

# **Impressions of Breastfeeding Information and Support Among First-Time Mothers Within a Multiethnic Community**

**Carmen G. Loiselle, Sonia E. Semenik, Brigitte Côté, Monique Lapointe, and Roxanne Gendron**

Cette étude vise à identifier les perceptions des mères concernant l'information et le soutien professionnel reçu en milieu hospitalier et communautaire, notamment au sein d'une communauté multiethnique. Un sondage téléphonique a été réalisé dans le but d'évaluer les impressions des mères face au soutien professionnel dont elles ont bénéficié dans le processus d'allaitement, de déterminer si les professionnels de la santé ont bien observé les pratiques recommandées concernant l'allaitement et d'identifier la nature et les sources d'information reçue. Un échantillon de 108 femmes de différentes origines ethniques étant à leur première expérience d'allaitement maternel a été interviewé trois semaines après l'accouchement. Dans l'ensemble, les commentaires des mères quant au soutien professionnel reçu en matière d'allaitement étaient positifs, bien qu'elles aient signalé la présence de certaines pratiques qui ne respectaient pas les normes recommandées. Les mères immigrantes étaient plus nombreuses à avoir fait l'expérience de pratiques hospitalières nuisibles au bon déroulement de l'allaitement, comparativement aux mères nées au Canada. Toutefois, les immigrantes recevaient davantage de soutien de la part des professionnels œuvrant au sein de la communauté. Des différences importantes ont aussi été relevées entre les immigrantes et les mères nées au pays en ce qui a trait aux sources d'information. Les résultats démontrent l'importance du rôle des infirmières quant à la promotion de l'allaitement maternel et au soutien optimal dispensé aux mères.

The purpose of this study was to document mothers' perceptions of breastfeeding information and support received from hospital- and community-based health professionals within a multiethnic community. A telephone survey was conducted to assess: mothers' impressions of professional support for breastfeeding, whether recommended breastfeeding practices were followed by health professionals, and the nature and sources of breastfeeding information received. An ethnically diverse sample of 108 first-time breastfeeding mothers was surveyed at 3 weeks postpartum. Overall, the mothers' evaluations

---

*Carmen G. Loiselle, PhD, N, is Assistant Professor, School of Nursing, McGill University, and nurse researcher, CLSC Côte-des-Neiges, Sir Morimer B. Davis Jewish General Hospital, and Hôpital Sacre-Cœur, Montreal, Quebec, Canada. Sonia E. Semenik, N, IBCLC, is a PhD candidate, School of Nursing, McGill University. Brigitte Côté, MD, FRCP, and Monique Lapointe, N, work at CLSC Côte-des-Neiges. Roxanne Gendron, BSc, MSc, is Research Assistant, Centre de recherche, Hôpital Sainte-Justine, Montreal, and volunteer, Nourri-Source breastfeeding support group, Montreal.*

of professional support for breastfeeding were positive, even though they reported breastfeeding practices that fell short of recommended standards. Immigrant mothers were found more likely to experience hospital practices detrimental to breastfeeding success than Canadian-born mothers, but were also found more likely to receive professional breastfeeding support in the community. Significant differences were also found between immigrant and Canadian-born mothers in the sources of their breastfeeding information. The findings underscore the key role of nurses in ensuring the promotion and optimal support of breastfeeding.

The physiological, nutritional, immunological, and economic benefits of breastfeeding are well documented (Canadian Pediatric Society, Dietitians of Canada, & Health Canada, 1999). Breastfeeding protects infants against a host of illnesses and infections, reduces the incidence of allergies, and enhances neurological development (Bick, 1999). Health benefits for the breastfeeding mother include improved postpartum bone remineralization, increased child-spacing, and reduced risk of ovarian and premenopausal breast cancer (Lévesque, 1998). However, whereas approximately 75% of all mothers in Canada begin breastfeeding after delivery, studies report a rapid decline in breastfeeding rates during the early weeks and months postpartum (Health Canada, 1999).

