



# Risk Factors

# Alcohol

Stage 3

Epidemiological Series Report # 2011 - 16

December 2011



## Introduction

The following overview presents information about alcohol consumption among the participants of the North West Adelaide Health Study and the demographics, chronic conditions and risk factors associated with intermediate to very high risk level of alcohol consumption. Stage 1 of the study was conducted between 2000 and 2003, with Stage 2 conducted from 2004 to 2006, and Stage 3 conducted from 2008 to 2010.

## Measurement and definition of alcohol consumption

Alcohol risk was calculated using data obtained from the self-completed questionnaire. Participants were asked how often they drank alcohol, and if they drank, on a day when they drank alcohol, how many drinks they usually had. The participants were then classified according to their level of risk, as non-drinkers or no risk, low alcohol risk, and intermediate to very high alcohol risk<sup>1</sup>.

## Proportion of levels of alcohol consumption – Stage 1, Stage 2 & Stage 3

The proportion of different levels of alcohol consumption for Stages 1, 2 and 3 is shown in Table 1. Overall, **6.1%** (95% CI 5.1-7.2) in Stage 1, **5.7%** (95% CI 4.8-6.8) in Stage 2 and **6.0%** (95% CI 4.4-8.0) in Stage 3 of study participants were classified as having an intermediate to very high risk of alcohol consumption (Table 1).

**Table 1: Proportion of levels of alcohol consumption**

	Stage 1		Stage 2		Stage 3	
	n	%	n	%	n	%
Non drinkers	850	21.2	537	17.1	513	21.4
No risk	1296	32.2	1054	33.6	788	32.9
Low risk	1629	40.5	1364	43.5	953	39.8
Intermediate risk	206	5.1	149	4.8	106	4.4
High risk	25	0.6	19	0.6	34	1.4
Very high risk	13	0.3	10	0.3	2	0.1
Total	4019	100.0	3134	100.0	2396	100.0

\* Note: The weighting of data can result in rounding discrepancies or totals not adding.

## Explanation of statistical terms used in this report

**Incident rate** is a measure of risk of developing a condition or risk factor within a specified period of time, often one year but in this report per 1000 person years. This allows for different amounts of observation times among participants between the baseline and Stage 3 results (ranging from 2000-2003 to 2008-2010). The incident rates were calculated without adjusting for age in this report. *For example, in a population of 1000 people, if 28 people develop a disease over two years, this would be expressed as 14 incident cases over 1000 person years (28 cases per 1000 divided by 2 years).*

**Hazard ratio (HR)** is the ratio of the hazard rates corresponding to a chronic condition or risk factor developing in the different groups over time – in this case, the time since the baseline examination (between 2000 and 2003). This allows for different amounts of observation times among participants between the baseline and Stage 3 results (ranging from 2000-2003 to 2008-2010). *For example, looking at cardiovascular disease, a hazard ratio of 2 for overweight or obese people implies that twice as many people with this risk factor have developed cardiovascular disease in this time compared to the reference group (those who are underweight or who have a healthy weight with a hazard ratio of 1).*

**Adjusting for age** is a technique used to better allow populations to be compared when the age profiles of the populations are quite different.

<sup>1</sup> National Heart Foundation of Australia. *Risk Factor Prevalence Study. Survey No. 3 - 1989.*

Tables 2 and 3 present the incidence rate per 1000 person years among those participants who did not report being intermediate to very high risk alcohol drinkers at baseline Stage 1 (139 incident cases).

## Demographic profile of those with an intermediate to very high risk alcohol consumption

The risk of developing an intermediate to very high alcohol risk among study participants without an intermediate to very high alcohol risk at baseline was statistically significantly lower among those who were aged 60 years and over, or those with a bachelor degree or higher educational level (Table 2).

