Effectiveness of a 3-hour breastfeeding course for family physicians

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Abstract

Objective To test the effectiveness of a 3-hour course on breastfeeding for family physicians.

Design A previously validated questionnaire testing confidence in, attitudes toward, and knowledge of breastfeeding issues was administered to participants 1 week before and 2 months after taking the Breastfeeding Basics for the Practicing Physician course.

Setting Canada.

Participants Family physicians and residents who attended the Breastfeeding Basics for the Practicing Physician course between July 2008 and December 2010.

Interventions Participants' scores on the questionnaires that were filled out before and after the course were collected and analyzed.

Main outcome measures Changes in participants' confidence in, attitudes toward, and knowledge of breastfeeding issues before and after the course were examined.

Results A total of 80 participants completed the questionnaire before the course, and 72 completed the questionnaire after the course. Of these, 40 participants completed questionnaires both before and after the course; data from these participants were used for paired analysis. Mean scores for attitudes increased significantly from 77.4 before the course to 83.0 after the course ($P<.001$). Mean scores for knowledge also increased significantly from 150.2 before the course to 159.2 after the course ($P<.001$). No significant difference in confidence was seen ($P=.486$).

Conclusion This study demonstrated the effectiveness of a 3-hour breastfeeding course in improving participants' attitudes toward and knowledge of breastfeeding issues.

EDITOR'S KEY POINTS

- Family physicians are vital in providing breastfeeding support, but many of them do not have the confidence in, attitudes toward, and knowledge of breastfeeding issues to adequately provide this support. This is partly because of the lack of formal breastfeeding education in medical schools, residency programs, and continuing medical education programs.
- Although many breastfeeding training programs exist, there are few that are concise and that focus specifically on physician needs. The 3-hour Breastfeeding Basics for the Practicing Physician course was designed specifically for family physicians.
- For those participants who attended the course and completed questionnaires before and after the course, their attitudes toward and knowledge of breastfeeding improved but their confidence did not. Developing confidence in breastfeeding issues might take longer and require more extensive training, and confidence might be gained only after increased knowledge and improved attitudes have been demonstrated.

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Efficacité d'un cours de 3 heures sur l'allaitement maternel à l'intention des médecins de famille

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Résumé

Objectif Vérifier l'efficacité d'un cours de 3 heures sur l'allaitement maternel à l'intention des médecins de famille.

Type d'étude Un questionnaire préalablement validé évaluant la confiance et les attitudes des participants envers l'allaitement maternel et leurs connaissances de cette pratique a été proposé aux participants une semaine avant et 2 mois après qu'ils aient suivi le cours *3-hour Breastfeeding Basics for the Practicing Physician*.

Contexte Le Canada.

Participants Les médecins et les résidents qui ont suivi le cours 3-hour Breastfeeding Basics for the Practicing Physician entre juillet 2008 et décembre 2010.

Interventions On a comparé les scores obtenus aux questionnaires par les participants avant et après le cours.

Principaux paramètres à l'étude Les changements dans la confiance et l'attitude des participants envers l'allaitement maternel et dans leurs connaissances sur cette pratique à la suite du cours.

Résultats Un total de 80 participants ont répondu au questionnaire avant le cours et 72 après le cours : 40 participants ont répondu aux deux : les données de ces derniers ont été utilisées pour une comparaison par paires. Les scores moyens pour les attitudes ont augmenté significativement, passant de 77,4 avant le cours à 83,0 après le cours ($P<,001$). Les scores moyens pour les connaissances ont aussi augmenté de façon significative, de 150,2 à 159,2 ($P<,001$). Pour ce qui est de la confiance, aucune différence significative n'a été observée ($P=,486$).

POINTS DE REPÈRES DU RÉDACTEUR

- Les médecins de famille jouent un rôle capital pour favoriser l'allaitement maternel, mais plusieurs d'entre eux n'ont pas la confiance et l'attitude nécessaires ni les connaissances suffisantes pour encourager cette pratique. Cela est dû en partie au manque de formation officielle sur l'allaitement maternel dans les écoles de médecine, les programmes de résidence et l'éducation médicale continue.

