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Reported rates of foot problems in rural south-east Queensland

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REPORTED RATES OF FOOT PROBLEMS IN RURAL SOUTH-EAST QUEENSLAND

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ABSTRACT

The purpose of this study was to determine the prevalence of self-reported foot problems in a rural region of South-East Queensland and establish the type of treatment sought by respondents. In December 1995, the West Moreton Regional Health Authority commissioned a health needs assessment of the semi-rural and rural land occupiers in the region (n=900). Participants were asked questions relating to their general health, health practices and health service use. A series of questions about foot health were included in the survey. One quarter (25.7%) of respondents reported that they had foot related problems which had affected them within the past twelve months. The most frequently reported foot problem was arthritis and general practitioners were the most common provider of treatment. Seventy-seven percent of respondents reporting foot problems reported that the problem was still present at the time of interview. Factors found to be associated with the presence of foot problems were increasing age, gender, body mass index, the presence of other illnesses, occupation and education level.

INTRODUCTION

In December, 1995, the West Moreton Regional Health Authority Population Health Unit commissioned a Rural Health Needs Assessment survey to incorporate 900 participants in the rural shires of Eak, Boonah and Laidley (South-East Queensland). The purpose of the survey was to determine the effectiveness and availability of health services and the general health status of the people in the region. The objectives of the podiatry related questions were to provide information about the prevalence and type of foot problems within the region and the choice of health service provider if treatment was sought.

The West Moreton Health Region encompasses an area of 7,879 square kilometres to the west of Brisbane and includes the City of Ipswich and the Shires of Eak, Moreton, Boonah and Laidley. The total population of the region was estimated at 145,970 in 1991, or approximately 5% of the population of Queensland. The region has experienced rapid growth over the past decade, with an annual growth rate of 2.6%. The survey included the rural shires Eak, Boonah and Laidley with 60.5% of participants from rural areas (on holdings of 10 or more acres), 26.6% in semi-rural areas (0.5 - 10 acres) and 31% of participants in urban areas.

METHODS

The survey was conducted as a questionnaire-guided, house-to-house interview within the chosen regions. A professional market research company employed the interviewers. Six hundred respondents over the age of 18 were selected at random using the device of the person whose birthday is nearest to today’s date. The survey comprised of 21 questions which covered a diverse range of health issues including perceived health status, nutritional information, use of health services, women’s health issues and the presence of illness. We were able to include a question relating to foot health needs and treatment options in this survey. The foot health questions were based on those used in the 1980 U.S. National Health Interview Survey (Glenn, 1996).

The participants were asked whether they had experienced any foot problems within the past twelve months. Those participants who responded affirmatively were asked to specify the type or types of foot problem within a given list, whether
Demographics
The age of the population sampled is shown in Figure 1. The 25-44 year age group represents the largest proportion of the population. Eighty seven percent of the population was born in Australia with a further 6% from the British Isles and New Zealand. Less than one percent of those surveyed identified themselves as Aboriginal, Torres Strait or South Sea Islander. At the time of the census, the population ratio of male to female adults over the age of eighteen was approximately equal.

Proximate measures of socio-economic status such as education and level of income were low. Twenty six percent of participants reported having reached primary school as their highest level of education and 35% of participants completed junior high school, 14% completed senior school and 24% had undertaken tertiary education. Seventy percent of the participants reported a total household income of less than $2,600.00.

Twenty percent of the surveyed population had private health insurance, with the over 65 age group being the primary holders of health insurance. Those with health insurance were more likely to live on rural holdings, report excellent or good health and to be non-smokers.

Prevalence of foot problems
Over one quarter (25.7%) of respondents answered affirmatively to the question “Have you experienced any problems in relation to the health of your feet in the last twelve months?”

Females (28.7%) were affected slightly more than males (22.9%), although this result is not statistically significant (p = 0.08). Women were more likely to report greater numbers of foot problems. In total, 87 women reported 123 foot problems, an average of 1.4 foot problems per woman. Sixty four men reported 77 foot problems, an average of 1.2 foot problems per male. Females exceeded males for all ailments except infection and injury for which males reported almost the rate of foot injury as females. Arthritis was the most highly reported foot problem by both males and females (Table 1).

Participants aged 65 and over had the highest proportion of foot problems (29%) and the prevalence of foot problems increased with increasing age of the participants (p = 0.001) (Figure 2). Participants over 45 years old were 2.5 times more likely to experience foot problems than those under 45 (p = 0.001). The 25-44 year age group reported the highest number of injuries. Arthritis in the foot was reported by 14% of the over 65 age group, 12% of the 45-54 year olds and by 7% of 55-64 year olds (Table 3).

