Treatment provider preference of Australian office workers for common neurologic and musculoskeletal conditions

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Received 1 June 2007; received in revised form 9 April 2008; accepted 4 May 2008

Key indexing terms:

Therapy;
Choice behavior;
Chiropractic;
Physical therapy;
Medicine;
Workplace;
Health personnel;
Neurologic
manifestations;
Headache;
Neck pain;
Migraine disorders;
Back pain;
Low back pain

Abstract

Objective: The purpose of this study was to survey the choice of treatment provider by selected Australian office workers for common conditions that are managed in chiropractic practice.

Methods: Office workers of a medium-sized legal company in Sydney, Australia, were surveyed. The participants (n = 125) were asked to complete a written questionnaire on their preferred treatment choices for common physical conditions, such as back pain, neck pain, and headache.

Results: A total of 81 people returned completed questionnaires. Forty-two people (52%) reported that they would attend a general medical practitioner first for back pain. In comparison, 24% of people reported that they would attend a physiotherapist first for back pain. Eleven people (13%) reported that they would attend a chiropractor first for back pain. Fifty-one percent (51%) of employees reported that their preferred treatment first choice for neck pain was a general practitioner. Chiropractic was rated as third (30%) most common choice for the treatment of neck pain (equal with physiotherapy). The preferred first choice (63% of employees) for headache treatment was a general practitioner. The second most common choice for treatment of headache was a naturopath (50%). Eighty-one percent of employees ranked a general practitioner as their preferred treatment first choice for migraine, and 39% of employees also ranked the general practitioner as the second most common treatment choice for migraine.

Conclusions: In this sample of Australian workers, chiropractic was rated within the top 3 choices for several common neuromusculoskeletal conditions for which they may have chosen a chiropractor. Because of the small sample size and limited parameters of this study, no strong conclusions can be made until further data are collected.

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Introduction

Chronic musculoskeletal pain continues to be a common and significant problem for society, especially in office workers, with research noting musculoskeletal

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pain as one of the more prevalent health problems in the United States and the United Kingdom.¹⁻⁶ The National Safety Council estimated the annual price tag for occupational injuries at \$122.6 billion in 1998 for the United States. As another example, the point prevalence for neck pain has been reported at nearly 10% to 20%; and the lifetime prevalence, between 50% and 70%.⁷ A recent study reported persistent neck pain at 12 months in 48% of people who initially complained of neck pain.⁸ This study also noted an increased risk of persistent neck pain in people aged 45 to 59 years and those who also experienced low back pain (LBP).⁸

Therefore, reducing the costs of treatment of musculoskeletal pain has significant benefits for the health care system. The total direct cost of neck pain in the Netherlands in 1996 was estimated to be US \$686 million.⁹ This represented approximately 0.1% of the entire gross domestic product of the Netherlands. The indirect costs included days off work and loss of productivity, and were estimated at \$185.4 million (about 1 435 044 sick days), whereas disability pensions for people with neck pain cost about \$341 million.

Alternative health care was used by an estimated 34% of the US population in 1990.¹⁰ This had increased to 42% in 1997.¹¹ However, anecdotal evidence suggests that many people are uncertain about chiropractic treatment or are still unclear on what conditions chiropractors can assist. It is estimated that, by 2010, the number of chiropractors in North America will double from approximately 50 000 chiropractors in active practice to 100 000, whereas the number of medical physicians will increase by just 16%.^{12,13} The number of chiropractors in active practice from 1970 to 1990 tripled in number.¹⁴

Most patients who present to chiropractors seek treatment of musculoskeletal conditions, particularly back pain.¹⁵ Other common presenting conditions in chiropractic clinics are neck pain, headache, and migraine. Recent studies have reported that spinal manipulative therapy (SMT) appears to be effective in the treatment of mechanical neck conditions.¹⁶⁻¹⁸ Headaches related to disorders of the cervical spine are also very common complaints, which appear to respond well to SMT.¹⁹⁻²¹ Eisenberg et al¹¹ reported that chiropractors were the most common alternative health provider. The study of Eisenberg et al demonstrated that chiropractic accounted for 31% of the total estimated number of visits for 16 alternative therapies, with massage therapy the second most common alternative health provider at 18%.¹¹

