation and duration rates.

Most participants agreed that breastfeeding should be encouraged and supported. Previous research has also found that most of the support for breastfeeding came from the spouse or partner, the family physician and hospital nurse.[12-15] However, in light of shorter hospital stays, the participants and previous researchers have reported that greater support, encouragement and follow-up is required by the medical profession and allied health professionals.[20,28,29] Educational programs promoting smoking cessation may also help increase regional breastfeeding rates.

Other than the male spouse, men did not appear to become actively involved in either encouraging or supporting breastfeeding (Table IV). Nevertheless, male subjects (n=3) were aware that breastfeeding is the most superior form of infant feeding. In a recent Irish study, fewer high school girls (45.2%) than boys (59.1%) intended to breastfeed their children.[30] Support is possible from fathers, brothers, male friends or relatives.[30] Results indicate that educational programs about breastfeeding should be directed toward both genders.

Use of the telephone directory to determine the sample may have been a limitation to the study since those who do not have telephones may be more economically disadvantaged and are often the largest group who do not breastfeed. Although the questionnaire was issued randomly to households, 93% of the respondents were women. When men received the questionnaire, they often encouraged females to forward their responses. There were inadequate data to represent the attitudes of men about breastfeeding issues.

The outcomes of this study show that regional barriers to rates of breastfeeding were partly alleviated by population-specific education and support programs. Similar community initiatives for breastfeeding promotion could be adopted by other Atlantic provinces to increase breastfeeding rates to the national level and beyond.

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