BRIEF
REPORTS

Breastfeeding During Family Medicine Residency

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BACKGROUND AND OBJECTIVES: Canadian residents' breastfeeding experiences have only been reported in studies that broadly explored pregnancy and parenthood. We sought to fully explore Canadian family medicine resident mothers' breastfeeding experiences, and identify strategies to support workplace breastfeeding for future trainees.

METHODS: Using an online survey, University of Toronto family medicine residents who gave birth from 2010 through 2016 were queried about their exclusive and overall breastfeeding duration, barriers, and facilitators to workplace breastfeeding, and strategies to improve the breastfeeding experience for future resident mothers. Data were downloaded from Qualtrics software and descriptive statistical analyses were conducted using IBM SPSS Statistics v.24.0. Subjective comments were examined and linked to quantitative findings.

RESULTS: Fifty-six of 179 eligible residents completed the survey (31% response rate). More than three-quarters of residents were on maternity leave for 7 to 12 months. All initiated breastfeeding, and 54% breastfed exclusively for 6 months. The median breastfeeding duration was 10 to 12 months. Almost two-thirds of residents were breastfeeding upon return to work, and all experienced barriers to workplace breastfeeding including lack of time, private space, and refrigeration for expressed milk. Lack of a workplace breastfeeding policy and inadequate support from supervisors or program directors were additional barriers. Peer mentorship and more breastfeeding education were identified as strategies to support future residents' breastfeeding goals.

CONCLUSIONS: Addressing long-standing barriers to workplace breastfeeding, and providing peer and educational supports were identified as strategies that could inform program policies to support future trainees' breastfeeding goals and experiences.

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The World Health Organization recommends exclusive breastfeeding for the first 6 months of life, and continued breastfeeding with solids for 2 years and beyond.[1] Most physician mothers initiate breastfeeding, yet many wean early due to work-related factors.[2-13] Canadian residents' breastfeeding experiences were gathered from studies that broadly explored pregnancy and motherhood.[3, 10-12] A qualitative family medicine study conducted between 1994 and 1999, when maternity leave duration was 6 months,[10] and two recent studies of general surgery residents (who took 6 to 12 months maternity leave) showed that barriers to workplace breastfeeding have changed little over this time.[11-12]

Breastfeeding during residency is an important issue, as increasing numbers of women have pregnancies during training, and many medical students consider work-life balance when choosing residency.[14-16] We sought to comprehensively examine Canadian family medicine residents' breastfeeding experiences and determine supportive workplace breastfeeding strategies.

Methods

This descriptive, cross-sectional, anonymous, online pilot study surveyed residents' exclusive and overall breastfeeding duration, barriers, and facilitators to workplace breastfeeding, as well as strategies to enhance trainees' breastfeeding experiences. Some questions allowed additional comments, and final comments were welcomed (see Appendix A at https://journals.stfm.org/media/2430/appendixa-al-imari.pdf). Questions were adapted from earlier studies,[2,4-9] and pilot tested by two medical students and a trainee who

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gave birth during residency and was not a study participant. Eligible participants included 179 female family medicine residents from the University of Toronto who gave birth from 2010 through 2016 and returned to residency after maternity leave. A modified Dillman approach was used to implement the survey[17] using Qualtrics software, between February and March 2017. The survey link was emailed to residents by the Postgraduate Family Medicine Education Office, with four generic reminder emails occurring at 2-week intervals, and no incentives were offered. Data were downloaded as an SPSS file, and descriptive statistical analyses were conducted using IBM SPSS Statistics v.24.0. Thirty final comments and 12 others that clarified reasons for stopping breastfeeding (question #13), were reviewed and linked by themes to quantitative findings by two investigators independently, and then collectively for consensus. The University of Toronto Research Ethics Board approved the study (Protocol ID 33843).

Results

Fifty-six residents completed the survey (31% response rate). All were married, and most were aged 25 to 34 years, and had one child during the 2-year residency program (Table 1).

Most residents went on maternity leave for 7 to 12 months. All initiated breastfeeding; almost half breastfed exclusively for 6 months, and 40% breastfed over 1 year. About half of the residents met or exceeded their breastfeeding duration goal (Table 2).

