A large number of people experiencing problems with alcohol present themselves to general practitioners, possibly at a rate twice the average. Chilvers recently surveyed 500 consecutive consultations with patients over the age of 17 years in Wairoa, a small rural New Zealand town. Of the 500 patients surveyed 195 were male and 305 female; 44 males (22.6%) and 36 females (11.8%) were drinking above the Alcohol Advisory Council of New Zealand’s recommended maximum weekly levels, which is 16.0% of those questioned. McMenamin surveyed 202 patients aged 18-29 years who had previously participated in a screening health check in his general practice using the AUDIT. Sixteen (11 men and 5 women) were classified as at-risk drinkers and a further 11 (8 men and 3 women) met the criteria for alcohol use disorder according to DSM III R.
These data calculated 13.4% of the screened group as either at-risk (7.9%) or dependent drinkers (5.4%) with men outnumbering women by over 2:1.

The general practice setting represents an important opportunity to deliver health education/promotion and early intervention for problematic and risky alcohol use - especially given that many people with alcohol problems do not present to specialist treatment services. A general practice-based strategy has the following advantages. Firstly, general practitioners are highly accessible to the population requiring interventions. Secondly, general practitioners have role legitimacy with respect to the delivery of advice about alcohol consumption. Thirdly, there is reason to believe that brief interventions delivered by general practitioners have a positive impact on the alcohol consumption levels of their patients. A comprehensive review of early intervention studies documented seven out of eight randomised controlled trials in health settings demonstrating significant reductions in alcohol use after early intervention, five of which involved delivery of advice by general practitioners. Putting all of these factors together, it might be expected that a concerted effort by general practitioners would have a substantial impact on the level of alcohol-related harm in New Zealand society.

Unfortunately, the uptake and utilisation of brief intervention strategies by general practitioners remains very limited. Gomel et al11 commented that the potential of general practitioners to reduce the prevalence of alcohol-related problems contrasts sharply with current practices. General practitioners fail to identify a large proportion of patients who are drinking at harmful or at-risk levels. This statement is supported by studies such as those by Rydon et al,12 which show between 65.0% and 82.3% of patients with alcohol-related problems as identified by consumption levels or by screening tests such as the CAGE, are not identified in general practice. Similarly, Reid et al13 found that general practitioners were able to identify only 27.5% of patients classified by Australian Medical Association criteria as “high risk” drinkers and 43.2% of patients classified as “moderate to heavy” drinkers.

One strategy for encouraging general practitioners to take a more active role with respect to alcohol problems is to provide support around screening and brief intervention. As part of a World Health Organisation (WHO) collaborative project the authors have previously explored the incentives and disincentives for general practitioners providing interventions. One barrier identified was “Doctors do not have a suitable screening device to identify problem drinkers who have no obvious symptoms of excess consumption”. This has been addressed within the WHO collaborative study by the development of the DRINKLESS package. A suitable screen is necessary because alcohol problems are not usually immediately apparent. Clients may also be unwilling to volunteer information about their situation for fear of being labelled an “alcoholic” or otherwise stigmatised. Fortunately, screens for alcohol problems can perform significantly better at detecting problems than physicians operating without the use of such tools. A cross-national data set rated the sensitivity of the AUDIT, for example, at 92% for hazardous and harmful alcohol use combined and its specificity at 94%. This paper is based on the analysis of 15 670 AUDIT questionnaires completed as part of a research project studying the distribution of the DRINKLESS screening and early intervention package. The main aims of the project reported in this paper are to: 1. Quantify the prevalence of patients with either “risky drinking” or “problematic or dependent drinking” (according to AUDIT criteria) attending the selection of general practices surveyed in our earlier study. The purpose was to affirm the value of conducting alcohol problem screening within the general practice setting. 2. Compare our findings with other surveys to ensure, or otherwise, that our findings were generalisable to general practice as a whole. This was because our sample was drawn from a study not expressly designed to survey general practice consultations.

Methods

General practitioners (all from separate practices within greater Auckland) were selected by computer random number generation from a database of just over 900 individual general practitioners maintained by the Department of General Practice, University of Auckland. The first general practitioner chosen from each separate practice was entered into the study; subsequent general practitioners from the same practice were not enrolled. Random selection ceased once 369 general practitioners were identified, each belonging to a separate general practice.

The intervention procedure delivered to each doctor was the “DRINKLESS” package developed with the WHO collaborative study for early intervention for at-risk alcohol consumption. The DRINKLESS package included information for the doctor, receptionist and patient, the AUDIT alcohol screening questionnaire and a scoring template. A standard process was prepared to ensure waiting room screening of every patient 16 years of age and over.

