



Musculoskeletal Conditions

Back pain

Stage 2

Epidemiological Series Report # 2007-10

April 2007

Introduction

The following overview presents the prevalence of back pain among the participants of the North West Adelaide Health Study, and the demographic, and risk factors associated with back pain. Stage 1 (baseline examination) of the study was undertaken between 2000 and 2003, with Stage 2 (second examination) conducted from 2004 to 2006.

Measurement of back pain

The prevalence of back pain was determined using data obtained from the self report telephone questionnaire. Participants were asked if they had ever had pain or aching in their low back either at rest or when moving on most days for at least a month. Participants were also asked if they ever had stiffness when first getting out of bed and whether the stiffness had lasted at least 15 minutes.

Prevalence of back pain – Stage 2

The prevalence of back pain either at rest or when moving is shown in Table 1. Overall, in Stage 2, **30.3%** (95% CI 28.8-31.9) of study participants had low back pain either at rest or when moving.

Table 1: Prevalence of back pain either at rest or when moving

	Stage 2	
	n	%
No back pain	2434	69.7
Back pain	1060	30.3
Total	3494	100.0

Note: (Stage 2) 8 participants did not provide a response to questions and were excluded

Prevalence of back stiffness – Stage 2

The prevalence of back pain either at rest or when moving is shown in Table 2. Overall, in Stage 2, **23.2%** (95% CI 21.8-24.6) of study participants reported ever having back stiffness. Of the participants who had back stiffness, 59.9% (95% CI 56.5-63.2) had stiffness which lasted at least 15 minutes.

Table 2: Prevalence of back stiffness

	Stage 2	
	n	%
No back stiffness	2683	76.8
Back stiffness	808	23.2
Total	3491	100.0

Note: (Stage 2) 11 participants did not provide a response to questions and were excluded

Prevalence of back pain and/or stiffness – Stage 2

Overall, the prevalence of back pain and/or stiffness in Stage 2 was 34.9% (95% CI 33.3-36.5).

Table 2: Prevalence of back pain and/or stiffness

	n	%
Pain and stiffness	649	18.6
Back pain only	411	11.8
Back stiffness only	160	4.6
No back pain or stiffness	2273	65.1
Total	3493	100.0

Note: (Stage 2) 9 participants did not provide a response to one or both questions and were excluded

The prevalence of back pain in Stage 2 was 30.3%.

The prevalence of back stiffness was 23.2%.

The prevalence of back pain and/or stiffness was 34.9%.

Demographic profile of respondents with back pain and/or stiffness

The prevalence of back pain and/or stiffness was statistically significantly higher those aged 45 years and over or those working part time, unemployed, undertaking home duties, retired or a student. Respondents with bachelor degree or higher level of education, earning above \$20,000 or never married were significantly less likely to have back pain and/or stiffness (Table 3).

Table 3: Univariate Odds Ratios for demographic variables associated with back pain and/or stiffness

Variable	n	%	OR	(95% CI)	p value
Sex					
Male	586/1714	34.2	1.00		
Female	633/1778	35.6	1.07	(0.93-1.23)	0.37
Age group					
20 to 24 years	79/295	26.8	1.00		
25 to 34 years	204/701	29.1	1.12	(0.83-1.52)	0.46
35 to 44 years	231/710	32.5	1.32	(0.98-1.79)	0.07
45 to 54 years	222/619	35.8	1.53	(1.13-2.08)	0.007
55 to 64 years	209/473	44.2	2.17	(1.58-2.97)	<0.001
65 to 74 years	148/353	41.7	1.96	(1.41-2.74)	<0.001
75 years and over	127/341	37.2	1.62	(1.16-2.28)	0.005
Highest education level obtained*					
Secondary	523/1412	37.0	1.00		
Trade/apprenticeship/cert/diploma	438/1179	37.2	1.01	(0.86-1.18)	0.93
Bachelor degree or higher	130/559	23.2	0.51	(0.41-0.64)	<0.001
Gross annual household income*					
Up to \$20,000	249/586	42.5	1.00		
\$20,001- 40,000	258/728	35.4	0.74	(0.60-0.93)	0.009
\$40,001- 60,000	235/691	34.0	0.70	(0.57-0.88)	0.002
More than \$60,000	319/1064	30.0	0.58	(0.47-0.72)	<0.001
Family structure*					
Family & children, 2 biol/adop parents	405/1198	33.8	1.00		
Adult living with partner, no children	322/873	36.9	1.15	(0.96-1.38)	0.14
Adult living alone	150/412	36.4	1.12	(0.89-1.42)	0.33
Adults – re/td/unre/td, living together	99/330	30.0	0.84	(0.64-1.09)	0.19
Step/sole/shared parenting & other	114/340	33.4	0.98	(0.76-1.27)	0.89
Marital status*					
Married or living with partner	772/2156	35.8	1.00		
Separated/divorced	103/269	38.1	1.10	(0.85-1.43)	0.46
Widowed	71/196	36.4	1.03	(0.76-1.39)	0.87
Never married	152/566	26.9	0.66	(0.54-0.81)	<0.001
Work status*					
Full time employed	432/1466	29.4	1.00		
Part time/casual employed	189/538	35.0	1.29	(1.05-1.59)	0.02
Unemployed	31/75	40.8	1.65	(1.03-2.65)	0.04
Home duties/retired	390/954	40.9	1.66	(1.40-1.97)	<0.001
Student/other	57/150	38.0	1.47	(1.04-2.08)	0.03