Babies were generally 9 months old when their mothers returned to work. Almost two-thirds of residents continued breastfeeding after their maternity leave for another 4-7 months or more. All the babies' feeding schedules were modified to accommodate work. Pumping at work (63%), modifying work schedules (31%), breastfeeding at home (20%) or at work (14%) during breaks, were

Table 1: Resident Mothers Characteristics (N=56)

Demographics	n (%)
Age (years)	
<25	1 (1.8)
25-29	25 (44.6)
30-34	26 (46.4)
35-40	4 (7.1)
Marital status	
Married	56 (100.0)
Number of children during residency	
1	46 (82.1)
2	10 (17.9)
Stage of residency	
Postgraduate year 1	25 (44.6)
Postgraduate year 2	31 (55.3)
Residency practice setting	
Urban teaching units	26 (46.4)
Community teaching units	28 (50.0)
Rural sites	2 (3.6)

Table 2: Maternity Leave and Breastfeeding Duration (N=56)

Duration (Months)	n (%)
Maternity leave duration	
1-6	12 (21.4)
7-9	17 (30.4)
10-12	26 (46.4)
Ongoing	1 (1.8)
Intended breastfeeding duration	
1-3	0 (0.0)
4-6	3 (5.4)
7-9	3 (5.4)
10-12	37 (66.1)
13-18	7 (12.5)
19-23	0 (0.0)
>24	3 (5.4)
Undecided	3 (5.4)
Exclusive breastfeeding duration	
<1	2 (3.6)
1-3	4 (7.1)
4-5	17 (30.4)
6	30 (53.5)
Did not breastfeed exclusively	3 (5.4)
Actual breastfeeding duration	
1-3	3 (5.4)
4-6	5 (8.9)
7-9	13 (23.2)
10-12	13 (23.2)
13-18	16 (28.6)
19-23	2 (3.6)
>24	4 (7.1)
Breastfeeding duration after maternity leave (n=35)	
<1	2 (5.7)
1-3	9 (25.6)
4-6	15 (42.9)
7-9	3 (8.6)
10-12	1 (2.9)
>12	5 (14.3)

rated as fairly to very important strategies to maintain milk supply.

However, residents all faced barriers to workplace breastfeeding. The main challenge was insufficient time to breastfeed/pump due to inflexible schedules (76%), followed by inadequate space (ie, private room) to breastfeed/pump (62%), no refrigeration for expressed milk (61%), no workplace breastfeeding policy (50%), and unsupportive supervisors (40%) or program directors (24%). Although three-quarters of residents felt supported, maintaining breastfeeding was difficult. Our residents' comments provided some insight into their breastfeeding experiences (Table 3).

Proper physical space to breastfeed/pump, flexible work schedules, and formal workplace policies were rated as highly important strategies to support trainees. Other suggestions included peer mentorship, and more breastfeeding education (Table 3).

Discussion

In this first study to exclusively explore Canadian family medicine residents' breastfeeding experiences, rates of breastfeeding initiation (97%-100%), and 6-month exclusive breastfeeding (54%) were similar to those reported in earlier Canadian studies.[3,10-12] Conversely, American residents' and physicians' initiation (mean 84%), and 6-month exclusive breastfeeding rates (mean 27%), and duration (5-9 months) were much lower.[2,4-9] The contrast in breastfeeding experiences between Canadians and Americans reflects the significant difference in maternity and parental leave benefits between the two countries. The Family and Medical Leave Act provides up to 12 weeks of unpaid (sick and vacation) leave, while Canada's standard benefit includes up to 52 weeks of paid maternity and parental leave (55% of average weekly insurable earnings).[18,19] It is well established that longer maternity leave is associated with longer breastfeeding duration.[20-27]

Nonetheless, many North American residents and practicing physicians still face the same barriers to workplace breastfeeding as first reported 25 years ago—namely, inadequate physical space and time to breastfeed/pump due to inflexible work schedules.[2-13,28] Currently, there are no breastfeeding support policies in Canadian resident employment agreements.[29] To implement such a policy, residency programs could

Table 3: Strategies to Improve Future Resident Mothers' Breastfeeding Duration and Experience After Return to Work

Workplace Support		
Strategies	**Categories**	**Representative Quotes**
Program policy	Official workplace breastfeeding policy in compliance with the Ontario Human Rights Commission	"Although I was able to breastfeed for the duration that I wanted to, I feel that an official policy would have been beneficial to facilitate discussions around breastfeeding with the rotation supervisors." "Programs need to be sure to comply with the Ontario Human Rights Commission policy on pregnancy and breastfeeding."
	Support from program directors/supervisors to discuss workplace accommodation for pumping/breastfeeding; strategies to finish residency in a timely manner	"My family medicine residency program was extremely supportive of my desire to continue breastfeeding and modified my schedule and provided space. "Reach out to mothers prior to return to work to inform them of breastfeeding policies and ask what their plans/wishes are."
	Support from administrative staff	"Support from administrative staff to modify schedule"
	Daycare on site	"Day care on site"
	Extended maternity leave	"I perceived many more barriers re: pumping and storing breastmilk that I ultimately switched to formula sooner than I may have otherwise done had I taken a longer leave." (4-month maternity leave) "Because I took 12 months maternity leave, I was able to exclusively breastfeed for 6 months and then slowly transition to formula and continue to breastfeed as much as I could. I was ok with that decision."
Physical means to continue breastfeeding	Provide adequate space to pump/breastfeed (ie, private space (not a bathroom) with hospital-grade pumps, sink, refrigerator, computer and telephone)	"I even had difficulty in the family medicine clinic where I used a clinic room. This was not ideal as there was the possibility of being viewed due to cameras for supervision."