Breastfeeding promotion and support have been identified as a public health priority in Quebec, which has one of the lowest breastfeeding initiation and duration rates in the country (Ministère de la Santé et des Services Sociaux, 1999). Breastfeeding promotional efforts increasingly take into consideration the fact that breastfeeding is a complex, culturally shaped behaviour influenced by an array of personal and contextual factors (Maclean, 1998). Breastfeeding initiation and duration rates are found to correlate significantly with broad socio-demographic variables such as maternal age, education, socio-economic status, and social support (Piper & Parks, 1996). In addition, factors influencing a woman's experience of breastfeeding include maternal confidence (Dennis, 1999), the incidence of early breastfeeding problems (Kearney, Cronenwett, & Barrett, 1990), level of comfort with breastfeeding in public (Sheeshka et al., 2001), and the baby's temperament (Hughes, Townsend, & Branum, 1988). Other important predictors of breastfeeding initiation and duration are mothers' overall breastfeeding knowledge (Duckett et al., 1998; Hoyer & Horvat, 2000; Rentschler, 1991) and the amount and quality of breastfeeding information they receive (Humphreys, Thompson, & Miner, 1998). Culturally determined health beliefs, values, and practices related to breastfeeding add to the complexity of informational interventions among women of diverse backgrounds (Riordan & Gill-Hopple, 2001).

Health professionals are in a key position to enhance breastfeeding success by providing and mobilizing timely, consistent, and culturally sensitive forms of support, particularly for first-time mothers (Côté et al., 2000; Humenick, Hill, & Spiegelberg, 1998). Several studies have explored the potential contribution of various types of support such as emotional (e.g., empathy, caring, trust), instrumental (e.g., helpfulness, task orientation), and informational (e.g., education, sharing of knowledge) to breastfeeding outcomes. Both informal and professional sources of support impact on mothers' commitment to and confidence in their ability to breastfeed (Duckett, Henly, & Garvis, 1993; McNatt & Freston, 1992; Raj & Plichta, 1998). The amount of support women receive from a partner, mother, and female relatives and friends significantly predicts the initiation and duration of breastfeeding (Matich & Sims, 1992; Bar-Yam & Darby, 1997). Professional and peer support also lead to improved breastfeeding outcomes, particularly among high-risk groups (Bronner, Barber, & Miele, 2001; Sidorski & Renfrew, 2000). The influence of health professionals on breastfeeding initiation and duration, however, appears to be contingent on the quality and availability of their informational support (Barber, Abernathy, Steinmetz, & Charlebois, 1997).

A lack of accurate information on and negative attitudes towards breastfeeding are acknowledged as significant barriers to the promotion and support of breastfeeding by health professionals (Bernaix, 2000; Schanler, O'Connor, & Lawrence, 1999). Inconsistent or conflicting information provided by nurses and physicians is identified frequently by patients and professionals alike as a deterrent to the initiation of breastfeeding (Coreil, Bryant, Westhover, & Bailey, 1995; Lewinski, 1992). However, few studies have documented the specific content of breastfeeding information that new mothers receive from health professionals, or their perceptions of the quality and helpfulness of the information and support provided. Addressing this gap in the literature is an important step in improving breastfeeding interventions and outcomes, as the nature, source, and mode of information delivery have been shown to impact on subsequent search, processing, recall, and actual health-related behaviour (Loiselle, 1995). In addition, little is known about the nature of informational support for breastfeeding among ethnically diverse populations. In the context of an increasingly culturally diverse population, a better understanding of similarities and differences in the breastfeeding needs and resources of both immigrant and Canadian-born mothers is needed for health professionals to support optimal breastfeeding practices (Health Canada, 1999).

A worldwide standard for evaluating health-professional support for breastfeeding has been set by the Baby Friendly Hospital Initiative (BFHI), a joint effort of the World Health Organization and UNICEF to promote and support breastfeeding within institutions (World Health Organization, 1989). Central to this program is implementation of the Ten Steps to Successful Breastfeeding, a set of evidence-based practices (WHO, 1998). Although representatives of Montreal-area hospitals have been surveyed for their institution's adherence to the Ten Steps (Levitt, Kaczorowski, Hanvey, Avar, & Chance, 1996), no data are available on consumers' (e.g., new mothers') perceptions of whether or how the recommended practices were followed during their perinatal experience.

Therefore, the purpose of this study was to examine mothers' perceptions of breastfeeding information and support received from health professionals within a multiethnic community. This study was part of a larger, multidisciplinary, multi-method investigation of factors influencing breastfeeding rates in one of the most ethnically diverse neighbourhoods of Montreal, Quebec, Canada (Sévigny & Tremblay, 1998). The research questions for this part of the investigation were: (1) What are mothers' overall *impressions* of breastfeeding support on the part of hospitals and community health services? (2) Are practices to protect, promote, and support breastfeeding being *followed* by hospital and community health services, as reported by mothers? (3) What *types* of breastfeeding information do mothers receive from health professionals, and what are their other *sources* of breastfeeding information? and (4) Do immigrant and Canadian-born mothers *differ* in their perceptions of breastfeeding support?

