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## The characteristics of women aged 59-64 years who consult health care practitioners for back pain from the Australian Longitudinal Study on Women's Health (ALSWH)

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### ABSTRACT

**Background:** Back pain affects a substantial proportion of the adult population, and back pain sufferers tend to explore a wide range of health care options. This study investigates the use of medical and physiotherapy services by Australian women with back pain.

**Method:** This is a sub-study of the Australian Longitudinal Study on Women's Health (ALSWH), designed to investigate multiple factors affecting the health and well-being of women over 20 years. The study focuses on 1,851 women aged 59-64 years who had indicated that they had previously sought help from a health care practitioner for back pain.

**Results:** Half of the women (56.5%) with back pain had consulted a general practitioner (GP), 16.2% had consulted a medical specialist, and 37.3% had consulted a physiotherapist for their back pain. Women with regular or continuous back pain were more likely to consult a GP (OR=3.98), a medical specialist (OR=5.66), and a physiotherapist (OR=1.63).

**Conclusion:** Australian women with back pain were more likely to consult a GP, medical specialist, or physiotherapist if they had more regular/continuous back pain. Future research needs to investigate further the consultation and referral patterns identified in this study.

**Keywords:** Medical health care, physiotherapist, back pain, referrals.

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### INTRODUCTION

Back pain is a common and debilitating musculoskeletal disorder with an average lifetime prevalence of 70% [1-4]. Back pain is the most prevalent musculoskeletal condition amongst adult populations [4,5] and is the second most common complaint seen in general practice [6,7]. Unresolved back pain results in reduced physical function and psychological distress [8]. Hence, back pain sufferers tend to explore a wide range of health care options, including consultation with medical and allied health services [9,10]. A French study reported that 89% of the study sample of back pain sufferers had visited general practitioners (GPs) 6 months before the survey, 27.3% consulted a specialist, and 55.9% had a visit from a physiotherapist [11].

Furthermore, studies have shown GPs are the prime source of referrals to allied health practitioners such as physiotherapists [12,13]. Despite ongoing research on this topic, the extent of utilization of all health care options by Australian women suffering from back pain

is unknown, as too are the reasons for consulting different health care practitioners for back pain. In response to this gap in knowledge, this study investigates women's consultation with GPs, medical specialists, and physiotherapists for back pain.

## **METHODS**

### **Sample**

This research is based on a sub-study of the Australian Longitudinal Survey on Women's Health (ALSWH). The ALSWH investigates multiple factors affecting the health and well-being of women over 20 years. In 1996, women in three age groups (18-23, 45-50, 70-75 years) were randomly selected from the national Medicare database and invited to participate. The respondents are broadly representative of the national population of women in the target age groups (14). The focus of this study is women from the mid-age cohort (i.e., born in 1946-51), of which there were 10,011 women in the ALSWH survey conducted in 2010 (Survey 6). A sub-study of this cohort occurred in 2011 when the women were aged 59-64 years. For this sub-study, 1,851 women indicated in Survey 6 that they had experienced back pain were mailed a questionnaire. Of these women, 1,310 (80.8%) returned completed sub-study questionnaires. Relevant ethical approval was gained from the Human Ethics Committee at the University of Queensland and Newcastle, Australia.

### **Demographic characteristics**

Postcode of residence was used to classify the area of residence as urban or non-urban. Women were asked about their current marital status, the highest educational qualification they had completed, and their income.

### **Health care utilization**

Women were asked to indicate how many times they saw a GP, medical specialist (orthopedic specialist or neurologist or rheumatologist) and/or physiotherapist for their back pain in the previous 12 months. Additionally, women were asked to nominate the fundamental reasons in their decision to consult a health practitioner. The list of reasons included: pain relief; to improve mobility; to improve function; relaxation or stress relief; and general well-being. They asked Women to rate (i.e., excellent, very good, good, fair, poor) their: access to GPs, medical specialists, or physiotherapists for the treatment of back pain; access to a female GP, medical specialist, and physiotherapists if this was their preference; length of wait and quality of care received by the health practitioner.