**Table 2: Hazard ratios for demographic variables associated with intermediate to very high risk alcohol consumption**

Variable	n	New Cases (N) <sup>†</sup>	Incidence rate (1000 person yrs) <sup>†</sup>	HR (95%CI)**	p value**
<b>Sex</b>					
Male	1483	75	7.9	1	
Female	1565	64	6.3	0.78 (0.51-1.19)	0.242
<b>Age group</b>					
Up to 49 years	1717	101	9.1	1	
50 to 59 years	502	21	6.3	0.73 (0.44-1.21)	0.220
60 years and over	829	17	3.4	0.37 (0.22-0.61)	<b>&lt;0.001</b>
<b>Highest education level obtained*</b>					
Secondary	1308	64	7.8	1	
Trade/apprenticeship/cert/diploma	1258	62	7.6	0.91 (0.58-1.41)	0.665
Bachelor degree or higher	366	8	3.4	0.31 (0.13-0.77)	<b>0.011</b>
<b>Gross annual household income*</b>					
Up to \$20,000	712	27	6.1	1	
\$20,001- 40,000	734	30	6.3	0.70 (0.38-1.29)	0.254
\$40,001- 60,000	667	36	8.3	0.82 (0.43-1.54)	0.530
More than \$60,000	767	45	8.8	0.76 (0.40-1.45)	0.405
<b>Family structure*</b>					
Family & children, two biological/ adoptive parents	1001	55	8.5	1	
Adult living with partner, no children	802	30	5.6	0.90 (0.54-1.52)	0.704
Adult living alone	408	10	4.0	0.68 (0.37-1.26)	0.225
Adults – related/unrelated, living together	286	18	10.2	1.37 (0.69-2.75)	0.371
Step/sole/shared parenting & other	277	24	13.6	1.67 (0.84-3.34)	0.145
<b>Marital status*</b>					
Married or living with partner	2039	80	6.0	1	
Separated/divorced	243	12	7.9	1.36 (0.78-2.35)	0.279
Widowed	210	2	#	#	#
Never married	543	45	13.1	1.36 (0.78-2.36)	0.283
<b>Work status*</b>					
Full time employed	1175	67	8.6	1	
Part time/casual employed	495	30	9.4	1.08 (0.63-1.86)	0.779
Unemployed	106	5	7.8	0.83 (0.20-3.37)	0.795
Home duties/retired	1039	29	4.4	0.97 (0.50-1.89)	0.935
Student/other	206	7	5.8	0.53 (0.18-1.52)	0.235

\* Don't know/ refused/ not stated category not reported

\*\* All variables adjusted for age (except for age group) to calculate hazard ratio

† Not adjusted for age

# Insufficient new cases (N<5) for statistical analysis

## Chronic condition and risk factor profile of those with an intermediate to very high risk alcohol consumption

The risk of developing an intermediate to very high alcohol risk among study participants without an intermediate to very high alcohol risk at baseline was statistically significantly higher among those who were ex or current smokers, than those without this risk factor (Table 3).

**Table 3: Hazard ratios for chronic conditions and risk factors associated with intermediate to very high risk alcohol consumption**

Variable	n	New Cases (N) <sup>†</sup>	Incidence rate (1000 person yrs) <sup>†</sup>	HR (95%CI)**	p value**
<b>Cardiovascular disease</b>					
No	2830	137	7.4	1	
Yes	215	3	#	#	#
<b>Diabetes</b>					
No	2836	135	7.4	1	
Yes	212	4	#	#	#
<b>Arthritis</b>					
No	2180	118	8.3	1	
Yes	665	21	4.8	0.92 (0.52-1.64)	0.780
<b>Current mental health condition</b>					
No	2641	121	7.1	1	
Yes	388	17	6.7	0.95 (0.56-1.59)	0.838
<b>Smoking*</b>					
Non-smoker	1483	36	3.8	1	
Ex-smoker	949	50	8.1	2.40 (1.45-3.98)	<b>0.001</b>
Current smoker	607	52	13.5	2.78 (1.62-4.77)	<b>&lt;0.001</b>
<b>Physical activity</b>					
Sedentary	797	31	6.1	1	
Undertakes some exercise	1996	97	7.4	1.17 (0.71-1.94)	0.540
<b>BMI<sup>^</sup></b>					
Underweight/Normal (under 25)	1049	63	9.2	1	
Overweight (25 to 29.9)	1153	48	6.4	0.93 (0.52-1.64)	0.798
Obese (30 and over)	844	29	5.4	0.79 (0.48-1.31)	0.364
<b>High blood pressure (≥140/90mmHg)<sup>^</sup></b>					
No	2166	105	7.5	1	
Yes	882	35	6.2	1.35 (0.90-2.02)	0.151

\* Don't know/ refused/ not stated category not reported

\*\* All variables adjusted for age (except for age group) to calculate hazard ratio

† Not adjusted for age

<sup>^</sup> Biomedical measurement

# Insufficient new cases (N<5) for statistical analysis

This document is one of a series of reports concerning Stage 3 of the North West Adelaide Health Study. Please see the website for other reports in the series - [www.health.adelaide.edu.au/pros/data/nwahs/](http://www.health.adelaide.edu.au/pros/data/nwahs/).

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