Do general practitioners predominantly see patients with coughs and colds: Medical students’ and the general public’s perceptions

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ABSTRACT

Introduction: Anecdotally it is perceived that general practitioners (GPs) predominantly see patients with coughs and colds. The aim of the study was to ascertain medical students’ and the general public’s perceptions of what problems they believe GPs in Australia manage. Method: An anonymous online survey was completed by 357 medical students and 183 members of the general public. Results: Students and the general public generally had similar perceptions. Respiratory conditions were most frequently mentioned in response to asking participants to list the five most common problems they think GPs manage. When subsequently asked to rank order a list of 15 problems managed by GPs, prescriptions was ranked first by the largest percentage of participants. Upper respiratory tract infections were second and third most commonly ranked first by the general public and students respectively. More than half of all students with a non-general practice career preference and the general public either agreed or strongly agreed with the statement ‘GPs predominantly see patients with coughs and colds.’ Discussion: It is possible that medical students’ erroneous perceptions in regards to the type of problems GPs manage contributes to their decision as to whether to pursue a career in general practice.

KEY WORDS: Career choice; medical problems

INTRODUCTION

Australia is currently experiencing a general practitioner shortage [1-4]. This shortage will not be alleviated unless a significant number of medical students chose general practice as their future career preference [5]. In order to explore this concern, several studies have examined which students are likely to pursue a career in general practice. These studies have shown that certain characteristics such as being female [6-8], older when commencing medical studies [9] (but see also Lambert et al. [10]), and being in a relationship [11] are associated with a preference for a career in general practice.

Despite knowing what student characteristics are associated with preferences for a career in general practice, it does not answer a potentially important question: Do medical students know what problems general practitioners manage? Anecdotally it has been reported that individuals erroneously think that general practitioners predominantly see patients with coughs and colds. If medical students also hold this erroneous view then this may influence their decision in regards to pursuing a career in general practice. Thus the overarching aim of the present study was to compare medical students’ perceptions of what problems they believe general practitioners manage with that of the general public. Specifically the general public was used as a baseline comparison measure to examine whether medical students, especially those interested in pursuing a career in general practice, are:

1. less likely to list respiratory conditions (e.g., coughs and colds) when asked to list the five most common problems they believe general practitioners manage;
2. more accurate at identifying the most commonly managed medical condition out of a list of the 15 most common problems general practitioners managed in Australia in 2012-2013 [12];
3. more accurate at indicating what percentage these 15 problems collectively represent out of all the problems general practitioners manage; and
4. less likely to show agreement with the statement ‘GPs predominantly see patients with coughs and colds.’

METHOD

Participants

Medical students

A letter was sent to all Australian medical schools in July 2014 seeking permission for a recruitment advertisement to be displayed. Medical schools that did not respond to the request were contacted again two weeks after the initial request. Seven medical schools displayed the recruitment advertisement on their learning management system.

General public

The Australian general public was invited to participate in an online survey in regards to their perceptions of general practice via physical and electronic (i.e., Yammer, general notices on the learning management system, email announcements) recruitment advertisements at Deakin
University, Facebook posts, physical recruitment posters at a general practice within the Melbourne metropolitan region, and an announcement at an Australian medical education conference. Participants were encouraged to pass the survey link onto family and friends. Individuals aged 18 years and over who resided within Australia and were not current medical students were eligible to participate.

Procedure
Ethics was obtained from the Deakin University Human Ethics Advisory Group. Advertisements contained a link to an information sheet explaining the study. Those consenting to participate were directed to an anonymous online survey. At the end of the survey participants were requested to forward the link to fellow medical students in Australia (for the medical student survey) and to family and friends (for the general public survey). Participants were not reimbursed.

The component of the study reported here is part of a larger survey examining medical students’ interests in pursuing a career in general practice, their perceptions of what conditions general practitioners manage, and their general practice placement experiences. The general public was asked to complete an analogous survey in regards to questions pertaining to perceptions of general practice.

Survey
The survey was divided into sections. Only questions pertinent to the aims within this paper are explained here. Participants could not go back to a previous section once they had begun a new section. At the start of the survey demographic information was collected. Additionally, students were asked which of the following best described their first ranked career preference: a) general practice, b) a specialty other than general practice, or c) undecided at this stage. Participants were then asked to list what they believe to be the five most common medical problems general practitioners in Australia manage when seeing patients starting with the most common problem. They were then asked to rate several statements pertaining to general practice on a five point scale ranging from strongly disagree to strongly agree. Only the following statement is pertinent to this paper: ‘GPs predominantly see patients with coughs and colds.’ In a subsequent section, participants were shown a list of the 15 most common problems general practitioners managed in 2012-2013 based on Britt et al. [12]. These problems were listed alphabetically and participants were asked to order them starting with what they believed to be the most common problem. Following this task participants were asked to specify what percentage of all problems managed by general practitioners within Australia in 2012-2013 they think these 15 most common problems collectively represent.