### **Back pain**

Women were asked to indicate the amount of time (years) they had back pain and how frequently they experienced back pain; in the previous 12 months. They were also asked to rate out of 10 (where 0=no pain and 10=worst possible pain) the intensity of their typical back pain in the previous 12 months.

### **Statistical analyses**

Bivariate associations between consultations with a health practitioner and various categorical variables were assessed using a chi-squared test. A logistic regression model with a consultation with a conventional practitioners' as the dependent variable and back pain frequency, years with back pain, and back pain intensity as the independent variables, as well as the confounder variables of the area of residence, education, marital status, and income was conducted.

## **RESULTS**

In the previous 12 months, one of 1,310 women in the study, 56.5% (n=738) had consulted a GP, 16.2% (n=213) had consulted a medical specialist, and 37.3% (n=488) had consulted a physiotherapist for their back pain.

A GP and/or a medical specialist was consulted by women for the following symptoms/conditions related to their back pain: back pain (56.2%); leg pain or sciatica (39.7%); sleeping problems (36.9%); anxiety/tension (27.9%), pins and needles/numbness (27.7%); neck pain (27.6%); fatigue (25.5%); depression (25.1%); muscle spasm (23.6%); headaches/migraines (23.0%); stiffness (21.6); arm pain (19.1%); weakness (15.7%); nausea (12.7%); and instability (7.1%). Of the 951 women who consulted a GP or a medical specialist, 772 (81.1%) did so for pain relief, 342 (35.9%) for general wellbeing, 314 (33.0%) to improve mobility, 262 (20.0%) to improve function, and 145 (15.2%) for relaxation or stress relief.

A physiotherapist was consulted by women for the following symptoms/conditions related to their back pain: back pain (68.0%); neck pain (45.5%); leg pain or sciatica (39.3%); stiffness (32.2%); muscle spasm (22.3%); arm pain (21.3%); pins and needles or numbness (17.6%); headaches or migraines (13.9%); weakness (8.8%); instability (5.5%); and other problems (14.1%). Of the 488 women who consulted a physiotherapist, 333 (68.2%) did so

for pain relief, 415 (85.0%) to improve mobility, 313 (64.1%) to improve function, 86 (17.6%) for relaxation or stress relief, and 127 (26.0%) for general wellbeing.

A total of 47.7% of women rated their access to a medical specialist as very good or excellent, while 9.7% rated this as insufficient. The amount of time for a GP consultation was described as very good or excellent by 42.3% of women, while 6.7% considered this to be poor. The length of wait to get a GP appointment was rated as very good or excellent by 23.4% of women and poor by 16.7%. However, the majority of women considered the GP consultation(s) to be very beneficial (26.2%) or beneficial (18.2%). However, 59.5% of women did not find their medical specialists beneficial.

When answering access, 44.6% of women who wanted to consult a physiotherapist rated their access as very good or excellent. In comparison, only 6.2% of women rated their access as poor. The length of wait to obtain a physiotherapist appointment was rated as good or excellent by 35.4% of women and very poor by 8.5% of women, with the majority of women considering the physiotherapy consultation(s) to be very beneficial (41.8%) or beneficial (26.6%). However, 31.6% of women did not find their physiotherapists beneficial.

**Table 1:** The association between consultation with a general practitioner for back pain and back pain characteristics

Characteristics		Consulted a GP			Odds Ratio*	95% C.I.*	p-value*
		Yes (n=738) %	No (n=518) %	p-value			
<b>Back pain frequency</b>	Regularly/ continuously	73	32	<0.001	3.98	2.83, 5.59	<0.001
	Rarely/ intermittently	27	68		1.00	—	
<b>Years with back pain</b>		<b>mean (SD)</b> 19.7 (13.0)	<b>mean (SD)</b> 21.4 (13.2)	0.028	0.99	0.99, 1.00	0.051
<b>Back pain intensity (typical)</b>		6.0 (1.7)	4.3 (1.9)	<0.001	1.42	1.28, 1.56	<0.001