- Quoiqu'il existe plusieurs programmes de formation sur l'allaitement maternel, peu d'entre eux sont concis et sont conçus spécifiquement pour les besoins des médecins. Le cours intitulé *3-hour Breastfeeding Basics for the Practicing Physician* a été conçu spécifiquement pour les médecins de famille.

- Chez les participants qui ont suivi le cours et complété le questionnaire avant et après le cours, on a observé une amélioration de l'attitude envers l'allaitement maternel ainsi que des connaissances accrues dans ce domaine, mais sans amélioration de leur confiance. Il est possible qu'il faille plus de temps et une formation plus poussée pour développer une confiance suffisante envers cette pratique, un résultat qui pourrait n'être atteint qu'après avoir démontré de meilleures connaissances et une attitude améliorée.

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Family physicians have a unique opportunity to provide breastfeeding support, as they follow women during pre-conception, pregnancy, and postpartum, as well as children of all ages. Breastfeeding greatly enhances both infant and maternal health,[1,2] and is cost-effective for individuals and the health care system. The World Health Organization (WHO) recommendations for optimal child nutrition, endorsed by the College of Family Physicians of Canada, include exclusive breastfeeding for the first 6 months of life, with introduction of solid foods and continuation of breastfeeding until 2 years of age and beyond.[3,4] Although Canadian breastfeeding initiation rates were 87.3% in 2009, only 53.9% continued until 6 months and only 24.4% were exclusively breastfeeding at that time.[5]

An important evidence-based strategy to increase breastfeeding rates is for health professionals to provide optimal support to breastfeeding mothers.[6] Mothers place considerable value on physician support,[7] which can increase prenatal intent to breastfeed,[8-10] breastfeeding initiation,[8,10] breastfeeding duration,[8,9,11] and breastfeeding exclusivity.[11,12]

However, confidence in, attitudes toward, and knowledge of breastfeeding issues vary among physicians.[13,14] The lack of formal breastfeeding education in many medical schools, residency programs, and continuing medical education programs[15,16] contributes to this. The WHO offers a 20-hour breastfeeding course for health practitioners that has been shown to positively influence their confidence in and attitudes toward breastfeeding, as well as prolong exclusive breastfeeding rates.[11,17] However, needs analyses have shown that physicians generally value concise, practical courses that address their specific needs.[13,18] In response to this need, a 3-hour Mainpro-C–accredited course, Breastfeeding Basics for the Practicing Physician (BBPP), was developed by a group of family physicians and lactation consultants. The course curriculum was based on subjects covered by the WHO's 20-hour course, and was designed for family physicians with any contact with mothers and babies. Breastfeeding Basics for the Practicing Physician has been presented to family physicians, residents, and specialists, but its effectiveness has not yet been evaluated.

This paper describes the evaluation of the BBPP course with respect to participants' confidence in, attitudes toward, and knowledge of breastfeeding issues. We hypothesized that participants would show an improvement in these categories after completing the course.

METHODS

Participants included family medicine residents and practising family physicians who attended the BBPP course between July 2008 and December 2010 in various Canadian cities. Medical students, specialists, and other health care professionals attending the course were excluded from data analysis.

Research ethics approval was obtained from the Jewish General Hospital Research Ethics Board. All course attendees were given the opportunity to complete the same questionnaire before and after the course, and consent was obtained from those who agreed to participate in the study. Each participant generated his or her own unique identification code before filling out the questionnaire. Participants who did not generate an identification code were excluded from the study.

A modified version of the validated Australian Breastfeeding Knowledge and Attitude Questionnaire[19] was used with permission, and was administered to participants 1 week before and 2 months after the course. The questionnaire included demographic factors, 9 confidence items, 20 attitude items, and 42 knowledge items covering aspects commonly seen in primary care. The questionnaire was reviewed for face validity by 3 family physicians with breastfeeding expertise and a researcher with experience in breastfeeding education.[19] This questionnaire was short and concise, taking only 15 minutes to complete by the authors of this study.

All course registrants were e-mailed an online link to the questionnaire 1 week before the course using SurveyMonkey Web-based survey software. A paper copy of the same questionnaire was also distributed 15 minutes before the course to any attendee who might not have completed it online. Two months after the course, all attendees were e-mailed the link to the questionnaire. Because of the lower questionnaire completion rate in earlier iterations of the course, a paper copy of the questionnaire with a prestamped envelope was also mailed after the course to all course attendees from October 2009 onward.