RESULTS
Participant characteristics
Medical students. Three-hundred and fifty-seven medical students (208 females, 147 males, 2 other), representing eight Australian medical schools, participated. Seventy-five did not complete the entire survey and thus the number of responses for each part analysed varies. Students had a mean age of 24 years (n = 357; SD = 4.9; range = 17 – 51). Most students were in year 1 (n = 146), followed by year 2 (n = 71), year 4 (n = 57), year 3 (n = 52), year 5 (n = 23) and year 6 (n = 8). Fifty-one (14%) students indicated general practice to be their first ranked career preference, 200 (56%) indicated a career other than general practice, and 106 (30%) were undecided. Nearly 70% of students (202 out of 290) had been on a general practice placement.

General public. One hundred and eighty-three members of the general public (144 females) who met the eligibility criteria participated. Not all participants completed the entire survey and thus the number of responses for each part analysed varies. Participants had a mean age of 45.6 years (n = 183; SD = 12.8; range = 21 – 75). Most participants resided in Victoria (n = 146) followed by Western Australia (n = 24), South Australia (n = 6), Queensland (n = 5), and Tasmania (n = 2). One hundred and six participants and two participants were affiliated with Deakin University and Monash University respectively.

Top five medical problems
The question asking participants to list the top five medical problems they think general practitioners manage was answered by 295 students and 174 members of the general public. Categories based on body systems (e.g., cardiovascular, respiratory) and areas of medicine (e.g., obstetrics, palliative care) were created by the author, in collaboration with a fellow researcher, to code the medical problems participants listed. A category called ‘general / unspecified’ was created for items that were not specific (e.g., pain, check-up). Categories for prescriptions and the completion of forms other than prescriptions (e.g., medical certificate, specialist referral) were also included. If participants listed multiple medical problems belonging to the same category (e.g., respiratory conditions such as asthma and upper respiratory tract infection) then this was only counted once for that category. The author categorised participants’ responses which were subsequently verified by a fellow researcher.

As can be seen in table 1, a respiratory condition (mainly coughs, colds and upper respiratory tract infections) was the most frequently listed problem. Eighty-two percent (240 out of 294) of students and 83% (137 out of 164) of the general public listed at least one respiratory problem. Of these 50% (120 out of 240) of students and 66% (91 out of 137) of the general public listed a respiratory condition first. When the results were examined separately for each group of students based on their career intentions (GP preference, non-GP preference, undecided), the pattern of results remained unchanged (i.e., respiratory conditions were still the most frequently listed problem by each group).

Ranking of top 15 medical problems managed
Two-hundred and ninety-two students and 163 members of the general public rank ordered the 15 most common medical problems managed by general practitioners in Australia in
Table 1. Medical students’ (n = 294) and the general public’s (n = 164) responses to asking them to list what they believe to be the five most common medical problems general practitioners in Australia manage. Students were divided into three groups based on their career preference: GP (n = 44), non-GP (n = 154), and undecided (n = 96). The number (with percentage in parentheses for that group) of participants that listed a problem within a category first is indicated under ‘First’ whereas the number (percentage) of participants that listed a problem within a category in their top five responses (including those listed first) is indicated under ‘Top 5’.

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
<th>Medical students</th>
<th>General public</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP</td>
<td>Non-GP</td>
<td>Undecided</td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>Top five</td>
<td>First</td>
<td>Top five</td>
</tr>
<tr>
<td><strong>Allergies</strong></td>
<td>Allergic reactions</td>
<td>0(0.0)</td>
<td>1(2.3)</td>
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<td><strong>Cancer</strong></td>
<td>Allergies</td>
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<td><strong>Cardiovascular</strong></td>
<td>Cholesterol</td>
<td>10(22.7)</td>
<td>31(70.4)</td>
</tr>
<tr>
<td><strong>Chronic illness</strong></td>
<td>Chronic illness / disease</td>
<td>1(2.3)</td>
<td>4(9.1)</td>
</tr>
<tr>
<td><strong>Ear nose and throat</strong></td>
<td>Otitis media</td>
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<td>0(0.0)</td>
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<tr>
<td><strong>Endocrine</strong></td>
<td>Diabetes</td>
<td>5(11.4)</td>
<td>26(59.1)</td>
</tr>
<tr>
<td><strong>Gastroenterology</strong></td>
<td>Diarrhoea</td>
<td>1(2.3)</td>
<td>9(20.4)</td>
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<td>5(11.4)</td>
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<td>Menopause</td>
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<td>4(9.1)</td>
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<td>1(2.3)</td>
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<td>27(61.4)</td>
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<td>Prostate</td>
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<td>1(2.3)</td>
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<td><strong>Prescriptions</strong></td>
<td>Medication Scripts</td>
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<td>2(4.5)</td>
</tr>
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<td><strong>Forms</strong></td>
<td>Medical certificate</td>
<td>1(2.3)</td>
<td>2(4.5)</td>
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<td>1(2.3)</td>
<td>13(29.5)</td>
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<td><strong>Unclassifiable</strong></td>
<td>Common complaints</td>
<td>0(0.0)</td>
<td>1(2.3)</td>
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</tbody>
</table>
Koehler: Problems managed by general practitioners

