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Article abstract

Otolaryngology involves the treatment of patients with diseases and disorders of the ear, nose, throat (ENT), and related structures of the head and neck. Many medical students in Canada have limited experiences in ENT and a vast majority of these students go on to pursue a career as primary care physicians. Physicians at a primary care facility classified patient's visits as either being "ENT" related or not, to assess the amount of ENT related concerns they typically encounter. The data was collected separately in the summer and winter months to assess any seasonal variability. One in eight patient encounters presented with an ENT related concern. The percentage of ENT related symptom presentation visits in the pediatric population for both data collection periods (29%) was more than three times that of the adult population (9%). The rate of ENT symptom presentation in both adult and pediatric populations was not affected by seasonality. Primary care physicians will encounter new patients presenting with ENT related concerns quite frequently. This is especially true in the pediatric patient population. Increased ENT medical education is both necessary and essential for undergraduate medical students, residents, and primary care physicians.

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## High frequency of otolaryngology/ENT encounters in Canadian primary care despite low medical undergraduate experiences

Taux élevé de consultations en oto-rhino-laryngologie (ORL) dans les services de soins primaires au Canada malgré une faible expérience clinique durant les études en médecine

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### Abstract

Otolaryngology involves the treatment of patients with diseases and disorders of the ear, nose, throat (ENT), and related structures of the head and neck. Many medical students in Canada have limited experiences in ENT and a vast majority of these students go on to pursue a career as primary care physicians. Physicians at a primary care facility classified patient's visits as either being "ENT" related or not, to assess the amount of ENT related concerns they typically encounter. The data was collected separately in the summer and winter months to assess any seasonal variability. One in eight patient encounters presented with an ENT related concern. The percentage of ENT related symptom presentation visits in the pediatric population for both data collection periods (29%) was more than three times that of the adult population (9%). The rate of ENT symptom presentation in both adult and pediatric populations was not affected by seasonality. Primary care physicians will encounter new patients presenting with ENT related concerns quite frequently. This is especially true in the pediatric patient population. Increased ENT medical education is both necessary and essential for undergraduate medical students, residents, and primary care physicians.

### Résumé

L'oto-rhino-laryngologie (ORL) concerne les maladies et les troubles de l'oreille, du nez, de la gorge et des structures connexes de la tête et du cou. De nombreux étudiants au Canada n'ont qu'une expérience limitée de cette spécialité alors que la grande majorité d'entre eux poursuivent une carrière de médecin de soins primaires. Les médecins d'un établissement de soins primaires ont classé les visites des patients afin de déterminer le volume de consultations en lien avec l'ORL. Les données ont été recueillies séparément pendant les mois d'été et d'hiver pour évaluer la variabilité saisonnière. D'après les données, une consultation sur huit était liée à la présence de symptômes ORL. Le pourcentage de consultations chez la population pédiatrique pour les deux périodes de collecte de données (29 %) était plus de trois fois supérieur à celui de la population adulte (9 %). La survenance de symptômes ORL n'était pas affectée par la saisonnalité, ni chez l'une ni chez l'autre. Les médecins de soins primaires voient assez souvent de nouveaux patients présentant des problèmes ORL, particulièrement des enfants. Un renforcement de l'enseignement de la médecine ORL est à la fois nécessaire et essentiel pour les étudiants en médecine de premier cycle, les résidents et les médecins de soins primaires.

Otolaryngologists specialize in treatment of the ear, nose, and throat (ENT) and related structures of the head and neck. In Canada, the majority of patients seen by Otolaryngologists are referred by primary care physicians. In fact, ENT referrals constitute the third largest group of patients referred to hospital specialist clinics, superseded only by referrals to General Surgery and Gynaecology.<sup>1,2</sup> We reviewed the existing literature and found that between 10 and 30% of all patient concerns reported to general practitioners were ENT-related.<sup>2-5</sup> Otolaryngological problems are also very common in children due to their lack of a fully developed immune response, the antigenic diversity of many viruses and the high communicability of upper respiratory illnesses.<sup>6</sup> Primary care physicians report that acute otitis media, epistaxis, adenitis (lymphadenitis) and tonsillitis are some of the most common ENT-related diagnoses and 50% of the pediatric patients seen by General Pediatricians are ENT-related.<sup>5</sup>

The majority of medical students who graduate from Canadian universities pursue careers as primary care physicians.<sup>7</sup> In 2020, the overwhelming first choice discipline for Canadian medical graduates was family medicine (33%), while pediatrics was the fourth most popular choice (6%).<sup>8,9</sup> While it is imperative that all graduating medical students are competent in the diagnosis and management of Otolaryngological conditions, Canadian undergraduate medical education in ENT varies by institution.<sup>7</sup> For example, two thirds of Canadian medical schools do not have a mandatory ENT rotation and, of the ones that do, the curricula does not exceed one week.<sup>7</sup> Not all Canadian medical schools offer courses on ENT and few require formal evaluation to ensure students' competence in the specialty.<sup>7,8,10</sup> We believe that it is important to address obstacles such as insufficient time, space and curriculum standardization in order to improve undergraduate medical education of ENT. In support of this notion, we studied the number of ENT-related conditions presenting to primary care physicians in a family practice care facility in Port Coquitlam, BC. This clinic was chosen as it was an urban clinic in a non teaching hospital environment. Occasional family practice residents would attend. The majority of Canadians who have a family physician are in such an environment. The singular location does not take away from the fact that the physicians in this clinic were a cross section of family doctors with regards to their ages, types of practice and where they trained which included Canada and International Medical Graduates.