Systematic literature reviews and meta-analysis report conflicting evidence for SMT as a treatment of

LBP.²²⁻²⁶ One possible consequence of this conflicting evidence is that chiropractic utilization rates still remain low.¹¹ The Agency for Healthcare Research and Quality (United States) recommended that spinal manipulation can be helpful for patients with acute low back problems without radiculopathy when used within the first month of symptoms.²⁷ Another recent study reported moderate evidence for SMT as a treatment of LBP over 3- and 12-month intervals.²⁸

However, patients report moderate satisfaction with chiropractic treatment.²⁹ Therefore, it is timely to assess people's choices for treatment of common neuromusculoskeletal conditions. This study aims to assess the patterns for treatment choice of some of the more commonly found conditions such as LBP, neck pain, and headache in office workers.

Methods

A medium-sized legal company (based in Sydney, Australia) participated in the study because of a high level of workers compensation costs. The employees were known to have a high use of desktop-operated computers and assumed to have a high-stress, high-pressure work environment. This suggested that participants had a potentially large incidence of musculoskeletal pain, especially LBP, neck pain, or headache. Participants were informed that completion of the questionnaire was voluntary and information was only to be used for research purposes. The questionnaire was given before a company training session to maximize response rates.

Background information was collected including the person's age, length of employment in current occupation, the daily average number of hours spent sitting, and whether regular breaks from their workstation are taken. A questionnaire was developed to determine participant's treatment choices (ie, general medical practitioner, chiropractic, physiotherapy, massage therapy, naturopathy, or any other) for conditions including neck pain, back pain, headaches, migraine, tension, sore muscles, shoulder pain, stress, and loss of sleep.

The conditions chosen to be rated by participants were based on common presenting symptoms to chiropractors and other physical health care providers. The conditions are also common symptoms present in society generally and highly in office workers. No information was given to participants before they received the questionnaire as to the reason for the data collection other than "for research purposes." This

was to reduce the potential for participants to react differently if they knew the background to the study.

The questionnaire asked each participant to rank their preferred treatment provider, for which health care provider they would see first, in descending order of preference (eg, general practitioner [GP], chiropractic, physiotherapy). Participants were then asked to record their second and subsequent choices for treatment provider. This was required to be completed for a table of conditions, such as LBP, neck pain, back pain, headaches, migraine, tension, and sore muscles. Participants were asked to write a number from 1 to 6 under each provider to correspond to their treatment preference rank for each condition type. The study received ethics approval from the Human Ethics Committee of Macquarie University.

Data analysis

The responses for choices for treatment given by employees were entered by an independent and blinded research assistant. The questionnaire was completed before an annual training session on ergonomics and posture to maximize response rates. Responses were calculated as percentages to rank treatment choices for each of the types of condition that were listed. Therefore, each condition has a series of percentages to note the ranking of each treatment provider as the first choice, second choice, etc.

Results

A total of 81 questionnaires were completed by employees and collected for data analysis (from a total staff of 125). The description and work conditions of the employees are described in Table 1. Initial results from the questionnaire revealed an even distribution for the person's age and length of employment in current occupation. However, the average daily number of

hours spent sitting at a desk and whether regular breaks from their workstation are taken revealed a significant trend of prolonged sitting with few breaks.

Most people reported that they would attend a GP as first choice for 6 of the 9 categories that were assessed (Table 2). Forty-two people (52%) reported that they would attend a GP first for back pain (Table 2). In comparison, 24% of people reported that they would attend a physiotherapist first for back pain. Eleven people (13%) reported that they would attend a chiropractor first for back pain (Table 2). The most common second choice for back pain was massage therapist, with 41 people (52%) responding (Tables 3 and 4).

Forty-one people (52%) reported that they would attend a GP first for neck pain. Only 14% and 12% of people reported that they would attend a chiropractor and physiotherapist (respectively) first for neck pain. Eighteen people (22%) reported that they would attend a massage therapist first for neck pain (Table 3). Chiropractic was the third most common treatment first choice for neck pain (equal with physiotherapy). However, thirty-two people (40%) reported that they would attend a physiotherapist as their second choice for neck pain (equal with massage therapist as the most popular second choice).