## Method

### *Participants*

Inclusion criteria for the study were: primiparous, breastfeeding women who lived in the territory served by one specific CLSC (the acronym for Quebec's network of community health centres, which translates into English as Local Community Service Centres), who delivered a full-term healthy baby (i.e., birthweight > 2,500 grams and > 36 completed weeks gestational age, with no known medical problems) at one of the three maternity centres in the territory served by the CLSC during the period December 1, 2000, to June 30, 2001, and who were able to communicate in English or French over the telephone. Of a total of 841 births in the territory during the study period, 381 mothers met all criteria except that of language. Of these mothers, 273 either could not be reached, were no longer breastfeeding at the time of recruitment,

were unable to communicate in English or French, or refused to participate. The final sample consisted of 108 mothers.

The mean age of the participants was 29.4 years, with a range of 17–42 years. More than two thirds of the participants ( $n = 69$ ) were born outside Canada, representative of the predominantly immigrant population in the territory served by the CLSC. The immigrant mothers represented more than 30 countries of origin, the most prevalent being the Philippines (15%), Romania (6%), Sri Lanka (6%), and Vietnam (4%). Over 50% of the immigrant mothers in the sample had been in Canada for 5 years or less.

### *Procedure*

Following CLSC Ethics Committee approval, the Montreal Regional Health Board compiled and made available a database using Quebec government Notification of Birth records of all first-time mothers living in the territory served by the CLSC who delivered a healthy, term baby at one of the three maternity centres within the specified period. Potential participants were telephoned by a research nurse within 1 week of delivery and screened for infant feeding method and language ability. Several (up to six) attempts were made to telephone each potential participant. All mothers contacted who met the inclusion criteria were invited to participate. These mothers were telephoned again at 3 weeks postpartum for the actual interview, which took an average of 20 minutes to complete. The mothers' consent to be interviewed by telephone constituted consent to participate in the study. All interviews were conducted by the same trained interviewer.

### *Instruments*

A telephone questionnaire was developed by the principal investigator and the second author, a lactation consultant with extensive experience with a multiethnic population, based on the Ten Steps to Successful Breastfeeding, clinical experience, and a systematic review of the breastfeeding, social support, and information-seeking literature. The questionnaire includes three subscales, exploring: (1) mothers' overall impressions of breastfeeding support received from hospitals and community health services, (2) whether recommended practices in support of breastfeeding were followed during their hospital stay and postpartum community-care follow-up, and (3) mothers' perceptions of the type and sources of breastfeeding information sought or received. The 58-item questionnaire was reviewed by a panel of eight perinatal



experts and then pre-tested with a convenience sample of 10 English-speaking breastfeeding mothers from the same CLSC territory. Three items were refined to enhance clarity. For the purposes of this study, the questionnaire was then translated from English to French and back into English by a research nurse with perinatal nursing expertise and a lay breastfeeding support person, both of whom were fluent in English and French (Brislin, 1970; Vallerand, 1989). The final translated questionnaire was not further tested before administration to the study sample.

***Impressions of breastfeeding support.*** The first subscale contains 18 items assessing *affective* (e.g., “helped you to feel confident about breastfeeding”), *instrumental* (e.g., “gave good ‘hands-on’ help with breastfeeding”), and *informational* (e.g., “got enough information about breastfeeding”) support received from health-care providers. This subscale consists of nine items for Hospital support and nine items for Community support, rated on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). Individual items were summed to create separate total scores (with a possible range of 5 to 45) for Hospital and Community support. To evaluate internal consistency of the measures of Hospital and Community breastfeeding support, Cronbach’s alpha coefficients were obtained for both the English and French versions of the scale. For the English version, Cronbach’s alpha was .85 for Hospital Breastfeeding Support ( $n = 58$ ) and .91 for Community Breastfeeding Support ( $n = 44$ ), and for the French version .85 for Hospital Breastfeeding Support ( $n = 50$ ) and .78 Community Breastfeeding Support ( $n = 38$ ), demonstrating acceptable internal consistency (Nunnally & Bernstein, 1994).

***Hospital and community-care practices.*** The second subscale consists of 20 items assessing mothers’ perceptions of whether recommended practices to support breastfeeding had been followed by the health-care providers perinatally. The items, which are based on the Ten Steps, address hospital breastfeeding support (12 items) and community-care breastfeeding follow-up (eight items). Mothers were asked to respond “yes,” “no,” or “do not know” to each item to indicate whether the stated practice had been followed.