2012-2013 based on Britt et al. [12]. The item participants’ ranked first was of interest for the purposes of the analysis reported here.

As can be seen in figure 1, prescriptions was most frequently ranked first by students, irrespective of career preference, and the general public. Hypertension and upper respiratory tract infections were also frequently assigned a rank of one although there were some differences between participant groups. The second largest percentage of students (except those undecided on their career preference) ranked hypertension first (see figure 1). Interestingly the percentage of the general public that ranked hypertension first is rather low compared to students’ responses. The second largest percentage of the general public and students that were undecided on their career choice ranked upper respiratory tract infections first (see figure 1). The third largest percentage of students (except those that were undecided on their career) ranked upper respiratory tract infections first (see figure 1).

After completing the ranking exercise, participants were asked to indicate what percentage of all medical problems managed by general practitioners in 2012-2013 they thought these 15 problems collectively represent. As indicated in Britt et al. [12], these 15 problems collectively account for 37.7% of all problems. As seen in figure 2, students (irrespective of career preference) and the general public had a similar pattern of responses. The highest percentage of students and the general public thought these problems account for 71% to 80% of all medical problems, whereas the next highest percentage of responses was for 81% to 90%. Only a few participants responded close to the correct percentage.

Rating of statement

Two hundred and ninety-eight students and 172 members of the general public rated the statement ‘GPs predominantly see patients with coughs and colds.’ As can be seen in figure 3, more than half of the general public and students with a non-GP preference either agreed or strongly agreed with the statement. The largest percentage of the general public and students (except those with a GP preference) agreed with the statement. On the other hand, the largest percentage of students with a GP preference neither agreed nor disagreed with the statement followed by disagreeing with the statement.

DISCUSSION

Medical students’ and the general public’s perceptions of what medical problems they believe general practitioners manage were examined within this study. Anecdotally it has been reported that general practitioners predominantly
see patients with coughs and colds. Thus whether medical students also hold these views were explored given that negative perceptions regarding general practice could deter students from selecting general practice as a career path. Furthermore, whether medical students’ perceptions differ depending on their career aspirations was also examined.

More than half of medical students with a non-GP preference and the general public agreed or strongly agreed with the statement that general practitioners predominantly see patients with coughs and colds. On the other hand, students with a GP preference were less inclined to agree with this statement and least likely to strongly agree. Viewed in isolation these findings suggest that students with a GP preference are more informed than other students and the general public in that general practitioners do not predominantly see patients with respiratory complaints. Furthermore, these findings suggest that perhaps those not intending to pursue a career in general practice do not wish to do so because they have the erroneous believe that general practitioners see many patients with coughs and colds. However, the idea that students with a GP preference being more informed in regards to problems general practitioners manage than other students and the general public is short-lived in light of the remainder of the results.

All participant groups, including students with a GP preference, most frequently listed a respiratory condition first when asked to list the top five medical problems general practitioners manage. These results are inconsistent with findings from rating the statement where students with a GP preference are concerned. Participants’ responses to listing the top five problems they believe general practitioners manage supported the anecdote that general practitioners predominantly see patients with coughs and colds. However, it must be noted that despite upper respiratory tract infection being the third most common problem Australian general practitioners managed in 2012-2013, it only accounts for 3.7% of all problems managed [12].

The notion that general practitioners predominantly manage patients with coughs and colds was still evident when participants’ responses to rank ordering the 15 most common medical problems managed by general practitioners in 2012-2013 was examined. Although, upper respiratory tract infections were not given a rank of one by the largest percentage of participants; this condition was still assigned a rank of one by a large percentage of participants.

