

Links between smoking and risky alcohol consumption

Background

Future health problems are significantly greater among those who both smoke and drink alcohol than for those who engage in only one of these behaviours (Pelucchi, Gallus, Garavello, Bosetti, & La Vecchia, 2006). While smoking (Office of the Surgeon General, 2014) and risky alcohol consumption (World Health Organization, 2014) are individually linked to adverse health consequences, understanding the links between smoking and alcohol consumption has potentially important implications for treatment and may also help with the development of health promotion approaches.

This fact sheet assesses whether the prevalence of risky alcohol consumption (defined here as high levels of alcohol consumption on a single occasion) among New Zealand adults varied according to smoking status. The analysis was undertaken using the Health Promotion Agency's (HPA's) 2014 Health and Lifestyles Survey (HLS).

Methodology

Questions in the 2014 HLS relating to alcohol consumption and smoking behaviour were used to determine risky alcohol consumption and smoking status among New Zealand adults aged 15 years and over:

1) **Risky alcohol consumption** was determined by asking respondents on how many days in the last four weeks they had an alcoholic drink and, if they had had an alcoholic drink on at least one day, how often in the last four weeks they had consumed more than five (for females) or six (for males) alcoholic drinks on a single occasion. Respondents were considered to have engaged in risky alcohol consumption if they reported consuming more than five (for females) or six (for males) alcoholic drinks on a single occasion at least once in the last four weeks. All other respondents (including those who did not drink any alcohol in the last four weeks) were counted as not having engaged in risky alcohol consumption.

2) **Smoking status** was determined by asking respondents if they had ever smoked cigarettes or tobacco and, if they had, how often they currently smoke. Respondents were considered **never smokers** if they had never smoked cigarettes or tobacco; **current smokers** if they were currently smoking at least once a month; and **ex-smokers** if they had smoked tobacco in their lifetime but they no longer smoked.

Respondents who refused a question or said 'don't know' were excluded from analysis. Univariate regression analyses were conducted first to assess whether the prevalence of risky alcohol consumption varied with smoking status and to identify any confounding variables that might account for the relationship between smoking status and risky alcohol consumption (age, ethnicity, gender, and neighbourhood deprivation were examined). Multivariate regression analyses were then conducted to assess whether the relationship between risky alcohol consumption and smoking was still significant after adjusting for the confounding variables. Both odds ratio (OR) and adjusted odds ratio (AOR) are reported.

Results

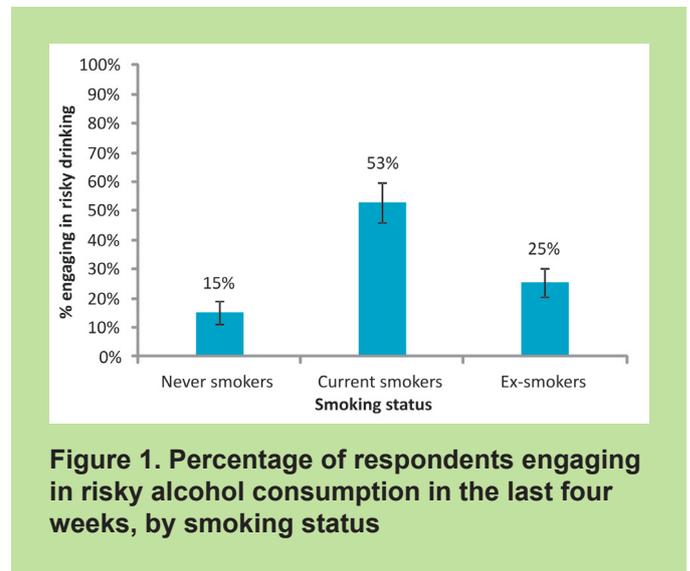
The overall rate of risky alcohol consumption was 26% and this varied by smoking status (see Figure 1). Whereas one-half of current smokers and one-quarter of ex-smokers had engaged in risky alcohol consumption in the last four weeks, only around one-sixth of never smokers had done so.

The initial univariate analysis (ie, before adjusting for confounding variables) confirmed that risky alcohol consumption in the last four weeks was significantly more common among current ($OR = 6.36$; $95\% CI = 4.20, 9.63$) and ex-smokers ($OR = 1.92$; $95\% CI = 1.29, 2.86$) than among never smokers. The initial analysis also identified age, ethnicity, and gender as possible confounding variables.

After adjusting for age, ethnicity, and gender, the relationship between smoking status and risky alcohol consumption remained significant: current smokers (AOR = 5.32; 95% CI = 3.35, 8.47) and ex-smokers (AOR = 2.07; 95% CI = 1.36, 3.15) were more likely than never smokers to have engaged in risky alcohol consumption in the last four weeks.

Key points

- Around one-half (53%) of current smokers, one-quarter (25%) of ex-smokers, and one-sixth (15%) of never smokers reported engaging in risky alcohol consumption in the last four weeks.
- After adjusting for confounding variables, current smokers and ex-smokers were still more likely than never smokers to report engaging in risky alcohol consumption in the last four weeks.



About the Health and Lifestyles Survey

- The HLS is a nationwide in-home face-to-face survey conducted every two years since 2008.
- The 2014 HLS consisted of a sample of 2,594 New Zealanders aged 15 years and over, who provided information about their health behaviours and attitudes relating to tobacco, sun safety, healthy eating, gambling, alcohol, exercise, immunisation, mental health, breast feeding, and cancer screening. The response rate was 73.2%.
- The 2014 HLS sample included 1420 European/Other, 564 Māori, 393 Pacific people, and 217 Asian (prioritised ethnicity).
- The data have been adjusted (weighted) according to 2013 Census data to ensure they are representative of the New Zealand population.
- For this analysis, proportions and 95% confidence intervals were produced. Odds ratios and adjusted odds ratios were used to compare responses between groups. The significance level used for statistical analyses was set to $\alpha=0.05$.
- Comparison groups for these analyses were as follows:
 - Smoking status (current and ex-smokers, compared to never smokers)
 - Risky alcohol consumption engagement (had more than 5 [females] or 6 [males] alcoholic drinks on one occasion in the last four weeks, compared to had not)
 - Age (15 to 17, 25 to 44, 45+ years, compared to 18 to 24-year-olds)
 - Gender (females, compared with males)
 - Ethnicity (Māori, Pacific people, and Asian, compared with European/Other)
 - Neighbourhood deprivation status (New Zealand Deprivation Index 8 to 10 and 4 to 7, compared with New Zealand Deprivation Index 1 to 3)
- A full description of the HLS methodology and further HLS publications can be found online at www.hpa.org.nz/research-library/research-publications.

References

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- Pelucchi, C., Gallus, S., Garavello, W., Bosetti, C., & La Vecchia, C. (2006). Cancer risk associated with alcohol and tobacco use: focus on upper aero-digestive tract and liver. *Alcohol Research & Health*, 29, 193-198.
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About HPA

The HPA is a Crown entity that leads and delivers innovative, high quality, and cost-effective programmes and activities that promote health, wellbeing and healthy lifestyles, and prevent disease, illness and injury. HPA also enables environments that support health and wellbeing and healthy lifestyles and reduce personal, social and economic harm. Further, HPA undertakes functions specific to providing advice and research on alcohol issues.

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