Psychosocial Determinants of the Intention of Nurses and Dietitians to Recommend Breastfeeding

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ABSTRACT

Objectives: To identify the major psychosocial determinants of the intention of nurses and dietitians to recommend breastfeeding to new mothers for six months as well as the salient beliefs underlying this intention.

Method: Following an open-ended questionnaire that sought to elicit their most significant beliefs, a standardized questionnaire based on a modified model of Ajzen's theory of planned behaviour, was sent to New Brunswick nurses and dietitians who graduated between January 1992 and December 1996. Multiple regression analysis determined which variables contributed the most to the prediction of intention.

Results: The main determinants of intention were perceived behavioural control and perceived professional norm. They explained 69% of the variance in intention. All salient beliefs underlying the perceived behavioural control were significantly associated with intention.

Conclusion: To help nurses and dietitians to support and promote breastfeeding more effectively, programs should focus on changing perceived and true barriers to recommending breastfeeding, as well as the related perceived professional norm.

La traduction du résumé se trouve à la fin de l'article.

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The proportion of new mothers who breastfeed in Canada is still below current recommendations.¹ Among those who do initiate breastfeeding, its duration is generally much shorter than recommended.^{2,3} Professional and hospital practices have an influence on the initiation and length of breastfeeding, but health professionals are not always convinced of their important role in breastfeeding protection, promotion and support.⁴⁻⁸

To improve the contribution of health professionals to successful breastfeeding, it is necessary to understand the major determinants of their practices. Over the past 20 years, the use of psychosocial theories has gained in popularity to better predict and understand behaviour.⁹ Ajzen's theory of planned behaviour (TPB) has frequently been successful in explaining and predicting health-related behaviours.⁹ However, very few studies have looked at the psychosocial determinants of the intention of health professionals to recommend breastfeeding.¹⁰

This study was undertaken to apply the concepts of the TPB to the behaviour of New Brunswick nurses and dietitians concerning the recommendation to breastfeed. The TPB is based on the assumption that the immediate determinant of a behaviour is the person's intention to perform or not to perform the behaviour.¹¹ The determinants of intention itself are: (i) attitude towards the behaviour, i.e., the positive or negative evaluation of performing a given behaviour; (ii) subjective norm or the perceived social pressure to perform or not to perform the behaviour; and (iii) perceived behavioural control which reflects personal beliefs as to how easy or difficult performing the behaviour would be. Perceived behavioural control is similar to the concepts of self-efficacy and facilitating conditions in other psychosocial theories.⁹ In the present study, perceived personal norm and perceived professional norm – two variables related to Triandis' theory – were assessed as well because they were deemed potentially important to explain the intention to recommend breastfeeding.¹² Perceived personal norm refers to the person's evaluation of the behaviour in accordance with his/her personal convictions. Perceived professional norm differs from perceived personal norm in the sense that the person evaluates the behaviour in

accordance with professional, not personal, convictions. The theoretical model is presented in Figure 1.

More specifically, this study attempts to 1) identify the major determinants of the intention of nurses and dietitians to recommend breastfeeding to new mothers for six months, and 2) determine the major beliefs underlying their intention. To attain behavioural change, it is essential to focus the intervention on beliefs that discriminate among individuals with different intentions.^{9,13}

METHOD

The study focused on nurses and dietitians from New Brunswick who: 1) had completed their undergraduate degree in nursing, or their internship in dietetics, between January 1992 and December 1996, 2) still resided in the province and were members of their respective provincial professional organization. The latter provided us with their names and addresses. Young practitioners were selected for this study as opposed to a broader age group or older practitioners so that the results could be used to influence their future practice. The data were obtained by means of two self-administered questionnaires mailed with enclosed postage-paid return envelopes in October 1997 and March 1998.

The first questionnaire was open-ended; it sought to elicit participants' most significant beliefs concerning: 1) advantages and disadvantages of recommending breastfeeding for six months, 2) individuals or groups of individuals important to them who would approve or disapprove that they recommend breastfeeding for six months, and 3) barriers or conditions associated with recommending breastfeeding for six months. The most frequently cited beliefs (accounting for 75% of all stated beliefs) were used to build the second questionnaire. The latter included items based on the modified TPB as well as socio-demographic data. Likert-type scales were used to measure the different items. The questionnaire was pilot-tested for comprehension, level of language and clarity. A test-retest reliability study was performed with 40 first-year university students in nutrition and nursing. Internal consistency (Cronbach's alpha) and temporal stability

TABLE I
Socio-demographic Data

	Nurses N=124 $\bar{X} \pm \text{sem}$	Dietitians N=27 $\bar{X} \pm \text{sem}$
Age	27.0 $\pm$ 0.28	27.0 $\pm$ 0.36
Work experience (years)	3.68 $\pm$ 0.14	3.48 $\pm$ 0.26
Mother tongue: French	% (N) 55 (66)	% (N) 69 (18)
Workplace		
Nursing home/Home care	24	23
Public health	7	31
Hospital*	57	15
Mental health/mgt./others	11	31
Have children	39 (48)	19 (5)
Previously breastfed†	(38)	(3)

* Chi-square 23.6; $p < 0.001$

† Excludes (n=12) participants breastfeeding at the time of the study.

