

Introduction

Undiagnosed diabetes, in addition to diabetes that is already diagnosed, is an important public health issue. People who are unaware of the presence of diabetes may already be progressing towards complications of this condition.

Methods

This study investigated the prevalence of undiagnosed diabetes in a representative population sample of people aged 18 years and over living in the North West region of Adelaide (n=2523). Respondents were recruited through a telephone interview to participate in a clinical assessment of their health. The response rate was 69.1%. Data were weighted by age group, sex, geographic location and probability of selection in the household to accurately reflect the North West Adelaide population.

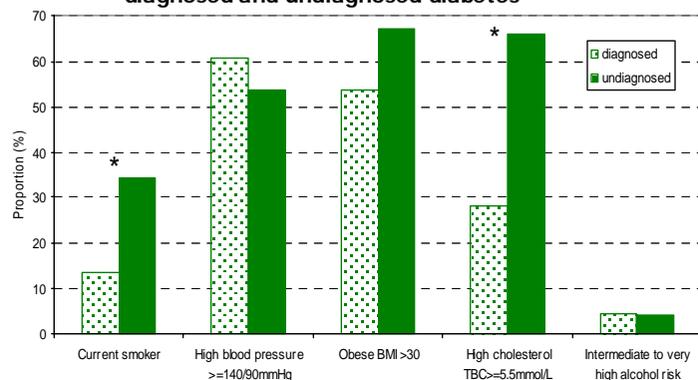
People with previously undiagnosed diabetes were defined as having a fasting plasma glucose level ≥ 7.0 mmol/L when measured at the clinic, but who did not report having been told by a doctor that they had diabetes. People with diagnosed diabetes were defined as those who self-reported being previously told by a doctor that they had diabetes.

People with undiagnosed and diagnosed diabetes were compared in terms demographic factors and risk factors including smoking status and alcohol risk obtained from self-reported questionnaire data. To ascertain alcohol risk, respondents were asked the number of standard drinks they usually have on a weekly and daily basis. Body mass index (BMI) was calculated from measured height and weight. High blood pressure was defined as systolic blood pressure ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg. High cholesterol was defined as total blood cholesterol ≥ 5.5 mmol/L.

People with diagnosed and undiagnosed diabetes were compared using the eight dimensions of the SF-36, namely physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional, and mental health. Standard scores were calculated by dividing the difference between the raw quality of life score (controlled for age and sex) and the norm of the general population by the standard deviation of the general population. The standard score for the general population was set at zero.

Results

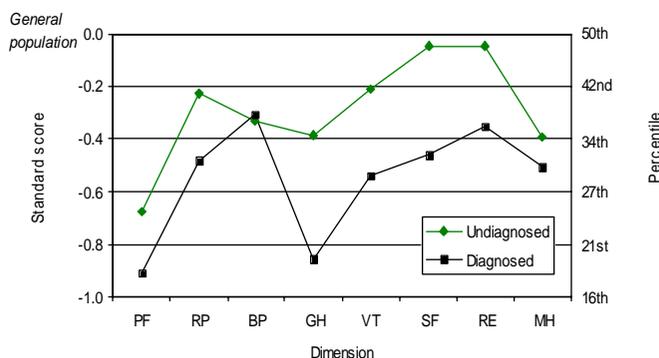
Figure 1: Prevalence of risk factors among people with diagnosed and undiagnosed diabetes



The overall prevalence of diabetes was 6.7% (5.4% diagnosed, 1.2% undiagnosed). Of people with diabetes, 18.3% were previously undiagnosed. For approximately every four people with diagnosed diabetes, there was one person with undiagnosed diabetes. People with undiagnosed diabetes were significantly younger (mean age 55.3 years, 95% CI 50.8-59.8) than people with diagnosed diabetes (63.1 years, 95% CI 60.7-65.5).

The prevalence of current smoking and high cholesterol was statistically significantly higher ($p < 0.05$) among people with undiagnosed diabetes than those with diagnosed diabetes. The prevalence of high blood pressure, obesity, and high alcohol risk was not significantly different among the undiagnosed and diagnosed groups (Figure 1).

Figure 2: SF-36 standard scores, controlled for age and sex, for people with diagnosed and undiagnosed diabetes compared to the general SA population.



The quality of life of people with undiagnosed diabetes (Figure 2), although not as impaired as those with diagnosed diabetes, was significantly impaired when compared to the general population, particularly on the physical dimensions.

Conclusions

People with previously undiagnosed diabetes had a similar risk factor profile for developing complications as those with diagnosed diabetes, and the prevalence of current smoking and high cholesterol were significantly higher among the undiagnosed group. Absence of diagnosis may mean that these people are less likely to be taking steps to reduce their risk of developing complications. The quality of life of people with undiagnosed diabetes was also impaired compared to the general population.

The results of this study indicate that the North West region may be doing better than other areas of the state in detecting cases of diabetes since the AusDiab study found an equal ratio of diagnosed to undiagnosed diabetes cases in South Australia. Whether the ratio of diagnosed to undiagnosed cases is 1:1 or 4:1, strategies and programs to increase the proportion of people who are aware that they have diabetes will have similar implications for the diabetes health service workforce. Detection of diabetes among the general community should be considered a priority so that early intervention can prevent, reverse, halt or slow the progression of complications.

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