Treatment sought and provider
A total of 102 (88%) respondents sought treatment for their foot problem. Treatment options provided included general practitioner, specialist, podiatrist, other, pharmacist, chiropodist and physiotherapist. No respondents saw a chiropractor for their foot problem so this was excluded from the analysis. On average, each person who sought treatment consulted 1.31 medical services. Specialists and podiatrists were consulted almost equal amounts, although over twice as many women as men saw podiatrists. Treatment was sought most often from the general medical practitioner. Older people with foot problems were more likely to seek treatment for their condition than younger people (Table 3).

Table 1
Table 2
Table 2: Prevalence of foot problems by gender and age group

Presence of illness, disability or infertility
Two thirds (66%) of the participants with foot problems reported the presence of other illnesses. People with five or more illnesses were 4.6 times more likely to report the presence of a foot problem (p = 0.00). Ten percent of the population with foot problems had concomitant diabetes. Similarly, 48% of people with diabetes reported the presence of foot problems within the past 12 months although the majority of these reported the presence of only one problem.

Participants were asked a single question about their quality of life (self-rated health question). Two thirds of participants reported that their health was excellent or very good. Whilst not statistically significant, there was an inverse relationship between the presence of foot problems and reported quality of life (p = 0.08) although there was no relationship between the number or type of foot problems and quality of life. There was an association between levels of pain, as measured using a question from the Medical Outcomes Study, Short Form - 36 questionnaire, and the presence of foot problems (p = 0.001). Forty percent of participants with foot problems had extreme levels of pain, compared to 20% of the population without foot problems (p = 0.001).
Table 3: Treatment type by gender and age

<table>
<thead>
<tr>
<th>Practitioner</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
<th>18-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-65</th>
<th>65+</th>
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<tr>
<td>%</td>
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<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>GP</td>
<td>70.9</td>
<td>74.8</td>
<td>66.6</td>
<td>100</td>
<td>64.1</td>
<td>80.1</td>
<td>73.4</td>
<td>76.3</td>
<td>60.5</td>
</tr>
<tr>
<td>Specialist</td>
<td>20.1</td>
<td>15.3</td>
<td>25.3</td>
<td>45.6</td>
<td>22.1</td>
<td>20.1</td>
<td>35.9</td>
<td>12.2</td>
<td>10.1</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>7.7</td>
<td>9.7</td>
<td>5.5</td>
<td>19.9</td>
<td>-</td>
<td>-</td>
<td>5.5</td>
<td>3.6</td>
<td>10.1</td>
</tr>
<tr>
<td>Podiatrist</td>
<td>16.4</td>
<td>9.5</td>
<td>23.7</td>
<td>0</td>
<td>13.2</td>
<td>21.1</td>
<td>12.2</td>
<td>29.4</td>
<td>3.8</td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>5.6</td>
<td>1.9</td>
<td>9.5</td>
<td>6.1</td>
<td>20.1</td>
<td>7.8</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>7.4</td>
<td>7.9</td>
<td>6.8</td>
<td>9.9</td>
<td>8.8</td>
<td>7.5</td>
<td>10.0</td>
<td>16.0</td>
<td>-</td>
</tr>
</tbody>
</table>

Problems reported the presence of high to extreme levels of pain.

Reduced levels of activity were associated with the presence of foot problems (p = 0.001), however no conclusions about the causal nature of this relationship can be drawn due to the increased age and infirmity of people with foot problems.

The self-reported prevalence of diabetes is 5.5% in this sample, which is lower than the Queensland rate of 5.6% which was determined by the Regional Health Assessment (Queensland Health, 1990). This figure is comparable with other health regions of rural Queensland although almost 2% higher than the average Australian rate, reflecting the health differential experience between rural and urban Australians (Mathers, 1994).

Body mass index (BMI) was associated with an increase in the prevalence of foot problems and also an increase in the presence of chronic illness or disability. Increasing BMI was associated with increased rates of arthritis, back problems and diabetes (Table 4).

Occupation was associated with the presence of illness and infirmity with those reporting home duties or unemployed as their occupation also recording the highest rates of allergies, asthma and back problems (Table 6). Participants who stated that they were retired had the highest rates of arthritis and diabetes. Reported rates of foot problems were proportionally greatest in those with primary school education, followed by those with trade, technical certificates or a diploma (Figure 3).

Effect of SES, geography and demographics on the prevalence of foot problems and type of treatment sought.

The rate of reported foot problems were higher in rural groups than semi-urban or urban participants with rates of 27%, 22% and 22% respectively (Table 5).

Urban dwellers were most likely to consult a general practitioner, followed by a specialist for foot problems. The group most likely to consult a podiatrist for foot problems was the population from semirural dwellings and retired people. Retirees are more likely to be over 65, have health insurance and have the highest prevalence of foot problems.

Discussion

The overall rate of foot problems of 25.7% in the past year is much higher than the results obtained by the United States National Health Survey as reported by Greenberg and Davis (1993) who reported 17.4% and 17.2% respectively in the US population. The number of people seeking treatment for their foot problems was high in West Moreton with 66% of participants seeking treatment, compared with 38% in the US. The demographics in West Moreton are similar for age, sex and rural residence with the American studies.

