Training in adolescent health

How much have second-year residents had?

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ABSTRACT

OBJECTIVE To determine the level of training second-year family medicine residents have had in adolescent medicine.

DESIGN Web-based survey.

SETTING Canadian family medicine residency programs.

PARTICIPANTS English-speaking second-year family medicine residents.

MAIN OUTCOME MEASURES Residents' self-reported levels of training in adolescent health, specifically, the types of formal and informal education in adolescent health provided by family medicine residency programs. Residents' self-reported comfort in dealing with common health problems in adolescence was also examined.

RESULTS Responses were received from 78 residents representing 11 different programs across Canada. About 38.5% of family medicine residents had attended lectures on adolescent health. Only 37.2% of residents felt comfortable with their knowledge of adolescent health. Respondents indicated that most of their education in adolescent health occurred during family medicine rotations. Only 24% of respondents supplemented their training with attendance at school-based or reproductive health clinics.

CONCLUSION Learning how to deal effectively with teenagers should be an essential part of family medicine training, yet family medicine residents receive only a small amount of exposure to adolescent health issues in primary care settings. Few residents attend school-based or reproductive health clinics even though such activity is recommended by the College of Family Physicians of Canada. A more structured adolescent health experience in family medicine residency would help ensure that Canadian adolescents benefit from informed and experienced family physicians.

EDITOR'S KEY POINTS

- This survey is the first to document levels of training in adolescent health in Canadian family medicine residency programs.
- A short Web-based survey using a 7-point Likert scale was developed and sent to all second-year residents in English-speaking family medicine programs in Canada.
- Results suggest that training in adolescent health is insufficient. Few residents received basic formal lectures or small group presentations, and even fewer had been instructed on required reading in adolescent health.
- Only 24% followed the College's recommendation to supplement their adolescent medicine training with attendance at, for example, school-based or reproductive health clinics.

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The World Health Organization defines adolescence as age 10 to 19 years.[1] Adolescents comprise 13.1% of the Canadian population and have specific health care needs.[2] Young people are particularly vulnerable to morbidity related to unintentional and intentional injuries, substance abuse, unsafe sexual practices, inadequate nutrition, and lack of physical activity.[3] Initiated in adolescence, risky behaviour is associated with cancer and cardiovascular disease, the main causes of death among those 25 years old or older.[3]

Family physicians' offices are an ideal place for addressing teenagers' health and behaviour, but family physicians must know how to manage health-promoting interventions in this population. To prepare family physicians for caring for adolescents, they must be offered appropriate training opportunities during family medicine residency programs.

A review of the literature shows that there is a growing awareness of adolescent health issues and that primary care training is likely falling short of providing adequate skills in this area.[4-6] In the United States, a recent survey of family medicine and pediatric residents showed they lacked exposure to adolescents, had inconsistent expectations for delivery of preventive services, and lacked expert faculty in this area.[7] Inadequate and inconsistent training results in discomfort in addressing important aspects of adolescent health and unfortunately leads to missed opportunities for reducing morbidity and mortality in this population.[5] We must increase awareness and skills in adolescent care during primary care residency training.

Although few Canadian studies examine this area, the College of Family Physicians of Canada (CFPC) recognizes the need for adequate exposure to adolescents.[8] In *Standards for Accreditation*, the CFPC states that adequate exposure to adolescents is necessary for physicians to learn how to diagnose and manage adolescent problems common in family medicine.[8] The College also suggests that residents' experiences should extend to school-based clinics, reproductive health clinics, and street clinics. We found no published research examining the quality of training in adolescent health in Canadian family medicine residency programs. Our study is the first to document such training. We examined the type of formal or informal education in adolescent health provided to Canadian family medicine residents.

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METHODS

To assess adolescent health training in family medicine programs, we developed a short Web-based survey using a 7-point Likert scale as recommended by Streiner and Norman.[9] Questions focused on learning experiences during residency, confidence in managing various aspects of adolescent health, and clinical interventions for teenagers. The survey was developed from the learning objectives of the family medicine residency program at the University of Alberta in Edmonton and was based on the medical literature.[6,10] The survey was pilot-tested on 2 male and 2 female family medicine residents. Ethics approval was obtained from the Health Research Ethics Board at the University of Alberta.