***Types and sources of breastfeeding information.*** The third subscale, comprising 20 items, addresses breastfeeding issues and concerns commonly reported in the breastfeeding literature. Items cover the advantages of breastfeeding, breastfeeding techniques, ways of dealing with common breastfeeding problems, and strategies for incorporating breastfeeding into the mother’s lifestyle. To determine the *type* of informational support provided, mothers were asked to respond “yes,”

"no," or "do not know" to whether they had ever received information on each item from a health professional. In addition, they were asked to respond "yes," "no," or "does not apply" to having ever received breastfeeding information from each of 16 sources (e.g., books, husband or partner, hospital nurses). Three additional items asked mothers to identify the *most helpful item* of information ever received on breastfeeding, *who* had provided that information, and what they considered to be their overall *most important source* of breastfeeding information.

At the end of the interview, information was obtained on background and demographic characteristics, including the mother's age, education, total household income, country of origin, date of arrival in Canada, date and type of delivery (i.e., vaginal or Caesarean), length of hospital stay, and prenatal class attendance.

## **Results**

The data were analyzed using SPSS 10.0. Descriptive statistics were used to summarize the demographic information and scores on the BIS. Student's *t* test and Chi-square analysis were used to test differences between immigrant and Canadian-born participants.

### ***Background and Demographic Characteristics***

The immigrant and Canadian-born mothers in the sample did not differ significantly regarding type of delivery (75% vs. 77% vaginal, 25% vs. 23% Caesarean), length of hospital stay ( $M \text{ days} \pm SD = 3.1 \pm 1.46$  vs.  $2.7 \pm 1.47$ ), or breastfeeding prevalence at 3 weeks postpartum (94% vs. 90%). However, the immigrant mothers were slightly older than the Canadian-born mothers ( $M \text{ age in years} \pm SD = 30.4 \pm 4.6$  vs.  $27.8 \pm 5.0$ ,  $p = .011$ ) and had significantly lower prenatal-class attendance (47% vs. 74%,  $p = .006$ ). Overall, the immigrant mothers also reported lower educational levels and lower total household income. Whereas 40% of immigrant as compared to 64% of Canadian-born participants were educated at the university level or higher (indicating a well-educated sample in general), one quarter of immigrant versus only 13% of Canadian-born participants had high school education or less. Approximately one third of both immigrant and Canadian-born mothers chose not to disclose their household income; of those who did disclose, more immigrant than Canadian-born participants (28% vs. 8%) reported an annual income of less than \$20,000, and fewer immigrant than Canadian-born mothers (15% vs. 39%) revealed an income greater than \$50,000.

### *Impressions of Breastfeeding Support*

Immigrant and Canadian-born mothers reported similar mean total scores for both Hospital ( $M \pm SD = 36.5 \pm 5.02$  vs.  $35.0 \pm 7.26$ ) and Community breastfeeding support ( $M \pm SD = 38.5 \pm 4.63$  vs.  $40.7 \pm 4.18$ ). However, the observed power to detect differences between the groups was low (i.e., .24 for Hospital and .48 for Community support), possibly contributing to the non-significant findings. However, differences were noted in overall impressions of breastfeeding support. Immigrant mothers agreed more strongly that hospital staff helped them to feel confident about breastfeeding ( $p = .003$ ). Canadian-born mothers, on the other hand, were more likely to feel that they had received contradictory information about breastfeeding from hospital staff (32% vs. 7%,  $p = .001$ ).

Following hospital discharge, 99% of immigrant and 95% of Canadian-born mothers received a follow-up telephone call from a community-care nurse. However, significantly more of the immigrant mothers (88% vs. 67%) also received at least one home visit by a community-care nurse ( $p = .01$ ). Although Canadian-born mothers were less likely to receive community-care follow-up, those who did receive home visits agreed more strongly than their immigrant counterparts that the community-care providers valued breastfeeding ( $p = .007$ ), that providers were available to help with breastfeeding whenever needed ( $p = .023$ ), and that they felt comfortable asking providers for help with breastfeeding ( $p = .01$ ).

### *Hospital and Community-Care Practices*

Hospital and community-care practices to protect, promote, and support breastfeeding fell short of the guidelines recommended in the WHO's Ten Steps to Successful Breastfeeding. Only four of the Hospital and four of the Community practices were reported by a minimum of 80% of mothers, this cut-off having been established by the Baby Friendly Hospital Initiative to evaluate adherence to the Ten Steps.