Figure 1. Modified model – Theory of Planned Behaviour

of the constructs (Cohen's index) were judged sufficient except for two items which were eliminated. The questionnaire's final version included 41 items.

The behaviour under study was defined as 'always recommending to new mothers in my future practice that they breastfeed for six months'. Two items were used to measure intention; their mean defines the global score of intention which was used in the statistical analysis. Similar procedures were used to determine subjective norm and perceived behavioural control. The score of attitude was obtained by an evaluative semantic differential scale using four pairs of adjectives. Perceived personal and professional norms were measured by one item each.

Attitude, subjective norm and perceived behavioural control were also measured indirectly using items based on the beliefs identified previously. The belief-based constructs consisted of belief-strength statements with the corresponding positive or negative evaluation of those same beliefs. Fourteen items representing seven beliefs and their evaluation were necessary to measure belief-based attitude. To assess belief-based subjective norm, twelve items repre-

sented six beliefs and their evaluation were used. The measurement of these constructs corresponds to the mean of the sum of the products (belief x evaluation). Belief-based perceived behavioural control was measured by means of five items using only the belief-strength statements.

Analysis was done with the Statistical Analysis System (SAS).¹⁴ The sample was described by frequency distributions. Chi-square statistics and T-tests were used to verify differences between groups and Pearson's correlations to test for association among variables. Multiple regression analysis determined which variables contributed the most to the prediction of intention. The level of significance was established at less than 0.05.

RESULTS

The overall response rate was 48% (166/349). Thirteen questionnaires were removed from the sample for non-compliance with the year of graduation and the two male participants were eliminated for a total of 151 respondents. Being male should have been stated as an exclusion criterion but we did not foresee that

TABLE II
Correlation Matrix between Intention and Determinants of Intention (Pearson *r*)

N=151	1.	2.	3.	4.	5.
1. Intention	—				
2. Attitude	0.65*	—			
3. Subjective Norm	0.61*	0.58*	—		
4. Perceived Behavioural Control	0.78*	0.64*	0.62*	—	
5. Perceived Personal & Professional Norms	0.71*	0.66*	0.59*	0.62*	—

* $p < 0.001$

TABLE III
Prediction of Intention to Recommend Breastfeeding (n=151)

Variables	Standardized Coefficient (β)	P-value
Attitude	.08	0.253
Subjective Norm	.08	0.211
Perceived Behavioural Control	.47	0.0001
Perceived Personal Norm	.10	0.127
Perceived Professional Norm	.24	0.003

Figure 2. Perceived impact of major beliefs underlying the perceived behavioural control for participants with low or high intention to recommend breastfeeding.

there would only be two male respondents. Dietitians (66%) were much more likely to respond than nurses (40%). Overall, there were no significant differences in the socio-demographic data between nurses and dietitians, although significantly more nurses than dietitians worked in a hospital setting (Table I). The participants were young professionals and few were parents. More than half belonged to the French cultural group.

All the proposed determinants of intention (attitude, subjective norm, perceived behavioural control, perceived personal

and professional norms) were significantly correlated with intention as well as with each other (Table II). Results of the regression of intention on the theoretical variables are presented in Table III. The main determinants, which explained 69% of the variance in intention to recommend breastfeeding, were perceived behavioural control ($\beta=0.47$, $p<0.0001$) and perceived professional norm ($\beta=0.24$, $p<0.003$), the former being somewhat more important to predict intention.

Having identified earlier that dietitians had a stronger intention to recommend

breastfeeding than nurses, another regression analysis was performed using profession (as a dummy variable) as a predictor. Results are not shown since profession did not add to the prediction of intention ($p=0.6009$). It is concluded that the determinants of intention to recommend breastfeeding were similar among nurses and dietitians. We then included in the regression analysis each of the socio-demographic and work-related variables listed in Table I; it did not modify the final results.