Our study received ethical approval from the BC Women's and Children's Research Ethics Board (approval #H15-00406) and informed consent was sought from primary care physicians involved in the study. Patients were not required to provide consent as no personally identifiable information was collected. After each patient interaction the physician completed a form to identify the reason(s) for the patient's visit. This information was used to quantify how many primary care physician patient encounters were ENT related, based on the judgement of the physicians themselves. The physicians collected data during the summer and winter to assess whether time of year impacted the presentation of symptoms. The summer phase of data collection took place in late June of 2015 over the span of one week, followed by a second phase of data collection in the winter for one week in February of 2016. There were no extenuating factors such as a pandemic that would have affected the number of patients attending a physician's office.

Out of a total of 2,132 patient visits, 12.0% (n=256) were reported as an ENT related issue: There were 1,029 patient visits in the summer of which 12.2% (n=125) were ENT related and 1,103 in the winter of which 11.8% (n=131) were ENT related). The authors wished to contrast the winter and summer months to see if the time of year played a role in the number or type of visit as related to ENT. Among the adult patients, who made up the majority (88.4% in summer and 85.3% in winter) of the patient population, only one in 11 presented with symptoms that were determined to be ENT related. Even though pediatric patients represented the minority of the patient population, they were more than three times as likely as adults to have ENT related symptom presentation; out of all of the pediatric cases in the study, one in three patients had an ENT issue being the primary reason for their visit. The most commonly reported ENT concerns involved symptoms related to the aerodigestive tract and nasal passages.

Based on our analysis, it was evident that many patients seen by primary care physicians presented issues related to the specialty of ENT. We found that the frequency of ENT symptoms presenting to primary care physicians in our study was similar to that previously reported in the literature.<sup>3,5</sup> In the population we studied, nearly one in eight primary care physician consultations incorporated the presentation of symptoms related to ENT, which was even more pronounced in the pediatric population. The frequency of ENT related pathology supports our assertion

that medical students, residents and primary care physicians should receive dedicated training during their medical education on the specialty of ENT. Previous surveys in the United Kingdom and Canada have suggested that primary care specialties are not receiving sufficient training for ENT complaints<sup>11</sup>, while a proportion of graduates pursuing primary care specialties reported poor overall comfort managing ENT problems.<sup>12</sup> In Canadian medical schools, rotations in ENT were highly variable and very few schools required it to be a mandatory rotation.<sup>7</sup> Upon completion of undergraduate education and residency, established primary care providers have shown to have low levels of ENT knowledge and are very receptive to continued education in this speciality.<sup>13</sup>

On a related note, evidence presented in the past has indicated that although ENT related symptomology constitutes one of the most common reasons for referral among primary care physicians<sup>12</sup>, there is a lack of agreement as to what constitutes an “ENT issue”. This became apparent during our study’s second round of winter data collection, as physicians were instructed to describe the complaint of each patient visit, regardless of whether they had categorized it as an ENT issue. The physicians showed obvious inconsistencies in classifying symptoms as ENT related or not. For example, some of the physicians failed to classify gastroesophageal reflux disease, cough, and upper respiratory tract infections as ENT related. Clearly more education is required to clarify what pertains to an ENT complaint. This potentially may increase referrals to the speciality which has both pros and cons. Dizziness, esophageal cancer,,and thyroid issues were notable patient complaints that some of the primary care physicians did not consider to be ENT related, indicating an understanding of the scope of practice in ENT is not uniform amongst primary care physicians. Not providing guidelines was debated at study conception, but ultimately seen as advantageous to report the amount of patient interactions primary care providers deemed to be ENT related.

While the frequency of ENT related pathology supports our assertion that more training in the specialty of ENT during medical education, the authors recognize the limitations of this particular study design. The time frame for the data capture period is short (one week) and from only one clinic, even though a significant number of data points were captured and may not fully represent the true variability in the patient population. In addition, the physicians participating in the study may have had a level of potential

bias introduced as they themselves knew that Otolaryngologists were conducting the study and this may have affected their reporting of symptoms. Also, each patient complaint wasn’t consistently reported when the complaint wasn’t deemed to be ENT related by the primary care physicians. The first round of data collection did not include the instruction for the physicians to provide reasoning for patient visits when they did not present with what they considered an ENT concern. These issues may have contributed to a under representation of ENT related concerns, particularly during the first phase of data collection in the summer. Given these limitations, the authors still believe that the information reported in this study represents a necessary update to the literature and support for improved medical education guidelines pertaining to the specialty of Otolaryngology- Head and Neck Surgery/ENT.

In accordance with previous research and based on our findings, issues with ENT symptoms involved accounted for more than 10% of all patient encounters with a primary care physician. Nevertheless, medical school curricula for undergraduates continue to pay inadequate attention to the study of ENT. As competence in the diagnosis and management of ENT conditions is imperative for all graduating medical students and residents, those responsible for designing the curricula may wish to take note of the improvements required in undergraduate and residency medical education training when it comes to the specialty of Otolaryngology – Head & Neck Surgery.

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