More Canadian-born mothers reported having roomed-in day and night with their baby during their hospital stay, a practice that promotes early and frequent breastfeeding (Yamauchi & Yamanouchi, 1990) (Table 1). Immigrant mothers were more likely to report that their breastfeeding infant was given supplemental water or formula during their hospital stay and that they were provided with formula samples upon discharge, practices that may be detrimental to breastfeeding success (Blomquist, Jonsbo, Serenius, & Persson, 1994; Perez-Escamilla,



Pollin, Lonnerdal, & Dewey, 1994). In addition, a larger proportion of immigrant mothers were shown how to express their milk during their hospital stay (Table 1).

<b>Table 1</b> <i>Mothers' Reports of Hospital Practices in Support of Breastfeeding</i>					
<b>Hospital Practices</b>	<b>All Mothers (n = 108) %</b>	<b>Immigrant (n = 69) %</b>	<b>Canadian-born (n = 39) %</b>	<b><math>\chi^2</math></b>	<b>p</b>
Staff demonstrated how to position baby to breast	94	96	90	1.44	.231
Baby was not provided with a pacifier	93	90	97	2.09	.148
Staff offered help with breastfeeding	90	90	90	.00	.985
Baby was breastfed on demand in the hospital	87	84	92	1.56	.210
Formula samples were not provided at hospital d/c	64	57	76	4.15	.042*
Staff provided information on breastfeeding resources	63	59	68	.85	.357
Baby roomed-in 24 hours/day in hospital	57	49	69	4.04	.045*
Staff offered help breastfeeding within 1 hour of birth	45	41	53	1.44	.230
No supplements of water or formula were given to baby unless medically indicated	32	25	44	3.95	.047*
Staff provided breastfeeding information to family members	32	38	21	3.13	.077
Staff demonstrated how to express milk, if needed	57	65	44	4.77	.029*
*p < .05					

Of the participants who received postpartum follow-up services (n = 90), immigrant mothers were significantly more likely to have been offered breastfeeding help and shown how to breastfeed by commu-

nity-care staff, whereas Canadian-born mothers were more likely to have been provided information about breastfeeding support groups or breastfeeding specialists (Table 2).

**Table 2** *Mothers' Reports of Community-Care Practices in Support of Breastfeeding*

Community-Care Practices	All Mothers ( <i>n</i> = 108) %	Immigrant ( <i>n</i> = 66) %	Canadian-born ( <i>n</i> = 24) %	$\chi^2$	<i>p</i>
Staff demonstrated how to position baby to breast	82	89	65	7.09	.008*
Baby was not provided with a pacifier	77	76	80	.16	.690
Staff offered help with breastfeeding	90	97	83	6.21	.013*
Mother was counselled to breastfeed on demand	87	89	96	1.23	.268
Staff provided information on breastfeeding resources	67	60	84	5.86	0.15
No supplements of water or formula were given to baby unless medically indicated	80	78	87	1.08	.299
Staff provided breastfeeding information to family members	41	35	52	2.29	.130
Staff demonstrated how to express milk, if needed	64	70	52	2.67	.102
* <i>p</i> < .05					

### *Types of Breastfeeding Information*

No significant differences were found in the two groups regarding type of professional breastfeeding information received. Most mothers (80–95%) reported receiving information related to initiation of breastfeeding (e.g., positioning, frequency of feeding, dealing with common breastfeeding discomforts). A smaller percentage of mothers (30%) reported receiving information on the social aspects of breastfeeding (e.g., breastfeeding discreetly in public, dealing with unwanted comments).

Mothers were much more likely to have received information about the advantages of breastfeeding (90%) than the disadvantages of formula-feeding (47%). One third of the sample reported receiving no information on problems associated with early introduction of bottles or pacifiers. A surprisingly high percentage of mothers (30–56%) reported receiving no information on how to ensure adequate milk production (e.g., how breast milk is produced, signs of adequate infant intake, managing milk supply).

The two groups differed on the type of professional information they considered *most helpful*. Immigrant mothers considered information on the advantages of breastfeeding for the baby the most helpful (33% vs. 10%), whereas Canadian-born mothers saw information on how to position the baby to the breast as the most helpful (40% vs. 19%).