\* Adjusted for area of residence, education, marital status, and income

Table 1 presents the associations between consultations with a GP for back pain within the previous 12 months and various back pain characteristics. A statistically significantly more significant percentage of women who consulted a GP had recurring or continuous back pain compared to women who did not consult a GP (73% and 32% respectively) ( $p < 0.001$ ). Women who consulted a GP had a statistically significantly higher mean typical back pain intensity (mean=5.98, SD=1.74) compared to women who did not consult a GP (mean=4.34, SD=1.85) ( $p < 0.001$ ). Further, after adjusting for an area of residence, education, marital status, and income, women who consulted a GP for their back pain were 3.98 (95% CI: 2.83, 5.59) times more likely to have chronic or continuous back pain and have 42% (OR=1.42; 95% CI: 1.28, 1.56) higher typical back pain intensity levels, compared to women who did not consult a GP ( $p < 0.001$ ).

**Table 2:** The association between consultation with a specialist for back pain and back pain characteristics

Characteristics		Consulted a Specialist			Odds Ratio*	95% C.I.*	p-value*
		Yes (n=213) %	No (n=757) %	p-value			
<b>Back pain frequency</b>	Regularly/ continuously	84	43	0.001	5.66	3.20, 9.90	<0.001
	Rarely/ intermittently	16	57		1.00	—	
<b>Years with back pain</b>		<b>mean (SD)</b> 19.7 (13.0)	<b>mean (SD)</b> 21.4 (13.2)	0.028	0.99	0.99, 1.00	0.051
<b>Back pain intensity (typical)</b>		6.0 (1.7)	4.3 (1.9)	<0.001	1.42	1.28, 1.56	<0.001

<b>Years with back pain</b>	19.5 (12.2)	21.1 (13.1)	0.103	0.998	0.99, 1.00	0.149
<b>Back pain intensity (typical)</b>	6.3 (1.8)	4.8 (1.9)	0.001	1.25	1.09, 1.42	0.001

\*Adjusted for area of residence, education, marital status, and income

The associations between consultations with a medical specialist for back pain within the previous 12 months and various back pain characteristics are shown in Table 2. A statistically significantly more significant percentage of women who consulted a medical specialist had regular or continuous back pain compared to women who did not consult a medical specialist (84% and 43% respectively) ( $p < 0.001$ ). Similarly, women who consulted a medical specialist had a statistically significantly higher mean typical back pain intensity (mean=6.27, SD=1.83) compared to women who did not consult a medical specialist (mean=4.82, SD=1.92) ( $p < 0.001$ ). Further, after adjusting for an area of residence, education, marital status, and income, women who consulted a medical specialist for their back pain were 5.66 (95% CI: 3.24, 9.90) times more likely to have chronic or continuous back pain and have 25% (OR=1.25; 95% CI: 1.09, 1.42) higher typical back pain intensity levels, compared to women who did not consult a medical specialist ( $p < 0.001$ ).

**Table 3:** The association between consultation with a physiotherapist for back pain and back pain characteristics

Characteristics		Consulted a Physiotherapist			Odds Ratio*	95% C.I. *	p-value*
		Yes (n=488) %	No (n=666) %	p-value			
<b>Back pain frequency</b>	Regularly/ continuously	63	47	<0.001	1.63	1.17, 2.28	0.004
	Rarely/ intermittently	37	52		1.00	—	
<b>Years with back pain</b>		<b>mean (SD)</b> 20.9 (13.5)	<b>mean (SD)</b> 20.3 (13.1)	0.510	1.000	0.99, 1.00	0.539
<b>Back pain intensity (typical)</b>		5.5 (1.9)	5.0 (2.0)	<0.001	1.09	0.99, 1.19	0.054

\*Adjusted for area of residence, education, marital status, and income

Table 3 presents the associations between consultations with a physiotherapist for back pain within the previous 12 months and various back pain characteristics. A statistically significantly greater percentage of women who consulted a physiotherapist had regular or continuous back pain compared to women who did not consult a physiotherapist (63% and 47% respectively) ( $p < 0.001$ ). Further, after adjusting for the area of residence, education, marital status, and income, women who consulted a physiotherapist for their back pain were 1.63 (95% CI: 1.17, 2.28) times more likely to have regular or continuous back pain compared to women who did not consult a physiotherapist ( $p = 0.004$ ).