*Not stated category not reported

Those with back pain or stiffness were more likely to be:

- aged 45 years and over; or
- work part time, undertake home duties, be retired, or a student.

Back pain or stiffness was statistically significantly more likely among those who were current or ex smokers, overweight or obese, had a high waist hip ratio or waist circumference.

Risk factor profile of back pain and/or stiffness

Back pain and/or stiffness was statistically significantly more likely among those who were ex smokers or current smokers, those who were overweight or obese, had a high waist hip ratio or a high waist circumference than in those without these risk factors. Back pain or stiffness was statistically significantly less likely in those who were undertook some exercise (Table 4).

Table 4: Univariate Odds Ratios for risk factor variables associated with back pain and/or stiffness

Variable	n	%	OR	(95% CI)	p value
Smoking*					
Non-smoker	444/1464	30.3	1.00		
Ex-smoker	421/1088	38.7	1.45	(1.23-1.71)	< 0.001
Current smoker	236/639	37.0	1.35	(1.11-1.64)	0.003
Physical activity*					
Sedentary	325/834	39.0	1.00		
Undertakes exercise	673/2075	32.4	0.75	(0.64-0.89)	0.001
BMI*					
Underweight/Normal (<25.0)	281/1043	26.9	1.00		
Overweight (25.0 to 29.9)	396/1181	33.5	1.37	(1.14-1.64)	0.001
Obese (30 and over)	404/931	43.4	2.08	(1.73-2.52)	<0.001
Waist/hip ratio (>1.0 men, >0.85 women)*					
Normal	766/2406	31.8	1.00		
High	208/721	42.7	1.60	(1.35-1.89)	<0.001
Waist Circumference(>95cm men, >80cm women)*					
Normal	277/1126	24.6	1.00		
High	797/2002	39.8	2.03	(1.72-2.39)	<0.001

* Not stated category not reported

People with back pain/stiffness have significantly lower quality of life scores for all dimensions of the SF-36.

Quality of Life profile of back pain/stiffness

Figure 1 shows the mean scores of the SF-36 subscales for those with and without back pain/stiffness. People with back pain/stiffness scored statistically significantly lower on all dimensions of the SF-36 when compared with those in who did not have back pain or stiffness.

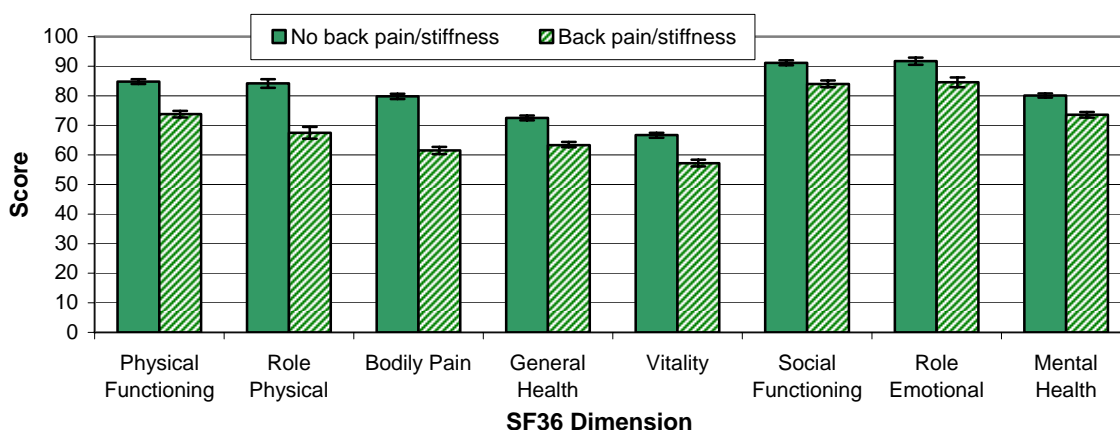


Figure 1: SF-36 mean scores for participants with and without back pain/stiffness

This document is one of a series of reports concerning Stage 2 of the North West Adelaide Health Study. Please see website for other reports in the series - www.health.sa.gov.au/pros

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