### Sources of Breastfeeding Information

The most and least commonly identified sources of breastfeeding information are summarized in Table 3. Significant differences were found

<b>Table 3</b> <i>Most and Least Commonly Identified Sources of Breastfeeding Information</i>					
	All Mothers ( <i>n</i> = 108) %	Immigrant ( <i>n</i> = 69) %	Canadian-born ( <i>n</i> = 39) %	$\chi^2$	<i>p</i>
<b>5 most common sources</b>					
Books on breastfeeding	92	94	87	1.61	.205
Hospital nurses	92	94	87	1.61	.205
CLSC (community-care) nurses	88	96	74	10.92	.004*
Pamphlets/information sheets	78	70	92	7.46	.006*
<i>From Tiny Tots to Toddlers</i> <sup>a</sup>	64	61	69	.76	.385
<b>5 least common sources</b>					
Husband or partner	26	28	23	.26	.611
Info-santé <sup>b</sup>	22	25	18	.65	.422
Breastfeeding specialist	21	13	36	7.76	.005*
Internet	16	9	28	7.15	.007*
Breastfeeding support group	13	12	15	.32	.573
<sup>a</sup> Government-sponsored infant-care booklet, provided free to all new mothers in Quebec.					
<sup>b</sup> Quebec's 24-hour health information telephone hotline.					
* Indicates significant differences between immigrant and Canadian-born mothers; <i>p</i> < .01.					

between immigrant and Canadian-born mothers in their use of breastfeeding informational sources. Community-care nurses were identified as a source of breastfeeding information by 96% of immigrant as compared to 74% of Canadian-born mothers ( $p = .004$ ), whereas a greater number of Canadian-born mothers (36% vs. 13%) reported having received information from a breastfeeding specialist ( $p = .005$ ). Canadian-born mothers were also significantly more likely to identify pamphlets/information sheets ( $p = .006$ ) and the Internet ( $p = .007$ ) as a source of information (Table 3).

Furthermore, of sources of breastfeeding information surveyed for importance, books were identified by a significant proportion of both immigrant (36%) and Canadian-born (41%) mothers as their *most important* source. The second most frequently reported answer to this question was "community-care nurse" among the immigrant mothers, but "breastfeeding specialist" among the Canadian-born mothers. However nurses were identified by both groups of mothers as the source of the *most helpful item* of breastfeeding information from a health professional. More mothers reported relying on informal sources of breastfeeding information, such as friends or colleagues (63%) and family members (56%), than medical sources, such as obstetrician/family physician (33%) or pediatrician (43%).

## Discussion

This study examined the impressions of first-time mothers regarding breastfeeding information and support on the part of hospital- and community-based health professionals in a multiethnic community. Overall, mothers' evaluations of professional breastfeeding support were found to be positive, despite their reports of what breastfeeding experts would consider less than optimal standards of hospital and community-care practice concerning breastfeeding.

The survey also indicates that immigrant and Canadian-born mothers differ in their perceptions of breastfeeding support. Whereas the immigrant mothers were more likely to experience practices detrimental to breastfeeding success (e.g., in-hospital formula supplementation), their evaluations of in-hospital breastfeeding support were more positive than those of the Canadian-born mothers. On the other hand, the immigrant mothers were more likely to receive breastfeeding support from community health services, yet were less positive about the follow-up care that was provided. These observations may reflect either social desirability biases on their part or differential care expectations based on cultural beliefs and practices (Rossiter & Yam, 2000).

Also, immigrant mothers may have been less cognizant of gaps in professional knowledge and skills related to breastfeeding management, due to language barriers and/or less exposure to breastfeeding information (e.g., lower prenatal-class attendance; less reliance on informational sources such as the Internet).

Overall, the breastfeeding information provided to the mothers tended to focus more on the successful initiation of breastfeeding than on strategies to incorporate breastfeeding into the mother's lifestyle. In addition, despite evidence that perceived inadequate milk supply is the most common reason for early termination of breastfeeding (Hill & Aldag, 1991), mothers were provided with minimal information on ensuring adequate milk production.

As supported by the literature (e.g., Rentschler, 1991), books were found to be the most common source of breastfeeding information. Both hospital and community-care nurses were also identified as significant sources of information, the latter particularly among immigrant mothers, who may be more intensely targeted for community follow-up. Canadian-born mothers, on the other hand, were more likely to use fee-for-service lactation consultants.

The present findings are limited to the profile of new mothers who met the selection criteria for the study and were willing to take part in this survey. There is no background information available on mothers who were not contacted (e.g., did not have a phone) or who refused to participate. Also, the observed significant differences between the immigrant and Canadian-born participants may have been related to other background characteristics such as age or education. In addition, the instrument used for the survey was developed in the context of the present study and warrants further testing.

In a recent position paper, the Order of Nurses of Quebec (1998) underscored the role of nurses in supporting breastfeeding and urged nurses to take action towards fostering public and professional attitudes that promote successful breastfeeding. The present study validates mothers' perceptions of nurses as a central source of breastfeeding information and support but also documents professional practices that fall short of recommended standards. Further research is needed to determine how contextual factors such as the knowledge, attitudes, and behaviour of health-care providers, as well as family and social attitudes, may be perceived by mothers as supportive or not supportive of breastfeeding. It is through the concerted efforts of clinicians, researchers, policy-makers, and the public that the success of promotional activities pertaining to breastfeeding can best be achieved.