At the time of the study, there were 13 English-speaking family medicine residency programs in Canada. To be included, residents had to be in their second year of an English-speaking family medicine residency program. Since most programs have policies on distribution of research studies to their residents, we sought approval from their respective program administration committees first.

Data were collected in May 2004, 2 months before completion of residents' training. Each resident received an e-mail letter forwarded by their programs' administration offices. This letter stated the purpose of the study, gave assurances of confidentiality, and provided a hyperlink to the Web-based survey. One week later, a follow-up e-mail message was sent to all potential participants reminding them to complete the questionnaire. Two weeks after the first e-mail letter, a second reminder was sent to all potential respondents. Data collection stopped 4 weeks after this second request. Results were forwarded to the investigators electronically and were downloaded directly into an Excel spreadsheet to facilitate analysis.

RESULTS

Of the 13 English-speaking universities with family medicine programs across Canada, 11 (representing 434 family medicine residents) agreed to participate in the study (**Table 1**). In all, 78 residents completed the online survey, giving a participation rate of about 17.9%; 60 respondents (77%) were women. Respondents were distributed evenly among the participating programs.

Table 2 summarizes participants' reports of the type of training they received and believed residents should receive during residency. Only 30 residents (38.5%) felt comfortable with their knowledge of adolescent health issues. **Table 3** summarizes respondents' opinions regarding preventive interventions done in family physicians' offices. Only 21 (26.9%) and 23 (29.5%) residents agreed that teenagers should be asked about bicycle helmet use and seat-belt use, respectively.

DISCUSSION

This is the first study that attempts to document level of training in adolescent health among family medicine residents in Canada. Results of this study highlight important issues relating to that training. Our results suggest that training is inadequate: few residents received basic formal instruction in the form of lectures or small group sessions, and even fewer were instructed in required reading in adolescent health. A previous survey of adolescent medicine training among American pediatric programs demonstrated that most programs used lectures and required reading in their curriculums.[11] Most residents who responded to the survey agreed that lectures and small group sessions on adolescent health should be part of family medicine training.

Respondents also indicated that, while mood, sexual behaviour, smoking, and substance abuse would be discussed during their routine interviews, use of bicycle helmets and seat belts for injury prevention were issues less likely to be included. This is particularly worrying because the number 1 cause of death among young people is unintentional injury.[3]

On initial review, it is encouraging to see that 62.8% of residents thought they should receive lectures on adolescent health. But we should consider the fact that residents who decided to complete the survey probably had either an interest in or a more favourable view of adolescent health, and even among those, fewer than two thirds thought they should receive formal training in this area. This might suggest that family medicine residents need to be convinced that they need training in adolescent health.

In addition, residents indicated they saw more adolescents in their family medicine rotations than they did in their off-service rotations. This is consistent with previous literature reporting that two thirds of all adolescent health care visits are to family physicians.[12] This also emphasizes the importance of adequate training during family medicine rotations. Unfortunately, only 19 participants (24%) followed the CFPC's recommendations and supplemented their adolescent medicine training with additional exposure in community clinics.

To have the opportunity to speak to teenagers about health issues, physicians need to have somewhat regular visits with them, but there are no Canadian guidelines

Table 1. Distribution of responses by university program: *N = 78, chi-square statistic = 10.615 (P = .476).*

UNIVERSITY	N
University of British Columbia	8
University of Alberta	9
University of Calgary	7
University of Manitoba	5
McMaster University	6
University of Toronto	9
Queen's University	7
University of Ottawa	8
McGill University	9
Memorial University of Newfoundland	1
Dalhousie University	3
Missing data	6

Table 2. Responses to questions on training in adolescent health: *N = 78.*

STATEMENT	NO. WHO AGREE* (%)
I received lectures in adolescent health	30 (38.5)
I received required reading in adolescent health	14 (17.9)
I received small group seminars in adolescent health	13 (16.7)
I regularly saw teenagers on off-service clinical rotations	10 (12.8)
I regularly saw teenagers during my family medicine rotations	27 (34.6)
I rarely saw teenagers during my residency	18 (23.1)
I saw teenagers through reproductive health clinics	19 (24.4)
I saw teenagers through school-based clinics	9 (11.5)
A structured program in adolescent health would be beneficial	34 (43.6)
Family medicine residents should receive lectures on adolescent health	49 (62.8)
Family medicine residents should receive small group sessions on adolescent health	45 (57.7)

*Includes ranking of 1 or 2 on Likert scale.