## DISCUSSION

This paper has reported the first nationally representative study of women's back pain care in Australia. We focus on the self-reported conventional and allied health care utilization and formal and informal integration of health care services among the 59-64-year-old from the 1946-51 cohort of the Australian Longitudinal Study on Women's Health. As outlined below, our analysis revealed interesting findings among Australian women suffering from back pain and their health care utilization and reasons for consulting a health care practitioner.

As context for our findings, Medicare is Australia's universal health care scheme which primarily subsidizes medical costs for citizens and permanent residents. Health care in Australia is also provided by private medical practitioners and by private or public hospitals paid by private insurance or government agencies, and the balance by the patient [15]. Medicare users benefit against health care costs for visiting a GP and medical specialists, medical investigations, and surgical interventions. In addition, Medicare provided rebates for consulting Medicare registered allied health practitioners, such as physiotherapists. Referral from a GP is required for users to claim the refund for associated health care visits. Medicare provides rebates for a capped number of GP referrals each year; additional visits

must be paid out of pocket or by the user's private insurer, which may lead to an increase in premium costs. GPs are the primary contact health care providers in the Medicare framework, facilitating access to other health and related services and coordinating care for those with complex and chronic care needs [16, 17]. Our study found that over half of women with back pain consulted a GP, one-sixth of women consulted a medical specialist, and over one-third of women consulted a physiotherapist suggesting that back pain sufferers seek help from conventional and allied health care providers.

Similarly, a study from the UK (n=2,422) reported 67.2% of chronic pain sufferers consulted a GP, with 34.0% consulting a medical specialist and 25.9% a physical therapist [7]. The high prevalence may be attributed to the design of the health care system in Australia. Studies reported that referrals for medical imaging, medical interventions, and affordability were solid predictors for individuals with back pain consulting a conventional practitioner [18-20].

A Canadian study on patients seeking help for back pain reported 83.4% of study participants consulted a medical doctor. The contributing factors for the high prevalence of seeking help from a medical doctor were the intensity of back pain and absences to work [21]. Therefore, the high majority of GP consultations may be contributed due to the framework of the health care system, the intensity of back pain experienced by the sufferers, work absenteeism, and seeking a referral for claiming rebates and to reduce out of pocket medical expenditure by individuals suffering from back pain.

Furthermore, the duration and intensity of pain experienced by women appeared to influence consultations with health care providers. Women were more likely to consult a GP, medical specialist, and physiotherapist if they had regular/continuous back pain. Still, GP or medical specialists were more likely to be consulted if they had high levels of back pain intensity. Similarly, studies from France and Canada reported the intensity of back pain and the individual's age were the key predictor to seek help from a conventional practitioner [21, 22]. Further, most women with back pain consulted a GP for pain relief but consulted a physiotherapist for improved mobility and function along with pain relief. Women felt that they benefited more from consulting their GP and physiotherapist than a medical specialist; it may be due to effective pain management interventions provided by their GP or physiotherapist. A German study reported that medical specialists were consulted for imaging and surgical intervention purposes and not for pain management [18]. Our findings suggest that GP consultations were the preferred choice for back pain care among women with comorbid conditions such as sleeping problems, anxiety/tension, fatigue, and depression.