Considering the high rates of self-reported foot disorders, there is relatively little utilization of podiatric services within the region, with only 17 people (5%) attending a podiatrist within the past 12 months. In contrast, 33 people (9%) saw a general practitioner for their foot problem in the same period. Of the proportion of people with foot problems, these represent 15.8% and 72.5% for podiatrists and general practitioners respectively. These results differ significantly from those published by Greenberg and Davis (1993) who found that patients sought treatment from a podiatrist for any foot condition in 47% of cases. A study undertaken in Wellington, NSW found that treatment was sought for foot problems less than 50% of the time, however when treatment was sought, podiatrists were the most common choice of treatment (65.6%) followed by general practitioners (37.5%) (Munro and Store, 1998).

Murphy (1987) does not mention access to podiatry services in the Wollongong region, but the higher rates of podiatry utilization in this group indicates that podiatry services are more accessible to this group, either geographically or economically (or both). A direct comparison between rates of podiatric service provision in the United States and Australia cannot be made due to differences in health care structures and service types. Foot surgery in the United States is performed by podiatrists in 57% of cases and orthopaedic surgeons in 43% of cases (Greenberg and Davis, 1993). In Queensland, the majority of podiatry was performed by orthopaedic surgeons at the time of the survey.

"This survey did not have the capacity to examine the reasons for non-receipt of treatment. Greenberg and Davis (1995) report that the major reasons for non-receipt of care in the US were unavailability of podiatry services and financial barriers to care and financial reasons. There are very few publicly funded podiatry positions in Queensland. At the time of the survey, there were two part-time traineeships funded by Queensland Health in the West Moreton health region, with the majority of services provided by private practitioners. The low rate of health insurance participation (24%) may also mean private podiatric services inaccessible to many people due to the cost.

Geographic access to podiatry is a possible barrier in rural areas, with the majority of services being provided in Ipswich and only seasonal provision of podiatric services in some of the less populated areas.

Using education as an indicator of socio-economic status (SES), the lower SES groups had an increased likelihood of developing foot problems. Unemployment and socioeconomic status are both known to be related to mortality and health inequality or differences (Klein Hesselink and Sprait, 1992). Education is frequently used as a measure of SES as it does not normally change after young adulthood, whereas occupation and income might. In this study, those with low education and blue collar workers reported higher rates of foot problems, yet are less likely to have access to podiatry services due to the cost of treatment from private practitioners and the scarcity of public podiatry services.

Limitations

Whilst the overall sample of 600 participants is significant and the prevalence of reported foot conditions was great at over 23%, the numbers of participants within each sub-group lost significance due to small numbers. However, the trends within each group provide an insight into the needs of different groups of people according to their occupation and dwelling location.
Regional variations of diabetic foot complications and podiatric services

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ABSTRACT
Specialized care for the diabetic foot has been shown to reduce diabetic foot complications and diabetes related amputations. The aim of this research was to compare the regional level of podiatric services to regional variations in the admission to hospital for diabetic foot disease and diabetes related amputations. Information on admissions to hospital and bed days for diabetic foot disease and the lower extremity amputation rates was obtained from the Ministry of Health (NZ). Information on the podiatric services associated with diabetes service was obtained from a workforce survey. No correlation was found between the regional variation of diabetes related podiatric service and the regional variation of diabetic foot disease. The regional variation of diabetes related podiatric service was not related to the regional variation of diabetic foot disease.

REFERENCES


CONCLUSION
There is a need for more detailed epidemiological data collected on diabetic foot health, both in Australia and internationally. This will enable podiatrists to develop relevant skills for the management of conditions such as the arthritic foot as well as target regions with needs for podiatric services. The high rates of self-reported foot problems and the low use of podiatry services suggests that further steps may need to be taken by the professions in order to become the health service provider of first choice in the delivery of lower limb care. Queensland Health has introduced initiatives to increase the level of health services and health services in Aboriginal communities in north-west Queensland.

Similar studies performed in other rural and urban regions would enable the comparison of podiatric need. Levy (1992) found differences in the distribution of podiatric complaints by geographic location and it is likely that similar variations would occur in a densely populated area such as Queensland. With an aging society, there are trends towards an increase in the prevalence of chronic disease. These data show that the aged population have a greater proportion of podiatric complaints than the younger age groups, a result which is likely to increase as the population increases in age. According to the Australian Diabetes Society (1990), the proportion of the Australian population aged over 65 will increase by about 3.7% in the year 2011, from 10% in 1987 to 13.7% in 2011 (Hartman et al., 1993). Whilst podiatric problems appear to have little bearing on the self-perception of health, the sequelae of podiatric complications may be severe (Levy, 1992). With the aging population, the foot health needs of the elderly need to be given priority. Podiatrists are primary health care providers and as such we should be looking to improve the foot health status of Australians to ensure maximum mobility and productivity.