Items in the confidence and attitudes subscales were measured using a 5-point Likert-type scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree). Following reverse scoring of negatively worded items, higher scores always indicated greater confidence or more positive attitudes. Two of the knowledge items were multiple-choice questions with 1 correct answer, while the rest used a similar Likert-type scale, with an additional "don't know" category (for a total of 6 choices). All questionnaire items were scored in a similar fashion to Brodribb and colleagues' questionnaire.[19]

The maximum score for each subscale in the questionnaire was 35 for the confidence subscale (7 items), 100 for the attitudes subscale (20 items), and 210 for the knowledge subscale (42 items). Only 7 of the 9 items were used for analysis in the confidence subscale. Two of the items were excluded because a substantial number of responses were missing. Data were analyzed using SAS statistical software, version 9.2. Mean scores and 95% CIs for all questionnaire items and separate subscales were

calculated and compared between those who completed the pre- and post-course questionnaires, as well as for those within the paired group (ie, those who completed questionnaires both before and after the course, as identified by their unique numbers). Paired *t* tests were performed for the paired group.

Demographic characteristics of participants who completed the questionnaire before the course, those who completed the questionnaire after the course, and those in the paired group were examined. A correlation analysis between certain participant characteristics of interest and questionnaire scores was performed. Specific knowledge questions that had high rates of incorrect answers (>50%) were also identified.

RESULTS

There were 162 study participants, 80 (49.4%) of whom completed the questionnaire before the course and 72 (44.4%) of whom completed the questionnaire after the course. However, only 40 participants (24.7%) completed questionnaires both before and after the course and could be used for paired analysis.

There were more women than men among study participants. Most participants were practising family physicians, with family medicine residents comprising only 17.5% of the paired participants. However, when asked how many patients with actual breastfeeding problems were seen in the past 3 months, 52.5% of participants answered only 1 to 5 patients.

Table 1 shows the mean scores for each category among participants who completed questionnaires before and after the course.

Table 1. Scores per category among participants who completed questionnaires before (n = 80) and those who completed questionnaires after (n = 72) the course

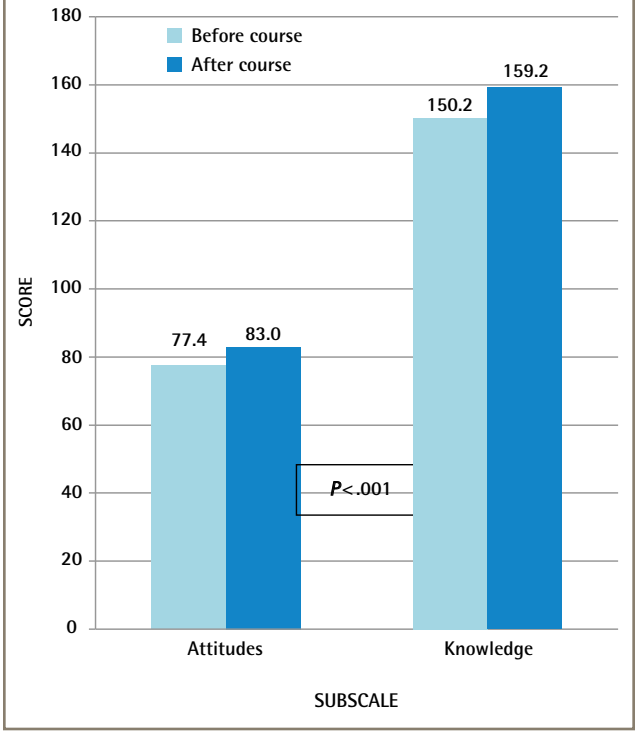
SUBSCALE	MEAN (SD) SCORE	95% CI
Confidence (maximum score = 35)		
• Before course	24.6 (2.6)	24.0 to 25.2
• After course	25.4 (2.0)	25.0 to 25.9
Attitudes (maximum score = 100)		
• Before course	77.4 (8.0)	75.6 to 79.1
• After course	83.0 (7.2)	81.3 to 84.6
Knowledge (maximum score = 210)		
• Before course	150.2 (11.5)	147.7 to 152.8
• After course	159.2 (11.7)	156.4 to 161.9

Figure 1 shows the mean scores for each category in the paired group before and after the course. Paired *t* test results showed a significant increase in both breastfeeding attitudes ($P<.001$) and knowledge scores ($P<.001$) among participants. No significant difference in confidence was seen. The mean score in the confidence category in the paired group was 24.6 before the course versus 25.4 after the course ($P=.486$).