## References

- Barber, C.M., Abernathy, T., Steinmetz, B., & Charlebois, J. (1997). Using a breastfeeding prevalence survey to identify a population for targeted programs. *Canadian Journal of Public Health*, 88(4), 242-245.
- Bar-Yam, N., & Darby, L. (1997). Fathers and breastfeeding: A review of the literature. *Journal of Human Lactation*, 13, 45-50.
- Bernaix, L. (2000). Nurses' attitudes, subjective norms, and behavioral intentions toward support of breastfeeding mothers. *Journal of Human Lactation*, 16(3), 201-209.
- Bick, D. (1999). The benefits of breastfeeding for the infant. *British Journal of Midwifery*, 7(5), 312-322.
- Blomquist, H.K., Jonsbo, F., Serenius, F., & Persson, L.A. (1994). Supplementary feeding in the maternity ward shortens the duration of breastfeeding. *Acta Paediatrica*, 83, 1122-1126.
- Brislin, R.W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1, 185-216.
- Bronner, Y., Barber, T., & Miele, L. (2001). Breastfeeding peer counseling: Rationale for the National WIC survey. *Journal of Human Lactation*, 17(2), 135-139.
- Canadian Pediatric Society, Dietitians of Canada, & Health Canada. (1999). *Nutrition for healthy term infants*. Ottawa: Minister of Public Works and Government Services.
- Coreil, J., Bryant, C., Westover, B., & Bailey, D. (1995). Health professionals and breastfeeding counseling: Client and provider views. *Journal of Human Lactation*, 11(4), 265-271.
- Côté, B., Colgan, J., Loiselle, C., Gastaldo, D., Semenik, S., Gendron, R., Bussi res, J., Lapointe, M., & Morin, C. (2000). *Allaitement maternel et marrainage en milieu pluriethnique*. Research Report. Ottawa: Health Canada.
- Dennis, C.-L. (1999). Theoretical underpinnings of breastfeeding confidence: A self-efficacy framework. *Journal of Human Lactation*, 15(3), 195-201.
- Duckett, L., Henly, S., Avery, M., Potter, S., Hills-Bonczyk, S., Hulden, R., & Savik, K. (1998). A theory of planned behavior-based structural model for breastfeeding. *Nursing Research*, 47(6), 325-336.
- Duckett, L., Henly, S., & Garvis, M. (1993). Predicting breastfeeding duration during the postpartum hospitalization. *Western Journal of Nursing Research*, 15(2), 177-198.
- Health Canada. (1999). *Breastfeeding in Canada: A review and update*. Ottawa: Minister of Public Works and Government Services Canada.
- Hill, P., & Aldag, J. (1991). Potential indicators of insufficient milk supply syndrome. *Research in Nursing and Health*, 14, 11-19.
- Hoyer, S., & Horvat, L. (2000). Successful breastfeeding as a result of a health education programme for mothers. *Journal of Advanced Nursing*, 32(5), 1158-1167.

