Methods

Introduction

In 2005, the NSW Department of Health conducted the second New South Wales Secondary Schools Health Behaviours (SSHB) Survey. A previous SSHB Survey was conducted in 2002, as part of the triennial Australian School Students' Alcohol and Drugs (ASSAD) Survey, which began in 1984. This section describes the methods of data collection and analysis for the SSHB Survey in 2005.

Sample selection

The target population was all students in Years 7-12 in New South Wales. Schools with fewer than 100 students were not included in the survey.

The survey used a 2-stage probability sampling procedure; schools were selected first; students within schools were selected second. Schools were stratified by the 3 sectors (government, Catholic and independent) and randomly selected within each sector. The sampling procedure ensured the distribution of schools among the 3 sectors was reflected in the sample. Two samples were drawn: junior secondary (to Year 10); senior secondary (Years 11 and 12).

The target school sample was 126 secondary schools. To achieve this target, 193 schools were approached and 120 schools participated, giving an overall response rate of 62.3 per cent. This was higher than the overall response rate in 2002 of 23.0 per cent. The survey was conducted in the 2005 academic year.

Survey procedure

The questionnaire and survey procedures were approved by the ethics committees of the Cancer Council Victoria, NSW Department of Health, and NSW Department of Education. Letters of support were also obtained from the Catholic Education Office and the Association of Independent Schools of New South Wales.

Principals of selected schools were contacted by the Centre for Epidemiology and Research to obtain permission to conduct the survey at their schools. If a school refused, they were replaced by the school nearest to them within the same sector. The aim was to survey 80 students from each participating school. For junior secondary, 20 students (and 20 replacements) were randomly selected from each of Years 7-10; for senior secondary, 40 students (and 40 replacements) were randomly selected from each of Years 11-12. The school roll provided the sampling frame. A brochure and consent form was sent to the parents of each of the selected student and replacement. Consent forms were returned to the school and the school held the list of students who had parental consent.

McNair Ingenuity Research Pty Ltd was contracted to administer the pencil-and-paper questionnaire on the school premises. If a student from the sample list was not present at the time of the survey, a student from the replacement list for that year was surveyed. Students from different years were surveyed together. Students answered the questionnaire anonymously.

Survey instrument

The survey instrument is a self-administered questionnaire with a core component and 2 supplements. Each student completed the core module and one of the supplementary modules. The core module includes questions on demographics, alcohol, tobacco, substance use, sun protection, sunburn experience, nutrition, physical activity, and sedentary behaviour. Supplementary A includes questions on alcohol and psychological distress as well as additional questions on tobacco. Supplementary B includes questions on nutrition, height and weight, perception of body mass, injury, use of solariums or sunbeds, as well as additional questions on physical activity. The 3 questionnaires are shown at the end of this report.

Coding and data entry

Questionnaires were coded and entered by the Centre for Behavioural Research in Cancer at The Cancer Council Victoria. After data entry, the data were cleaned and prepared for data analysis. Students with a large amount of missing data or whose responses were wildly exaggerated were removed from the data set before analyses started.

During analysis, respondents were not included for particular questions if they gave contradictory or multiple responses or did not answer the question. However, these respondents were included in the analysis of other questions if these had been validly completed. Cleaning of data relating to questions about the use of alcohol, tobacco or other substances involved checking for inconsistencies in reported use of alcohol across time periods (lifetime, year, month, and week). This cleaning procedure ensured maximum use of data and operated on the principle that the student's response about personal use in the most recent time period was accurate.

Data analyses and reporting

Analyses covered school students aged 12-17 years. To ensure that disproportionate sampling of any school type, age level, and gender grouping, did not bias the prevalence estimates, data were weighted to bring the achieved sample into line with the population distribution. In this report, prevalence estimates were based on these weighted data. Information about the enrolment details of male and female students in each age group at government, Catholic and independent schools was obtained from the Australian Bureau of Statistics.[1]

Data were analysed using SAS version 8.02.[2] The SURVEYMEANS procedure in SAS was used to analyse the data and calculate point estimates and 95 per cent confidence intervals for the estimates. The SURVEYMEANS procedure calculates standard errors adjusted for the design effect factor or DEFF (the variance for a non-random sample divided by the variance for a simple random sample). It uses the Taylor expansion method to estimate sampling errors of estimators based on the stratified random sample.[2]

The 95 per cent confidence interval provides a range of values that should contain the actual value 95 per cent of the time. In general, a wider confidence interval reflects less certainty in the estimate for that indicator. The width of the confidence interval relates to the differing sample size for each indicator. Wide confidence bands mean that although there may be a large difference between the estimates, because of the small sample size in some indicators the difference is not significantly different.[2] For a pairwised comparison of subgroup estimates, the p-value for a two-tailed test was calculated using the normal distribution probability function PROBNORM in SAS, assuming approximate normal distribution of each individual subgroup estimates with the estimated standard errors, and approximate normal distribution for the estimated difference.

The Socio-Economic Indexes for Areas (SEIFA) describe the socioeconomic aspects of geographical areas in Australia, using a number of underlying demographic variables.[3,4] The SEIFA used for SSHB Survey data is the Index of Relative Socio-Economic Disadvantage, which groups values into 5 quintiles with quintile one being the least disadvantaged and quintile 5 being the most disadvantaged. The SEIFA was assigned using the student's postcode of residence.

The area health service was derived from the postcode of the student's residence.

Characteristics of final sample

A total of 5,591 students in Years 7-12 were surveyed during the academic year, of which 5,522 were aged 12-17 years; 61.0 per cent were from government schools, 23.0 per cent were from Catholic schools, and 16.0 per cent were from independent schools. The sex distribution of the final sample was 45.0 per cent male and 55.0 per cent female, which when weighted corresponds with an actual distribution of secondary school students in 2005 of 50.7 per cent male and 49.3 per cent female; 72.8 per cent of respondents were aged 12-15 years and 27.2 per cent were aged 16-17 years, which when weighted corresponds with an actual distribution of secondary school students in 2005 of 49.1 per cent aged 12-15 years and 50.9 per cent aged 16-17 years; 3.2 per cent of respondents reported they were Aboriginal or Torres Strait Islander, which is similar to the actual distribution of Aboriginal or Torres

Strait Islanders in 2005 of 3.5 per cent.

The main language spoken at home in the final sample was English (82.0 per cent), followed by English and another language (15.9 per cent), and another language only (2.4 per cent). Among respondents who spoke a language other than English at home, the most common languages were: Arabic languages such as Lebanese, Persian, Farsi, and Dari (18.0 per cent); Chinese languages (16.1 per cent); Vietnamese (7.0 per cent); Indian languages (6.2 per cent); and Turkish (5.4 per cent).

References

1. Australian Bureau of Statistics. *Schools Australia 2005*. Catalogue no. 4221.0. Canberra: ABS, 2006.
2. SAS Institute. The SAS System for Windows version 8.02. Cary, NC: SAS Institute, 2003.
3. Australian Bureau of Statistics. Census of Population and Housing: Socio-Economic Indexes for Areas, Australia 2001. Catalogue no. 2039.0. Canberra: ABS, 2003.
4. Australian Bureau of Statistics. *2001 Census of Population and Housing: Socio-Economic Indexes for Areas*, Information Paper, Catalogue no. 2039.0. Canberra: Australian Bureau of Statistics, 2003.