

Healthcare utilisation for back pain by Australian women aged 59-64.

Pooja R K Maddela

Australian Research Centre in Complementary and Integrative Medicine (ARCCIM), Faculty of Health, University of Technology Sydney

A thesis submitted for the degree of Master of Health Services Research at the University of Technology Sydney, March 2018.

CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature of Student:

Production Note:
Signature removed prior to publication.

Pooja R K Maddela

Date: 16th March 2018

Acknowledgement

- I extend my heartfelt gratitude to my supervisor Professor David Sibbritt for his guidance and shaping me to be a better student and researcher. For showering his wisdom and research skills to bring the best out of me. I feel extremely fortunate to have the opportunity to be supervised by an outstanding individual who believed and motivated me in achieving my thesis. My learning has enhanced and I have developed strong passion for further research.
- I extend my deepest thankfulness to my supervisor Professor Jon Adams for providing me an opportunity to study at ARCCIM, supporting, guiding and shaping me to be a better student and researcher.
- I extend my heartfelt gratefulness to my supervisor Postdoctoral Research Associate Dr Jane Frawley for her persistence coaching and supervision guidance on data analysis and to develop my article and thesis. Thank you, Jane, for making the statistical analyses a fun filled experience.
- Several other people deserve a big thank you for their contribution to this thesis. I extend heartfelt gratitude to all the tutors who taught individual courses during my research Masters.
- Thanks to all the administration staff at University of Technology Sydney I will like to thank all the amazing administration and library staff for being true angels and supporting me during my research. Special thanks to Mrs. Priya Nair for providing administration support throughout the years.
- Special thanks to Dr. Vijayendra Srinivasa Murthy for his support and encouragement.

- Thanks to Mary Allan for providing moral and technical support.
- I am grateful to the Australian Government Department of Health and Ageing (DOHA) for funding and the Australian Research Council (ARC) (DP110104636) for funding.
- Further, I would like to offer my sincere thanks to the women who participated in the ALSWH research which this thesis is based on. Their participation in the survey helps individuals with back pain, healthcare providers and health policy makers.
- Thanks to my brother Anand Kumar and sister-in-law Roja and their children Akhil and Chikki for supporting me and standing by me for pursue my education.
- Thanks to my Late mother-in-law, Mrs. Rajamani Maddela for showering her blessing and having me in her prayers.
- Thanks to my husband and daughter, Dr Sridhar Maddela and Miss Srija Maddela, I am extremely grateful for their understanding, cooperation, support and encouragement at all the time.

Dedications

Dedicated to my parents and family

Table of Contents

Acknowledgement.....	i
Dedications.....	iii
Table of Contents	iv
List of Tables	viii
List of Abbreviations.....	ix
Manuscript for publication incorporated into the thesis	x
Abstract.....	xi
1. Background.....	1
1.1 Chapter Introduction.....	1
1.2 Integration between medical and allied health care services among women with back pain: A health services research study.....	1
1.3 Definition of health services research.....	1
1.3.1 Health services research approach used for the investigation of medical healthcare.....	2
1.4 Research problem.....	3
1.5 Aims and research questions	4
1.5.1 Aims of the study	4
1.5.2 Research questions	5
1.5 Significance and scope of thesis.....	5
1.6 Organisation of thesis	6
1.7 The wider significance of back pain care.....	7
1.7.1 Definition of Back pain	8
1.7.2 Medical classification of back pain	8
1.7.3 Lower back pain (LBP)	9
1.7.4 Non-specific back pain.....	10
1.9.1 Medical back-pain care provision	16
1.9.2 General practitioners (GP)	17
1.9.3 Medical Specialist	17
1.9.3.1 Orthopaedic Specialists	17