DISCUSSION

There were significant improvements in participants' attitudes toward and knowledge of breastfeeding ($P<.001$); however, there was no significant improvement in their confidence. Although one of the goals was to help participants gain confidence in breastfeeding issues, this confidence might take longer to develop and might require more extensive training. Also, confidence might be gained only after increased knowledge and improved attitudes have been demonstrated. With professional development courses, physicians might become aware of the knowledge that they lack,

Figure 1. Attitudes toward and knowledge of breastfeeding: *N = 40; mean scores before versus after the course in the paired group; maximum scores were 100 for the attitudes subscale (20 items) and 210 for the knowledge subscale (42 items).*



resulting in decreased confidence after the course. The lack of decrease in confidence in this study might be an indication that the course empowered participants to act on their improvement in attitudes toward and knowledge of breastfeeding issues.

Improvement in attitudes and knowledge after various types of breastfeeding training has been shown in other studies,[20,21] but no studies have looked at a 3-hour course. The fact that a 3-hour course had a significant effect on physicians 2 months after taking it suggested the course was effective.

No apparent correlations were found among sex, age, stage of medical training, parental status, or personal breastfeeding experience and the total or individual category scores. There was also no apparent correlation among participants who had seen more patients in the past 3 months who were pregnant, more mothers of infants younger than 12 months, or more mothers having breastfeeding problems and the total or individual category scores.

Individual items that had the lowest scores were recorded for participants who completed the questionnaire before the course, those who completed the questionnaire after the course, and those in the paired group. Most participants who completed the questionnaire before the course and those who completed the questionnaire after the course answered the question about breastfeeding duration incorrectly. Despite recommendations, physicians might have their own ideas about appropriate breastfeeding duration, but this disconnect from the accepted guidelines requires further exploration. Responses to the item about a mother knowing instinctively how to breastfeed were also mostly incorrect for participants who completed the questionnaire before the course and those who completed it after the course. This could reflect physicians' attitudes about how mothers might not be able to use their instincts effectively. Perhaps mothers are not empowered to do so, or lack the confidence or support to use this instinct. However, the belief that mothers have an innate knowledge of how to breastfeed might help physicians empower mothers and promote self-confidence in breastfeeding mothers.

Limitations

Only 40 participants (24.7%) completed the questionnaires before and after the course. This lower-than-expected response rate was the main limitation of this study; other limitations were the fact that participants were mostly self-selected and could be biased.

There were more women than men among study participants, similar to Brodribb and colleagues' study.[19] Just over half of the respondents (52.5%) reported they saw only 1 to 5 patients with actual breastfeeding problems in the past 3 months. This number reflects the intended course demographic (ie, physicians who do not focus their practices in maternal and child health). Further research is needed to determine if participants noted an increase in breastfeeding problems or breastfeeding rates in their patients following the course.

Conclusion

Breastfeeding training is of paramount importance to physicians, who need and welcome such training. The BBPP course improved scores for physicians' attitudes toward and knowledge of breastfeeding despite low response rates. This is the first study to look at the effectiveness of a 3-hour course and it demonstrates that a short course can lead to positive change. This brief course adds to the programs already developed to help make current and future physicians more knowledgeable and confident about breastfeeding issues.

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Contributors

Drs Srinivasan and **Graves** designed the study. **Dr Srinivasan** and **Ms D'Souza** administered questionnaires to participants and collected responses. **Ms D'Souza** was responsible for data extraction and preparation for analysis. The article was written by **Dr Srinivasan** and edited by **Dr Graves** and **Ms D'Souza**.

Competing interests

None declared

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