



Risk Factors Smoking

Stage 3

Epidemiological Series Report # 2011 - 21

December 2011



Government of South Australia
Department of Health



Introduction

The following overview presents information about smoking among the participants of the North West Adelaide Health Study, and the demographics, chronic conditions and risk factors associated with smoking. 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 smoking

The proportion of participants who were non, ex or current smokers was based on data obtained from the self-completed questionnaire. Respondents were asked if they had ever smoked and if they currently smoked.

Proportion of non, ex or current smokers – Stage 1, Stage 2 & Stage 3

The proportion of participants who were none, ex or current smokers for Stages 1, 2 and 3 is shown in Table 1. Overall, **24.4%** (95% CI 22.7-26.2) in Stage 1 and **20.1%** (95% CI 18.2-22.2) in Stage 2 and **17.3%** (95% CI 15.1-19.7) in Stage 3 of study participants were current smokers.

Table 1: Proportion of non, ex or current smokers

	Stage 1		Stage 2		Stage 3	
	n	%	n	%	n	%
Non-smoker	1906	47.3	1493	45.9	1188	45.3
Ex-smoker	1141	28.3	1108	34.0	981	37.4
Current smoker	985	24.4	653	20.1	452	17.3
Total	4032	100.0	3254	100.0	2620	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.

Tables 2 and 3 present the incidence rate per 1000 person years among those participants who were not current smokers at baseline Stage 1 (99 incident cases).

Demographic profile of current smokers

The risk of developing current smoking among study participants who were not current smokers at baseline was statistically significantly higher among those who were separated or divorced, and statistically significantly lower among those who were aged 50 years and over, those with bachelor degree or higher education level, or those earning a gross annual household income of more than \$60,000 (Table 2).

Table 2: Hazard ratios for demographic variables associated with current smoking

Variable	n	New Cases (N) [†]	Incidence rate (1000 person yrs) [†]	HR (95%CI)**	p value**
Sex					
Male	1228	49	6.0	1	
Female	1349	50	5.5	0.93 (0.57-1.52)	0.771
Age group					
Up to 49 years	1328	84	9.4	1	
50 to 59 years	444	6	1.8	0.20 (0.09-0.42)	<0.001
60 years and over	804	9	1.8	0.18 (0.09-0.35)	<0.001
Highest education level obtained*					
Secondary	1099	42	5.8	1	
Trade/apprenticeship/cert/diploma	1028	42	6.0	1.00 (0.58-1.70)	0.986
Bachelor degree or higher	339	8	3.5	0.38 (0.16-0.93)	0.033
Gross annual household income*					
Up to \$20,000	624	17	4.3	1	
\$20,001- 40,000	600	30	7.4	0.89 (0.44-1.80)	0.739
\$40,001- 60,000	541	31	8.3	0.80 (0.39-1.67)	0.558
More than \$60,000	677	18	3.9	0.34 (0.14-0.79)	0.013
Family structure*					
Family & children, two biological/ adoptive parents	815	39	37.1	1	
Adult living with partner, no children	729	16	40.0	0.70 (0.35-1.39)	0.303
Adult living alone	355	10	37.4	1.08 (0.47-2.49)	0.858
Adults – related/unrelated, living together	243	10	44.8	1.24 (0.50-3.07)	0.636
Step/sole/shared parenting & other	201	13	55.5	1.73 (0.79-3.77)	0.169
Marital status*					
Married or living with partner	1777	66	5.4	1	
Separated/divorced	193	12	9.1	2.03 (1.12-3.70)	0.020
Widowed	196	3	#	#	#
Never married	397	19	7.5	0.51 (0.22-1.16)	0.109
Work status*					
Full time employed	949	45	6.9	1	
Part time/casual employed	380	22	8.5	1.30 (0.67-2.51)	0.434
Unemployed	70	3	#	#	#
Home duties/retired	962	21	3.3	1.27 (0.60-2.70)	0.538
Student/other	186	8	7.2	0.66 (0.22-2.04)	0.475

* 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 current smokers

There was no statistically significant differences regarding chronic conditions or risk factors regarding the risk of being a current smoker among study participants who were not current smokers at baseline (Table 3).

Table 3: Hazard ratios for chronic conditions and risk factors associated with current smoking

Variable	n	New Cases (N) [†]	Incidence rate (1000 person yrs) [†]	HR (95%CI) ^{**}	p value ^{**}
Cardiovascular disease					
No	2377	94	5.8	1	
Yes	197	5	3.9	2.17 (0.79-5.93)	0.133
Diabetes					
No	2384	97	6.0	1	
Yes	193	2	#	#	#
Arthritis					
No	1798	82	6.8	1	
Yes	611	12	3.0	0.87 (0.34-2.21)	0.764
Current mental health condition					
No	2258	84	5.6	1	
Yes	303	15	7.1	1.33 (0.69-2.59)	0.393
Alcohol risk					
Non-drinker/ No risk	1429	45	4.8	1	
Low risk	1039	47	6.7	1.18 (0.71-1.96)	0.529
Intermediate to very high risk	97	6	9.7	1.62 (0.65-4.02)	0.297
Physical activity					
Sedentary	610	23	5.6	1	
Undertakes some exercise	1746	68	5.8	0.89 (0.51-1.56)	0.684
BMI[^]					
Underweight/Normal (under 25)	828	33	6.0	1	
Overweight (25 to 29.9)	1004	40	5.9	1.47 (0.79-2.72)	0.218
Obese (30 and over)	742	26	5.2	1.33 (0.69-2.58)	0.395

* 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

^ 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/.

CONTACT DETAILS

Population Research & Outcome Studies – The University of Adelaide

Level 3, 122 Frome Street, Adelaide SA 5000

(☒ PO Box 498 Adelaide SA 5001)

Telephone (08) 8313 1214 Facsimile (08) 8313 1228

Email pros.nwahs@adelaide.edu.au

Acknowledgment is made of the contribution to the success of the study by research, clinic and recruiting staff, and for the generosity of the NWAHS participants in the giving of their time and effort.