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Table 3, continued

Workplace Support		
Strategies	**Categories**	**Representative Quotes**
Accommodating work schedule	Provide scheduled breaks (not in place of meal breaks) for pumping or breastfeeding (eg, every 3-4 hours) to maintain milk supply	"It was mainly lack of time that meant I didn't pump much while at work." "I found pumping under pressure ie, time restrictions or in a stressful or uncomfortable environment was also not helpful for milk let-down."
	Exemption from call schedule	"Breastfeeding mothers should be exempt from call shifts in order to facilitate breastfeeding."
	Limit frequent rotation changes	"The frequent rotation changes made it difficult to pump at work as I constantly had to receive permission from current staff. As well, working at more than one hospital meant always looking for a place to pump."
	Allow for lighter duty rotations upon return to work	"My first rotation was an emergency/urgent care setting. I couldn't imagine having time to pump on such a rotation."
	Allow option for part-time return	"I was able to return to residency on a part-time basis, so in the early days I was able to pick up my baby early from childcare to breastfeed her, then gradually she only breastfed at night so this was no longer necessary." "I was allowed to… return part time for 2 months… this GREATLY enhanced my experience as a resident and mother, and supported breastfeeding."
	Flexible work-schedule	"Because I was a rural resident, there was significant flexibility in scheduling that was a great help in continuing to breastfeed."
Educational and other supports	Education around breastfeeding	"Had there been education around breastfeeding in residency, I would have continued longer."
	Peer and emotional support	"Having a group of peers to discuss/problem solve with would have been useful."
	Instruction about breastfeeding accommodation during licensing exams	"College of Family Physician exams… did not want to leak or feel engorged during the exam, didn't know if I could pump to relieve myself immediately before/after exam."

provide specific private space for breastfeeding/pumping and refrigeration for expressed milk. Program directors and residents could develop an individualized work schedule to accommodate breastfeeding by limiting frequent rotation changes, choosing lighter rotations with no overnight calls initially, working part-time, or doing a research elective after maternity leave.[10-13]

Another supportive strategy suggested in our study included peer mentorship from past or current breastfeeding residents. Clinic staff physicians and other health care professionals could also help, as studies have shown that supportive work environments and social support facilitate breastfeeding for working mothers.[26] Resident wellness programs could also provide access to lactation consultants; however, their recommendations are likely insufficient to sustain longer-term breastfeeding without breastfeeding-friendly work environments. Some participants also reported that they would have liked more formal

breastfeeding education. Recent studies reported that residents and physicians have suboptimal breastfeeding knowledge and counselling skills to solve breastfeeding problems.[30, 31]

Developing and implementing a workplace breastfeeding policy is essential, but a cultural shift in the practice and learning environments is needed first.[32, 33] In part, this requires challenging the hidden curriculum, which values subjugating personal needs to professional responsibilities.[34, 35] Aligning the formal education of the importance of breastfeeding and questioning the hidden curriculum may promote the health and well-being of breastfeeding residents and their infants. Residents who did not meet their personal breastfeeding goals have reported more sadness, frustration, or depression,[9] and lower work satisfaction,[8,9] sentiments that were shared by some of our respondents. Evaluations of employment-based breastfeeding support programs reported less absenteeism, better job satisfaction, and higher productivity.[36] Importantly, physicians who had positive experiences were stronger breastfeeding advocates for their patients.[5, 9]

Our study only surveyed residents from the University of Toronto, which has the largest family medicine program in Canada, with 18 teaching sites (including four rural sites). In this pilot study, our response rate was low (31%), and although consistent with online surveys, this may limit our conclusions.[37, 38] Unfortunately, we have no information on nonresponders. However, we believe our results are still generalizable, because similar studies since the mid-1990's have reported the same findings, namely that resident and physician mothers still face the same barriers to workplace breastfeeding. We do acknowledge that self-selection bias was likely, as residents whose own personal breastfeeding experiences were strongly positive or negative, may have been more likely to participate. Recall errors were also possible, since some residents breastfed their infants almost 7 years ago. In a future Canada-wide survey, we will compare family medicine and specialist residents' breastfeeding experiences and examine the role of partners and the new Canadian 18-month extended parental leave on maternity leave duration and time to return to full-time work.

Conclusion

Implementing well-established workplace breastfeeding strategies would support future residents, as well as other working mothers in the health care field as they juggle professional priorities with motherhood.

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