Of the 369 Auckland doctors sampled, 237 agreed to receive the DRINKLESS package and 96 agreed to utilise the package. Of these, 83 started and 65 provided a complete data set. Among the surveys and other data collected during this second study was a database of 15 670 completed AUDIT questionnaires.

The AUDIT alcohol screening questionnaire was developed from a six-country WHO collaborative project for use in primary health care settings. The AUDIT has ten items which cover the domains of alcohol consumption, drinking behaviour and alcohol-related problems. Each question has a minimum score of 0 and a maximum score of 4 thus giving a range for the AUDIT of 0 to 40. The questionnaire classifies scores of 8 to 10 indicating “risky drinking” and scores greater than or equal to 11 as “problematic or dependent drinking”. Unlike most other screening instruments for alcohol disorders, the AUDIT is concerned with identifying those with risky or problem drinking, not exclusively those with alcoholism.

The raw AUDIT total and item scores were entered into a computer database and then analysed using SPSS v8.0. The AUDIT scores were recorded into the main divisions - “responsible drinking”, “risky drinking”, and “problematic or dependent drinking”. Analyses of variation in all of these categories were conducted for the total population and for different subgroups identified by gender, age and occupation. Separate analyses of AUDIT scores for male and female patients were conducted according to age.

Analyses of the relationship between occupational grouping and grouped AUDIT scores were conducted using the chi-squared test. Yates’ continuity correction was applied. The relationship between AUDIT scores and gender was analysed using the Mann-Whitney test. The distributions were insufficiently parametric to use the t-test.

Results

Approximately one in every six people (16.0%) who completed one of the 15 670 AUDIT’s was identified as having either “risky drinking” (10.2%) or “problematic or dependent drinking” (5.8%). In some general practices there were substantially higher proportions in these two categories. The maximum recorded was 38.8% of patients having either “risky drinking” or “problematic or dependent drinking” (N=468 patients).

The pattern varied considerably according to the occupation of the patient. People in the “income support”, “elementary”, “trades”, or “machinery” categories had over four times the chance of scoring with “problematic or dependent drinking” compared with people in other occupations (14.5% vs 3.6%) (χ² = 551.2, df = 1, p < 0.001). The percentage for “income support” was the highest at 18.9%. Looking at the other end of the continuum, people in the “retired”, “home responsibilities”, “professional”, or “clerk” categories were less than a fifth as likely to receive a “problematic or dependent drinking” AUDIT score.
compared with people in other occupations (1.8% vs 9.4%) ($\chi^2 = 409.2, df = 1, p < 0.001$).

As can be seen from Figure 1, there is a clear relationship between age and overall AUDIT score; as we look at increasingly older populations there is a substantial decrease in the percentage identified with either “risky drinking” or “problematic or dependent drinking”. Patients aged 18-29 are the most likely to receive high overall scores.

Our results show that approximately one third (32.0%) of young people under the age of 25 years attending general practitioners are drinking at either “risky drinking” levels (19.2%), or at “problematic or dependent drinking” levels (12.7%). This means they are either at risk of problems with their health, the law, relationships or their work, or they are already experiencing problems. Patients aged 18-24 had the highest scores and patients over 66 the lowest scores. To some extent the lower scores in the older age groups represents the effect of ageing on levels of consumption. Another factor is that patients with heavy drinking practices are more likely to die earlier.

Male patients gained significantly higher AUDIT scores than female patients (Figure 2). The average AUDIT score for men was 5.5 while the average score for women was 3.2 ($t = 29.1, df = 10396, p < 0.001$). The gap between males and females was smallest for fourteen to seventeen-year-olds but was pronounced thereafter.

Focusing on the interaction of gender and age, males and females both begin their drinking careers with almost identical AUDIT scores according to our data. However, females quickly move to an average score more than three points lower by age group 20-24 (8.4 for males and 5.0 for females). This gap is maintained through all age groups until the sixties when it begins to noticeably narrow.

Looking at male scores in isolation, the two age ranges with the highest scores were 18-19 and 20-24, with nearly half (47.8% and 47.3%, respectively) being identified as either “risky drinking” or “problematic or dependent drinking”.