Fifty-one people (63%) reported that they would attend a GP first for headache (Table 2). The next highest first preference provider for headache was a massage therapist, with 25% of first-choice responses. Naturopathy and "other" were the next most common responses, with 5 people (6%) responding for each category (Table 3). Chiropractic and physiotherapy did not receive any first-preference responses for headache. The most common second choice for headache was naturopath, with 41 people (52%) giving a positive response.

Sixty-six people (81%) reported that they would attend a GP first for migraine (Table 2). The next highest first preference provider for migraine was naturopathy,

Table 1 Employee details

Criteria	Participant		Factors		
Age	18-25 y	25-35 y	35-45 y	45-55 y	55+ y
	13%	38%	27%	20%	2%
Hours Sitting at a Desk	0 h	1-3 h	3-5 h	5-8 h	8+ h
	0%	0%	0%	92%	8%
Current Job	0-6 mo	6 mo-2 y	2-5 y	5+ y	
	19%	19%	54%	8%	
Regular Breaks	Never	Sometimes	Often	Unsure	
	6%	69%	25%	0%	

Table 2 Treatment choices by employees for common musculoskeletal conditions

	GP						Chiropractor						Physiotherapist					
	1st	2nd	3rd	4th	5th	6th	1st	2nd	3rd	4th	5th	6th	1st	2nd	3rd	4th	5th	6th
Neck Pain	41	8	16	16	9	0	11	0	24	24	18	0	10	32	24	16	0	0
Back Pain	41	0	8	16	18	0	11	8	24	24	9	0	19	32	24	8	0	0
Headache	51	20	31	0	0	0	0	0	0	31	31	10	0	0	0	41	41	0
Migraine	66	32	0	0	0	0	1	0	0	31	41	10	0	10	0	31	41	0
Tension	16	0	41	14	27	0	0	23	0	14	41	0	0	11	27	27	14	0
Sore Muscles	11	10	18	28	31	0	0	27	0	18	20	10	11	27	27	18	0	0
Shoulder Pain	25	8	24	9	20	0	0	16	8	28	31	0	15	32	24	9	10	0
Stress	31	18	19	9	20	0	0	10	9	19	20	31	0	0	27	19	31	10
Loss of Sleep	50	20	10	0	0	0	0	0	0	11	51	20	5	0	10	41	20	10
	Massage Therapist						Naturopath						Other					
	1st	2nd	3rd	4th	5th	6th	1st	2nd	3rd	4th	5th	6th	1st	2nd	3rd	4th	5th	6th
Neck Pain	18	32	16	8	0	0	1	8	0	16	45	9	1	0	0	0	9	72
Back Pain	11	41	24	8	0	0	0	0	0	24	54	0	0	0	0	0	0	81
Headache	20	20	31	0	0	0	5	41	19	10	10	0	5	0	0	0	0	71
Migraine	5	10	50	10	0	0	11	20	31	10	0	0	0	10	0	0	0	71
Tension	54	35	0	0	0	0	11	11	14	27	0	0	0	0	0	0	0	81
Sore Muscles	60	0	11	0	0	0	0	18	18	18	20	0	0	0	0	0	10	71
Shoulder Pain	41	16	16	0	0	0	0	8	8	28	20	10	0	0	0	9	0	71
Stress	25	36	9	0	0	0	11	18	9	27	0	0	15	0	9	9	10	41
Loss of Sleep	11	20	51	0	0	0	11	41	0	20	0	0	5	0	11	11	10	53

Table 3 Treatment choices by employees for common musculoskeletal conditions (percentages)