All the beliefs underlying the perceived behavioural control were significantly associated with the intention to recommend breastfeeding. That is, all were identified as important by participants whether their intention to recommend breastfeeding was positive or negative. However, high intenders (scores of 1 to 3 on a -3 to +3 scale) perceived a greater ability to overcome each barrier than low intenders (scores lower than 1 on a -3 to +3 scale) (Figure 2).

DISCUSSION

These results suggest that, to more effectively help nurses and dietitians of New Brunswick to recommend breastfeeding to new mothers for six months, it is necessary to address: (i) their perception of control over perceived barriers, and/or address the barriers directly; and (ii) their perceived professional role.

It is difficult to establish links between our results and the literature. Few studies on the behaviour of recommending breastfeeding are based on theoretical models. Godin and Kok,⁹ in their analysis of more than 56 studies using the TPB on different health-related behaviours, reported that the theory performs very well for the explanation of intention; on average, 41% of the variance was explained. Matheny, Picciano and Bowermaster¹⁰ observed that attitude ($\beta=0.62$) was the best predictor of medical students' intention to recommend breastfeeding, followed by subjective norm ($\beta=0.25$). Sixty-one percent of the variance of intention could be explained. However, in their study, perceived behavioural control was not assessed. A study among physicians in British Columbia by Burglehaus et al.¹⁵ associated low self-efficacy, a concept similar to perceived behavioural control, with low rates of breastfeeding counselling. This finding is

in agreement with our results. No comparisons could be made with the perceived professional norm as, to our knowledge, no study on the behaviour of recommending breastfeeding has considered this concept as a determinant of intention.

To improve the intention of nurses and dietitians of New Brunswick to recommend breastfeeding, a strategy should consider including the following aspects: (i) improve the availability of community and professional resources for breastfeeding, as well as social support for mothers who wish to breastfeed, so as to effectively decrease the barriers that limit the ability of nurses and dietitians to recommend breastfeeding; (ii) improve the ability of health professionals to overcome perceived barriers when recommending breastfeeding, by developing activities to improve knowledge and clinical skills in breastfeeding management. An emphasis should be placed on improving their skills in finding solutions to overcome potential barriers when recommending breastfeeding; for example, how to motivate and support a mother with low interest in breastfeeding, or a mother with enough income to purchase breast milk substitutes. Such measures should improve their perception of control over recommending breastfeeding, leading to stronger intention; (iii) nurses and dietitians should be offered opportunities to exchange information with others on their experiences and on their role with breastfeeding protection, promotion and support. Furthermore, professional organizations for nurses and dietitians should clearly state their members' roles and responsibilities towards breastfeeding in order to clarify and reinforce their perceived professional norm regarding the protection, promotion and support for breastfeeding. Policy statements supporting breastfeeding should be adequately disseminated. Programs for training and for continuing education in university, clinical and community settings should also deal adequately with breastfeeding protection, promotion and support.

Some limits of the current study should be noted. The response rate was acceptable but moderate (48%) despite recall letters. It was not possible to assert whether non-respondents differed from respondents. Thus, it is possible that respondents were among the most interested in breastfeeding. However, if this were the case, the barriers identified would likely be even stronger among those less favorable to breastfeeding. Also, the results cannot be generalized to all health professionals since those targeted were the younger generation of nurses and dietitians of New Brunswick. Thus, additional studies should be carried out among different groups of health care providers to understand what motivates them to recommend breastfeeding.

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RÉSUMÉ

Objectifs : Décerner les principaux déterminants psychosociaux de l'intention des infirmières et des diététistes de recommander aux nouvelles mères d'allaiter pendant six mois, de même que les croyances qui sous-tendent cette intention.

Méthode : Après un premier questionnaire ouvert pour décerner les principales croyances, un questionnaire standardisé, basé sur un modèle modifié de la théorie du comportement planifié de Ajzen, fut expédié aux infirmières et diététistes du Nouveau-Brunswick ayant obtenu leur diplôme entre 1992 et 1996. Les analyses de régression multiple ont déterminé quelles variables contribuaient le plus à la prédiction de l'intention.

Résultats : La perception du contrôle et la norme professionnelle perçue se sont révélées être les principaux déterminants de l'intention. Ensemble, elles expliquaient 69 % de sa variance. Toutes les croyances sous-jacentes à la perception du contrôle étaient significativement reliées à l'intention.

Conclusion : Pour aider les infirmières et diététistes à mieux soutenir et promouvoir l'allaitement, les programmes devraient viser à modifier leur perception des barrières, ou les barrières réelles, à recommander l'allaitement, de même que la norme professionnelle perçue.