**Discussion**

Before discussing the results of the data analysis, two sources of potential bias should be mentioned. The first is self-selection bias on the part of the general practitioners. It is conceivable that the general practitioners who declined to utilise the DRINKLESS package may have differed in some significant way from those who agreed. It is possible, for example, that willingness to participate fully was influenced by the perceived level of problems in the patient population. A second potential threat to the generalisability of our results to general practice consultations as a whole, could be that doctors selectively chose to screen those they expected to have alcohol problems. The overall demography of those completing our AUDIT screens was compared with that obtained in the Waimedca study. This 1992 study surveyed general practitioner consultations around Hamilton, a medium-sized New Zealand city. This enabled comparison of their data with the age and gender distribution of those completing our AUDIT screen. There was no indication that doctors had selectively screened those who they suspected may have an alcohol problem as the two populations appeared almost identical on the axes available for comparison.

The average finding that 16.0% of the population were either “risky drinking” or “problematic or dependent drinking” is the same as the percentage found by Chilvers and only slightly higher than McMenamin’s figure of 13.4%. Taking into account the age range of patients included in McMenamin’s sample (18-29), however, his figures are much lower than for a comparable selection of patients from our sample (29.4%). His lower figure may have been produced by some of his heavy drinkers being unwilling to participate or, given the sample size of 202, may just represent random variation. Wyllie and Wells both measured different indicators of problem drinking in the community but their results are not inconsistent with our own.

Results from other studies supported the finding that higher alcohol problem levels were associated with youth. In the research of Wyllie et al., respondents aged 18-24 were most over-represented in the top 10% of drinkers by alcohol consumption and half of heavier drinking women were in this age group. Data on alcohol consumption and the frequency of heavier drinking showed a peak at ages 18-19 and a steady decrease thereafter. Age was also a strong predictor of alcohol-related problems. Grant’s United States data show 18-24-year-olds as having the highest rates of alcohol dependence according to DSM-IV criteria.

Male patients in this study had higher AUDIT scores than female patients. Once again, other studies tended to support this analysis. This finding was entirely consistent with the McMenamin, Chilvers and Wells findings discussed in the introduction. Chilvers and McMenamin both report male to
female problem drinking ratios of about 2:1. The study by Wyllie et al\(^1\) reported that males were substantially over-represented in the top 10% of drinkers and that more males than females reported feeling drunk as frequently as once a week (14% and 4%, respectively). In contrast, however, gender was found to have only a weak relationship with most measures of alcohol-related problems. In Grant’s study,\(^2\) male dependence rates as measured against DSM-IV criteria were higher than female (6.3% and 2.6%, respectively). The gap reported between the AUDIT scores for male and female patients is indirectly supported by Wyllie et al,\(^1\) who showed similar male/female rates of alcohol consumption and heavier drinking in the 14-17 age group, with males rapidly gaining higher rates thereafter.

In general terms, this study has confirmed that large numbers of patients presenting to general practitioners experience alcohol problems of varying degrees. The therapeutic task for the doctor is to shift patients with alcohol-related problems along the continuum to a safer point. General practitioners can realistically achieve a considerable amount without having to “cure” all their problem drinking patients. It is perhaps in recognition of this fact that there has been increasing interest in the role of problem drinking patients. It is perhaps in recognition of this fact that there has been increasing interest in the role of problem drinking patients. It is perhaps in recognition of this fact that there has been increasing interest in the role of problem drinking patients. It is perhaps in recognition of this fact that there has been increasing interest in the role of problem drinking patients. It is perhaps in recognition of this fact that there has been increasing interest in the role of problem drinking patients. It is perhaps in recognition of this fact that there has been increasing interest in the role of problem drinking patients. It is perhaps in recognition of this fact that there has been increasing interest in the role of problem drinking patients. It is perhaps in recognition of this fact that there has been increasing interest in the role of problem drinking patients. It is perhaps in recognition of this fact that there has been increasing interest in the role of problem drinking patients. It is perhaps in recognition of this fact that there has been increasing interest in the role of problem drinking patients. It is perhaps in recognition of this fact that there has been increasing interest in the role of problem drinking patients.

Another general finding of this study is that screening using the AUDIT or a comparable tool is likely to have a satisfactory detection rate. There is no need for concern that screening will entail a large amount of work with little tangible benefit for patients. Screening strategies can be customised in a number of ways to suit a particular need. Options include the incorporation of alcohol screens into broader lifestyle surveys, the use of waiting-room time to administer earlier steps in the screening process, the use of self-administered computerised surveys and an expansion of the practice nurse role in this area.\(^6,24\)

None of this is likely to remove all potential concerns about screening. Anderson,\(^21\) for example, quotes one general practitioner expressing what might be a common source of trepidation: “One of the things I don’t do is ask too many questions because I don’t want to uncover a whole lot of things I can’t deal with ... I am not going hunting out problems I don’t know how to treat”. But it does suggest that New Zealand has a lot to gain if it can find a way of harnessing the potential of general practitioners in the delivery of alcohol interventions.

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