Students, irrespective of career intention, and the general public most frequently ranked prescriptions first, which is interesting given that patients must present with a condition which requires a prescription. In other words, patients do not initially present with the need for a prescription, but instead present with a condition that needs to be managed which may or may not require a prescription. It would be interesting for future studies to explore what type of prescriptions participants believe general practitioners predominantly prescribe. For example, do they believe these to be for antibiotics to manage coughs and colds?

Furthermore, it must be noted that prescription is actually the tenth most common problem on the list out of the problems Australian general practitioners managed in 2012-2013 [12]. Thus it is surprising that it was ranked first by the largest number of participants.

The top 15 conditions participants were shown collectively represented 37.7% of all problems general practitioners in Australia managed in 2012-2013 [12]. However, the largest portion of students and the general public thought that these 15 conditions represented between 71% and 80% of all conditions GPs managed. The pattern of results for students, irrespective of career intention, and the general public was similar. Viewed in isolation, these results suggest that participants believe that general practitioners do not see a variety of cases and predominantly manage the problems they were asked to rank order (i.e., filling scripts and seeing patients with respiratory complaints). However, these surprising results are in opposition with the notion that general practitioners manage a variety of problems (i.e., that they are not specialists and have a broad knowledge base) and that they are often the first point of contact for patients. Several students indicated these points in response to another survey question pertaining to the advantages and disadvantages in regards to being a general practitioner which is not discussed in this paper.

Students’ responses to the various survey questions differed slightly depending on their career intentions. If the rating of the statement that general practitioners predominantly see patients with coughs and colds were viewed in isolation then one could conclude that those interested in general practice are more informed in that general practitioners do not predominantly see patients with coughs and colds. However, students with a GP preference generally had the same pattern of results to other students when asked to list the five most common problems general practitioners manage and when asked to rank order the top 15 problems managed by general practitioners. Thus when viewed as a collective whole, it does not appear that students intending to pursue a career in general practice are more informed of the problems general practitioners manage than other students.

LIMITATIONS

The number of medical students that participated in this study is rather limited relative to the total number of medical students in Australia. This can be attributed to medical students generally being over surveyed, having no reimbursement for participants, and that less than half of Australian medical schools agreed to display the recruitment advertisement. Although the sample of medical students in this study may be relatively small, it is unlikely that the pattern of results would be different if more students participated given the frequent repetition of responses.

It could be questioned as to whether students expressing a first ranked career preference for general practice are over represented in this study given the survey topic. Out of
the 357 students who answered the question pertaining to their first ranked career preference, 14% had a preference for general practice which is similar to data collected as part of the Medical Schools Outcomes Database & Longitudinal Tracking Project (MSOD; see website: http://www.medicaldeans.org.au/msod). The MSOD project involved 15,631 medical students who commenced their studies between 2005 and 2012 and 7,528 medical students who completed their studies between 2008 and 2012 [13]. Amongst both these student groups 13% expressed a first ranked career preference for general practice, which is similar to the proportion of students in the present study. Thus despite having a relatively small sample of students who participated in the present study, the sample reported here is representative in terms of the percentage of students expressing a first ranked career preference for general practice.

Perhaps dividing medical students into three groups based on a multi-choice question pertaining to their career intentions is not the best indicator of their intentions to pursue a career in general practice. Students in the ‘non-GP’ group may still have interests in general practice despite this option not being their first choice. Thus it may have been better to ask students to indicate their likelihood of pursuing a career in general practice on a scale ranging from ‘highly likely’ to ‘highly unlikely’.

FUTURE STUDIES
These results show that medical students and the general public have similar perceptions in regards to general practice. This suggests that the teaching of general practice by medical schools may have little influence on students’ perceptions as to what conditions general practitioners manage. This leads us to question: where do medical students obtain information in regards to general practice (e.g., media, family and friends)? How credible are these sources of information? How deep seated are medical students’ stereotypes of general practice? And can this incorrect information regarding general practice be easily discounted through informative general practice teaching by medical schools? This study raises more questions than it answers and future studies should examine medical students’ perceptions of general practice further in light of students’ career aspirations.

CONCLUSION
In conclusion, these results suggest that medical students’ perceptions of what conditions general practitioners manage are largely unaffected by their career intentions. Furthermore, medical students generally have similar perceptions to that of the general public in regards to medical problems seen by general practitioners. Overall, these results show that a substantial number of medical students believe that general practitioners predominantly see patients with coughs and colds and that they write prescriptions. These erroneous perceptions could lead to students dismissing general practice as a potential career path.

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DECLARATION OF INTEREST
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DISCLAIMER
None

REFERENCES

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