	GP						Chiropractor						Physiotherapist					
	1st	2nd	3rd	4th	5th	6th	1st	2nd	3rd	4th	5th	6th	1st	2nd	3rd	4th	5th	6th
Neck Pain	51	10	20	20	11	0	14	0	30	30	22	0	12	40	30	20	0	0
Back Pain	51	0	10	20	22	0	13	10	30	30	11	0	24	40	30	10	0	0
Headache	63	25	38	0	0	0	0	0	0	38	38	12	0	0	0	50	50	0
Migraine	81	39	0	0	0	0	1	0	0	38	50	12	0	12	0	38	50	0
Tension	20	0	50	17	33	0	0	29	0	17	50	0	0	14	33	33	17	0
Sore Muscles	13	12	22	34	38	0	0	33	0	22	25	12	13	33	33	22	0	0
Shoulder Pain	31	10	30	11	25	0	0	20	10	34	38	0	19	40	30	11	12	0
Stress	38	22	23	11	25	0	0	12	11	23	25	38	0	0	33	23	38	12
Loss of Sleep	62	25	12	0	0	0	0	0	0	13	63	25	6	0	12	50	25	12
	Massage Therapist						Naturopath						Other					
	1st	2nd	3rd	4th	5th	6th	1st	2nd	3rd	4th	5th	6th	1st	2nd	3rd	4th	5th	6th
Neck Pain	22	40	20	10	0	0	1	10	0	20	56	11	1	0	0	0	11	89
Back Pain	13	50	30	10	0	0	0	0	0	30	67	0	0	0	0	0	0	100
Headache	25	25	38	0	0	0	6	50	24	12	12	0	6	0	0	0	0	88
Migraine	6	12	62	12	0	0	13	25	38	12	0	0	0	12	0	0	0	88
Tension	67	43	0	0	0	0	13	14	17	33	0	0	0	0	0	0	0	100
Sore Muscles	74	0	13	0	0	0	0	22	22	22	25	0	0	0	0	0	12	88
Shoulder Pain	50	20	20	0	0	0	0	10	10	34	25	12	0	0	0	11	0	88
Stress	31	44	11	0	0	0	13	22	11	33	0	0	18	0	11	11	12	50
Loss of Sleep	13	25	63	0	0	0	13	50	0	25	0	0	6	0	13	13	12	65

Table 4 Top 3 responses for each condition assessed

	Most Common Choice	Second Choice	Third Choice
Neck Pain	GP	Massage Therapist & Physiotherapist	Chiropractor & Physiotherapist
Back Pain	GP	Massage Therapist	Chiropractor & Physiotherapist
Headache	GP	Naturopath	Massage Therapist
Migraine	GP	GP	Massage Therapist
Tension	Massage Therapist	Massage Therapist	GP
Sore Muscles	Massage Therapist	Chiropractor & Physiotherapist	Physiotherapist
Shoulder Pain	Massage Therapist	Physiotherapist	Physiotherapist & GP
Stress	GP	Massage Therapist	Physiotherapist
Loss of Sleep	GP	Naturopath	Massage Therapist

with 13% of first-choice responses (Table 3). Massage therapist was the next most common response, with 5 (6%) responses. Chiropractic received 1 positive response (1%) and physiotherapy did not receive any first-preference responses for migraine. The most common second choice for migraine was also a GP, with 32 people (39%) responding.

A summary of results are indicated Fig 1. Table 5 summarizes the percentage responses for either chiropractic or physiotherapy as the first choice for each condition assessed. As can be noted, a total of 28% of people noted chiropractic as the first choice for all conditions. This suggests that chiropractic has a very small utilization rate (for first preferred treatment provider) for the types of conditions in our study.

Discussion

There are several limitations in studies of this nature. For example, questionnaires offer limited choices for answers, which may affect the participants' responses and therefore the outcome of the study. Although the questionnaire included an "other" option, this was not commonly used and therefore may have increased responses of the other categories of the questionnaire.

1. A GP was the most preferred choice of treatment for neck pain, back pain, headache, migraine, and loss of sleep.
2. Naturopathy was the 2nd most common preference in the treatment of headaches.
3. Massage therapy was the 1st treatment choice for tension, sore muscles and shoulder pain.
4. Massage therapy was also the 2nd most preferred treatment for neck and back pain.
5. Physiotherapy was the 2nd preferred treatment for sore muscles and shoulder pain.
6. Chiropractic and physiotherapy were the 3rd most common treatment choice for back and neck pain.

Fig 1. Summary of results.

In addition, by only assessing employees of 1 company, the participants' responses may be biased because of an "outspoken" employee, a human resources manager who has strong opinions on the most effective type of treatment that the staff should receive, or possible incentive for the choice of one practitioner over another. Therefore, future studies should assess a wider sample of people from different types of organizations.