Other studies have also reported that medical doctors preferred choice among individuals with back pain coexisting with other health conditions [23, 24]. Most women who visited a physiotherapist consulted for musculoskeletal symptoms related to back pain like leg pain or sciatica, stiffness, muscle spasm, pins and needles or numbness, and other back pain-related symptoms. Therefore, comorbid conditions associated with back pain appear to determine Australian women's preferred health care choice.

Our study found a high rate of referral associations between GPs and physiotherapists. Studies conducted in other countries have also reported that GPs are the primary source of referrals to physiotherapists [12, 13], with a New Zealand study reporting that physiotherapists receive 47% of referrals from GPs for accident-related back pain [25]. Further, it has been reported that female patients were more likely to be referred compared to males [13]. Our study found that GPs were the first practitioners consulted by 74.6% of the women; the second practitioner consulted by 12.7%. The first practitioner consulted by 21.7% of the women; the second practitioner consulted by 35.7%. They suggested more referrals from GP's to physiotherapists but fewer referrals from physiotherapists to GPs.

Women expressed that waiting time for getting a GP and the specialist medical appointment was greater than waiting for an appointment with a physiotherapist; it may be due to the ready availability of registered physiotherapists compared to GPs and medical practitioners in the workforce [15, 26]. However, once a GP was consulted, most women were satisfied with the consultation time with their GP. Women with back pain also expressed satisfaction with care received from their physiotherapists. The debilitating nature of back pain may persuade back pain sufferers to explore health care options for managing symptoms associated with pain. Furthermore, patient's personal and work circumstances and a need for reducing costs related to medical care may be the reasons for consulting a GP for receiving referrals to visit a physiotherapist. These factors may be a focus of future research.



Integration of health care services with formal and informal integration between GPs, medical specialists, and physiotherapists are effectively established in the Australian health care system. The referral patterns are based on the GP's assessment of the patient's condition [27]. However, the intensity of back pain and comorbid conditions appear to determine the consultation patterns among patients with back pain. GP consultations were prevalent among women with back pain associated with comorbid psychosomatic conditions. Women with musculoskeletal symptoms consulted a physiotherapist as the scope of this study was unable to determine the causes of back pain and whether psychosomatic factors or the musculoskeletal symptoms were the causes of back pain. It may be worth considering a formal cross-referral system, wherein medical specialists and physiotherapists refer patients with comorbid conditions to a GP if they were the first practitioners to visit.

When interpreting our study findings, it is important to be aware that the visits to GPs, medical specialists, and/or physiotherapists for back pain were self-reported, and therefore the results may be potentially affected by recall bias. Despite this, ALSWH is a respected source of data for epidemiological research in Australia. The insights counter this limitation provided the opportunity to analyze a large, nationally representative sample of older women with back pain.

## CONCLUSION

Australian women with back pain expressed satisfaction towards care received from their GP, medical specialist, and physiotherapist. Women were more likely to consult with a GP, medical specialist, or physiotherapist if they had regular or continuous back pain. In addition, women were more likely to consult with a GP or medical specialist if they had high levels of back pain intensity. Women were more likely to consult a GP if they had comorbid psychosomatic conditions associated with back pain. Women were more likely to consult a physiotherapist if they had musculoskeletal symptoms related to back pain. Women were more likely to visit a GP and a physiotherapist for pain relief. Future research must investigate further the consultation and referral patterns identified in this study to inform policymakers about the health care utilization among Australian women with back pain.

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## Authors' contributions

The participation of each author corresponds to the criteria of authorship and contributorship emphasized in the [Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly work in Medical Journals of the International Committee of Medical Journal Editors](#). Indeed, all the authors have actively participated in the redaction, the revision of the manuscript, and provided approval for this final revised version.

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No funding was received from any organization to conduct the present study.

## Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

## Ethical approval

Although this is not a direct human study, no patient identifying data were used in the present study. However, still, the authors declare that all the ethical principles were obeyed while designing and conducting the present study. When this study was designed and executed, our institution did not have any research or ethics committee. Still, the institutional academic council officially approved the protocol for the present study (Reference no: 181-3/9/2016).

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