



Chronic Conditions

Arthritis

Stage 3

Epidemiological Series Report # 2011 - 08

December 2011



Government of South Australia
Department of Health



Introduction

The following overview presents the information about arthritis among the participants of the North West Adelaide Health Study, and the demographic and risk factors associated with arthritis. Information about arthritis was first collected in Stage 2 which was conducted from 2004 to 2006 and again in Stage 3, conducted from 2008 to 2010.

Measurement and definition of arthritis

The proportion of participants with arthritis was based on data obtained from the telephone interview. Participants were asked if they had osteoarthritis, rheumatoid arthritis, another form of arthritis, or if they did not know the type of arthritis they had.

Proportion of those with arthritis – Stage 2 & Stage 3

The proportion of participants with arthritis for Stage 2 and 3 is shown in Table 1. Overall, in Stage 2, **21.4%** (95% CI 19.9-22.9) and in Stage 3, **24.3%** (95% CI 22.2-26.5) of study participants had arthritis.

Table 1: Proportion of those with arthritis

	Stage 2		Stage 3	
	n	%	n	%
No arthritis	2733	78.6	1983	75.7
Arthritis	746	21.4	636	24.3
Total	3476	100.0	2619	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 2004-2006 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 2004 and 2006). This allows for different amounts of observation times among participants between the baseline and Stage 3 results (ranging from 2004-2006 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 did not report when first asked in Stage 2 (243 incident cases).

Demographic profile of those with arthritis

The risk of developing arthritis among study participants without arthritis when first asked in Stage 2 was statistically significantly higher among those aged 50 years and over, or those adults who were living together (both related and unrelated) (Table 2).

Table 2: Hazard ratios for demographic variables associated with arthritis

Variable	n	New Cases (N) [†]	Incidence rate (1000 person yrs) [†]	HR (95%CI)**	p value**
Sex					
Male	873	102	26.8	1	
Female	809	141	33.0	1.30 (0.96-1.74)	0.086
Age group					
Up to 49 years	1059	97	20.5	1	
50 to 59 years	320	78	55.7	3.19 (2.23-4.57)	<0.001
60 years and over	303	68	54.4	2.87 (2.02-4.06)	<0.001
Highest education level obtained*					
Secondary	684	116	38.8	1	
Trade/apprenticeship/cert/diploma	663	98	33.5	1.03 (0.75-1.41)	0.850
Bachelor degree or higher	310	26	19.1	0.78 (0.47-1.31)	0.351
Gross annual household income*					
Up to \$20,000	231	52	52.8	1	
\$20,001- 40,000	358	58	36.7	0.78 (0.47-1.29)	0.339
\$40,001- 60,000	392	47	26.9	0.74 (0.41-1.36)	0.340
More than \$60,000	645	77	26.7	0.74 (0.40-1.37)	0.340
Family structure*					
Family & children, two biological/ adoptive parents	726	75	23.4	1	
Adult living with partner, no children	443	82	42.5	1.30 (0.89-1.91)	0.180
Adult living alone	161	25	35.4	0.79 (0.47-1.31)	0.357
Adults – related/unrelated, living together	145	33	51.7	1.81 (1.08-3.03)	0.024
Step/sole/shared parenting & other	186	26	31.3	1.30 (0.78-2.15)	0.317
Marital status*					
Married or living with partner	1208	183	34.3	1	
Separated/divorced	130	27	48.3	1.43 (0.91-2.22)	0.117
Widowed	71	16	54.0	0.67 (0.37-1.21)	0.182
Never married	265	17	14.3	0.70 (0.31-1.57)	0.387
Work status*					
Full time employed	864	92	23.9	1	
Part time/casual employed	310	49	35.4	1.28 (0.88-1.86)	0.205
Unemployed	36	5	35.4	1.87 (0.65-5.39)	0.247
Home duties/retired	395	88	52.0	1.20 (0.77-1.88)	0.412
Student/other	68	9	30.2	1.47 (0.50-4.30)	0.481

* 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

Risk factor profile of those with arthritis

The risk of developing arthritis among study participants without arthritis when first asked in Stage 2 was statistically significantly higher among those who were obese or those with a high waist circumference, than those without these risk factors (Table 3).

Table 3: Hazard ratios for risk factors associated with arthritis

Variable	n	New Cases (N) [†]	Incidence rate (1000 person yrs) [†]	HR (95%CI) ^{**}	p value ^{**}
Smoking*					
Non-smoker	763	121	35.6	1	
Ex-smoker	564	93	38.0	1.21 (0.82-1.54)	0.475
Current smoker	350	29	19.1	0.63 (0.40-1.01)	0.053
Alcohol risk					
Non-drinker/ No risk	809	110	31.0	1	
Low Risk	731	115	35.4	1.15 (0.85-1.56)	0.366
Intermediate to High Risk	77	14	40.7	1.57 (0.85-2.89)	0.150
Physical activity					
Sedentary	436	61	31.9	1	
Undertakes some exercise	1099	157	32.5	1.19 (0.87-1.63)	0.283
BMI[^]					
Underweight/Normal (under 25)	556	52	21.4	1	
Overweight (25 to 29.9)	665	98	33.4	1.40 (0.97-2.04)	0.076
Obese (30 and over)	457	93	46.0	1.90 (1.30-2.78)	0.001
High waist circumference (≥95cm men, ≥80cm women)[^]					
No	660	60	20.7	1	
Yes	1005	178	40.4	1.63 (1.15-2.31)	0.006

* 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

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/.

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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.