- Hughes, R., Townsend, P., & Branum, Q.K. (1988). Relationship between neonatal behavioral responses and lactation outcomes. *Issues in Comprehensive Pediatric Nursing*, 11, 271–281.
- Humenick, S., Hill, P., & Spiegelberg, L. (1998). Breastfeeding and health professional encouragement. *Journal of Human Lactation*, 14(4), 305–310.
- Humphreys, A., Thompson, N., & Miner, K. (1998). Intention to breastfeed in low-income pregnant women: The role of social support and previous experience. *Birth*, 25(3), 169–174.
- Kearney, M.H., Cronenwett, L.R., & Barrett, J.A. (1990). Breastfeeding problems in the first week postpartum. *Nursing Research*, 39(2), 90–95.
- Lévesque, P. (1998). L'allaitement maternel : Bon pour la mère aussi. *Le Médecin du Québec*, 33(4), 101–110.
- Levitt, C., Kaczorowski, J., Hanvey, L., Avard, D., & Chance, G. (1996). Breastfeeding policies and practices in Canadian hospitals providing maternity care. *Canadian Medical Association Journal*, 155, 181–188.
- Lewinski, C. (1992). Nurses' knowledge of breastfeeding in a clinical setting. *Journal of Human Lactation*, 8(3), 143–148.
- Loiselle, C.G. (1995). Self-evaluation and health information-seeking: A study of self-assessment and self-protection motives. Unpublished doctoral dissertation, University of Wisconsin, Madison, Wisconsin, USA.
- Maclean, H. (1998). Breastfeeding in Canada: A demographic and experiential perspective. *Journal of the Canadian Dietetic Association*, 59(1), 15–23.
- Matich, J., & Sims, L. (1992). Comparison of social support variables between women who intend to breast or bottlefeed. *Social Science and Medicine*, 34, 919–927.
- McNatt, M., & Freston, M. (1992). Social support and lactation outcomes in postpartum women. *Journal of Human Lactation*, 8, 73–77.
- Perez-Escamilla, R., Pollin, E., Lonnerdal, B., & Dewey, K.G. (1994). Infant feeding policies in maternity wards and their effect on breastfeeding success: An analytic overview. *American Journal of Public Health*, 84, 89–97.
- Piper, S., & Parks, P. (1996). Predicting the duration of lactation: Evidence from a national survey. *Birth*, 23(1), 7–12.
- Ministère de la Santé et des Services Sociaux. (1999). Priorités nationales de santé publique 1997–2002. Quebec: Author.
- Nunnally, J.C., & Bernstein, I.H. (1994). *Psychometric theory* (3rd Ed.). Montreal: McGraw-Hill.
- Order of Nurses of Quebec. (1998). Prise de position : Allaitement maternel. [Web page]: <http://www.oiiq.org/princ/html> [Accessed October 11, 2000].
- Raj, V.K., & Plichta, S.T. (1998). The role of social support in breastfeeding promotion: A literature review. *Journal of Human Lactation*, 14(1), 41–45.
- Rentschler, D. (1991). Correlates of successful breastfeeding. *Image: Journal of Nursing Scholarship*, 23(3), 151–154.
- Riordan, J., & Gill-Hopple, K. (2001). Breastfeeding care in multicultural populations. *Journal of Obstetric, Gynecologic and Neonatal Nursing*, 30(2), 216–223.

- Rossiter, J., & Yam, B. (2000). Breastfeeding: How could it be enhanced? The perceptions of Vietnamese women in Sydney, Australia. *Journal of Midwifery and Women's Health*, 45(3), 271-276, 197-201.
- Schanler, R., O'Connor, K., & Lawrence, R. (1999). Pediatricians' practices and attitudes regarding breastfeeding promotion. *Pediatrics*, 103(3), E35.
- Sévigny, R., & Tremblay, L. (1998). *L'adaptation des services de santé et des services sociaux au contexte pluriethnique*. Unpublished manuscript, Centre de recherche et de formation, CLSC Côte-des-Neiges, Montreal, Quebec.
- Sheeshka, J., Potter, B., Norrie, E., Valaitis, R., Adams, G., & Kuczynski, L. (2001). Women's experiences breastfeeding in public places. *Journal of Human Lactation*, 17(1), 31-38.
- Sidorski, J., & Renfrew, M. (2000). Support for breastfeeding mothers (Cochrane Review). *The Cochrane Library, Issue 1*. Oxford: Update Software.
- Vallerand, R.J. (1989). Vers un méthodologie de validation trans-culturelle de questionnaires psychologiques : Implications pour la recherche en langue française. *Psychologie Canadienne*, 30(4), 662-670.
- World Health Organization. (1989). *Protecting, promoting and supporting breast-feeding: The special role of maternity services*. Geneva: Author.
- World Health Organization. (1998). *Evidence for the Ten Steps to Successful Breastfeeding*. Geneva: WHO Division of Child Health and Development.
- Yamauchi, Y., & Yamanouchi, I. (1990). The relationship between rooming-in/not rooming-in and breastfeeding variables. *Acta Paediatrica*, 79, 1017-1022.

### Authors' Note

This study was supported in part by Health Canada, Health Programs and Services Branch (CPNP Project 6971-05-1998-2230005). Portions of the data were presented at the 2nd International Research Conference "Health Care in a Complex World," Faculty of Nursing, University of Toronto, May 2001, and at the AWHONN Canada 12th National Conference, Vancouver, October 2001.

The assistance of Claudia Thomas, RN, MScN, in contacting potential participants and Ms. Dagmar Guillouët in conducting telephone interviews is gratefully acknowledged.

Correspondence concerning this article should be addressed to Carmen G. Loiselle, School of Nursing, McGill University, 3506 University Street, Montreal QC H3A 2A7 Canada. E-mail: <cloise4@po-box.mcgill.ca>.