This study did not attempt to measure the current incidence or recent episodes of LBP, neck pain, headache, migraine, or muscle tension. Furthermore, the study did not measure participants' previous exposure or knowledge of the various types of treatment mentioned. This study was a survey of the participants' current preference based on their personal experiences or contact from other sources (eg, family, friends, work colleagues).

Most of the people who completed questionnaires in this study reported that they would attend a GP for most of the conditions that were assessed. One implication from these results may be that people are delayed from receiving "active" treatments because they consult a GP in the first instance. Another possible implication is they may be advised to not remain active, have bed rest, or not receive active treatment of their condition.³⁰⁻³⁵

Table 5 Percentage of responses for either chiropractic or physiotherapy as the first choice for each condition assessed

	Chiropractic as 1st Choice	Physiotherapist as 1st Choice
Neck Pain	14%	12%
Back Pain	13%	24%
Headache	0%	0%
Migraine	1%	0%
Tension	0%	0%
Sore Muscles	0%	13%
Shoulder Pain	0%	19%
Stress	0%	0%
Loss of Sleep	0%	6%

As a consequence, the people may not consider other treatments that may have better outcome measures. By raising the understanding of the public in the noneffective or nonevidence-based treatments, patients will be “empowered” to seek better results from treatment providers that they attend.

Given that the results of this study suggest a poor utilization of chiropractic and physiotherapy for musculoskeletal conditions, 1 reason could be that some employees may have limited knowledge of various evidence-based treatment options available for the common musculoskeletal conditions. With a better understanding of evidence-based treatments, patients will be able to improve benefits from treatment by ensuring that they receive early and active intervention. This may also help decrease the cost of workers compensation because studies have demonstrated that early and active intervention reduces the potential for development of chronic back pain.

Some of the treatments that were assessed (for conditions such as tension and sore muscles) scored favorably even though there are minimal evidence-based outcome measures.³⁶ Massage therapy was the first treatment choice for tension, sore muscles, and shoulder pain; however, there is limited evidence of effectiveness in the scientific literature to support massage as a stand-alone therapy.

As previously noted, the small sample size is also a limitation of the study. In addition, there were only a limited number of questions posed to the employees. Further information that would have been interesting to assess could include the attitudes toward osteopathy, whether people would ever attend a chiropractor or osteopath, what percentage of people had previously attended a chiropractor or osteopath, and the reasons why people would choose to not attend a chiropractor or osteopath for treatment.

Bed rest and inactivity were commonly recommended for LBP; however, research now suggests that inactivity is not the treatment of choice for LBP. Malmivaara et al³¹ conducted a study where people with acute nonspecific LBP were randomly assigned to bed rest for 2 days, back-mobilizing exercises, or continuation of routine daily activities. Those assigned to bed rest recovered most slowly, whereas patients who continued normal daily activities recovered sooner. In addition, the survey revealed that 72% of responding physicians considered strict bed rest for more than 3 days appropriate for treating LBP. One concern for the results from this study is that people may still be receiving less active treatments because their first choice for consultation of their problem was

their GPs, who have previously often recommended nonactive treatments such as bed rest.

Although many office-based workers experience neuromusculoskeletal pain,³⁷⁻³⁹ it would appear that only a small percentage of the office workers surveyed in this sample would choose to attend a chiropractor or physiotherapist first. This could cause a delay in the patient receiving active interventions. With the information from this study, employees could be made aware of the various treatment strategies available for these common musculoskeletal conditions, which include chiropractic and physiotherapy treatment. With a better understanding of treatment principles, patients may be able to get optimal benefits from these treatments and potentially reduce patient's recovery time.

Conclusion

Although chiropractic was ranked in the top 3 choices, it was not the treatment of choice for many neuromusculoskeletal conditions in this particular group of Australian legal workers. Further research needs to be conducted to better understand workers' attitudes toward various treatment provider options. Information from these studies may guide educational and work injury preventative programs that aim to reduce the levels of musculoskeletal pain, thus increasing productivity of office workers. Future studies should collect further data from multiple office sites for comparison. Until further data are collected, no strong conclusions can be made because of the small sample size and limited parameters of this study.

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