Table 3. Responses to questions on clinical interventions for adolescents: *N = 78.*

STATEMENT	NO. WHO AGREE* (%)
Teenagers should go for routine checkups every 2-3 years	51 (65.4)
Teenagers should go for routine checkups every year	43 (55.1)
I ask about smoking at every visit	51 (65.4)
I ask about drinking at every visit	43 (55.1)
I ask about sexual activity at every visit	44 (56.4)
I ask my teenage patients about wearing bike helmets	21 (26.9)
I ask teenagers about wearing seat belts	23 (29.5)
I ask about depression among teenagers	36 (46.2)

*Includes ranking of 1 or 2 on Likert scale.

on preventive visits for this population. In our survey, most residents agreed that adolescents should have routine checkups every 2 to 3 years, and some thought yearly visits would be appropriate. These suggestions are supported by the Guidelines for Adolescent Prevention Services in the United States that recommend annual examinations for people aged 11 to 21.[13]

In Canada, pediatric residents get more training in adolescent medicine than family medicine residents do. Most pediatric programs have a required rotation in adolescent medicine.[14] This is interesting because in Canada most teenagers seek care from family physicians rather than pediatricians.[15] Our clinical experience shows children's care is often transferred from pediatricians to family physicians once the children reach adolescence.

To remedy this situation, some formal training in adolescent medicine needs to be incorporated into family medicine residency programs. It should be noted that adolescent health is a diverse area; we have lumped it together in this study to evaluate level of training. Future initiatives to address deficiencies in training need to focus on issues relating to early, middle, and late adolescence and the effect of adolescence on families.

Limitations

A few limitations of this study warrant mention. The response rate was low, but there were some respondents from most English-speaking programs across the country. Although data were submitted anonymously, responses indicated that respondents were distributed evenly among all the residency programs that agreed to participate. Other national resident surveys have reported similar low response rates of approximately 30%.[16,17]

This highlights the challenge of conducting national surveys of residents. Previous research has described a decline in response rates to surveys over the past few years.[18] Other factors that might have influenced the response rate include the time of year the survey was completed (residents were busy applying for medical licensure, deciding whether to take locum tenens placements or join a practice, and coordinating household moves) and the fact that residents could not be surveyed directly (surveys were distributed by their programs' administration offices). To ensure that respondents could not be identified, we did not use incentives or rewards.

While Web-based surveys are convenient and efficient, their use can introduce selection bias.[19] In our survey, we had more female than male respondents. This was partly expected because there were more female residents in the family medicine resident population at the time of the survey. This preponderance of female respondents might also reflect a greater interest in adolescent health among female family medicine residents. A recent survey of pediatric residents also reported high levels of female respondents.[20] Further studies are needed to support that hypothesis.

Conclusion

This first attempt at documenting levels of training in adolescent medicine among family medicine residents highlighted several important points. First, the small amount of exposure to adolescent health issues that residents have occurs in primary care settings. Second, few residents are accessing school-based clinics or reproductive health clinics as recommended by the CFPC. Our survey suggests that Canadian family medicine training in adolescent health is likely not providing residents with sufficient training to provide optimal care for adolescent patients. A more structured adolescent health experience, including required readings, small group seminars, and supplemental exposure to adolescents outside traditional family medicine clinics, could help to ensure that Canadian adolescents benefit from informed and experienced family physicians.

Contributors

Dr Klein *conceived the idea, completed the ethics proposal, and compiled the data. He did the statistical work, participated in drafting the article, and reworked the article into its final form.* **Dr Mehta** *completed the literature search and participated in writing and editing the paper. Both authors gave final approval to the version submitted for publication.*

Competing interests

None declared

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