1.9.3.2 Neurologist	18
1.9.3.3 Rheumatologists	18
1.10 Medical back pain care treatments	18
1.11 Medical prescriptions	19
1.11.1 Analgesic	19
1.11.2 Non-steroidal anti-inflammatory drugs and muscle relaxants	19
1.11.2.1 Role of NSAIDs and muscle relaxants and their side-effects	20
1.11.3 Opioids, antidepressants and other therapeutic recommendations	21
1.11.4 Invasive procedures	22
1.12 Allied healthcare for back pain	22
1.12.1 Physiotherapists	23
1.12.2 Practicing nurse and Pharmacists	23
1.13 The use of complementary and alternative medicine for back pain	24
1.14 Integration of healthcare options for back pain	25
2. Literature review.....	26
2.1 Chapter Introduction.....	26
2.2 Search design	26
2.3 Introduction	27
2.4 Prevalence/incidence.....	28
2.4.1 Healthcare utilisation among women with back pain	28
2.4.2 Healthcare utilisation among Australian women with back pain.....	28
2.5 Referral practices.....	29
2.6 CAM use for back pain.....	29
2.7 Conclusion	30
3. Methodology	32
3.1 Empirical examination	32
3.2 Sample.....	33
3.3 Healthcare utilisation	33
3.4 Back pain.....	34
3.5 Ethics	34
3.6 Questionnaire.....	34

3.7 Statistical analyses	37
4. Results	39
4.1 Chapter introduction.....	39
4.2 Demographic characteristics	39
4.3 Consulting a healthcare practitioner	39
4.4 Consultations with a GP and a medical specialist.....	41
4.5 Consultations with a physiotherapist.....	41
4.6 Back pain related symptoms/conditions for consulting a GP and a medical specialist	42
4.7 Back pain related symptoms/conditions for consulting a physiotherapist	42
4.8 Accessibility to a healthcare practitioner for back pain	43
4.9 Quality of back pain care.....	44
4.10 Accessing a physiotherapist for back pain care.....	44
4.11 Associations between consulting a GP and various back pain characteristics ...	49
4.12 Associations between consulting a medical specialist and various back pain characteristics.....	49
4.13 Associations between consulting a physiotherapist and various back pain characteristics.....	50
4.14 Associations between consulting a GP and other healthcare practitioners.....	51
4.15 Associations between consulting a medical specialist and other healthcare practitioners	52
4.16 Associations between consulting a physiotherapist and other healthcare practitioners	52
5. Discussion	55
5.1 Limitations.....	60
6. Implications	61
6.1 Implications from the research	61
6.1.1 Implications for women with back pain and related symptoms.....	61
6.1.2 Implications for back pain care providers	62
6.1.3 Implications for policy makers	64
6.1.4 Implications for future research.....	65

7. Conclusion.....	66
8. References	67
9. Appendices	77
<i>Appendix 1: Survey 6: Australian Longitudinal Study on Women’s Health. Sixth Survey for the 1946 – 51 cohort.....</i>	<i>77</i>
<i>Appendix 2: Sub-study Survey: Use of Alternative Medicine, Allied Health and General Practitioners for Back Pain Care Among Women of the 1946 – 1951 Cohort.....</i>	<i>108</i>
<i>Appendix 3: The characteristics of women who consult health care practitioners for back pain: a nationally representative sample of 1,310 Australian women aged 59-64 years.</i>	<i>123</i>

List of Tables

Table 1: Demographic characteristics of the participants	39
Table 2: Women's consultation with a healthcare practitioner	40
Table 3: The association between consultation with a general practitioner for back pain and back pain characteristics.....	46
Table 4: The association between consultation with a specialist for back pain and back pain characteristics.....	47
Table 5: The association between consultation with a physiotherapist for back pain and back pain characteristics.	48
Table 6: The association between consultation with a general practitioner and consultations with other healthcare practitioners.....	53
Table 7: The association between consultation with a specialist and consultations with other healthcare practitioners.....	53
Table 8: The association between consultation with a physiotherapist and consultations with other healthcare practitioners.....	54

List of Abbreviations

ALSWH	Australian Longitudinal Study on Women's Health
ASGC	Australian Standard Geographical Classification
CAM	Complementary and Alternative Medicine
DALYs	Disability-adjusted life-years
EoI	Expression of Interest
GP	General Practitioner
HIV	Human immunodeficiency virus
HSR	Health Services Research
LBP	Lower back pain
NSAIDs	Non-Steroidal Anti-Inflammatory Drugs
UK	United Kingdom
US	United States

Manuscript for publication incorporated into the thesis

The manuscript contained in the thesis (appendix 3) will be submitted to a peer reviewed journal .

The title of the manuscript contained in the thesis is as follows:

The characteristics of women who consult health care practitioners for back pain: a nationally representative sample of 1,310 Australian women aged 59-64 years.

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 health care utilisation amongst 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 a 20-year period. 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% n=738) with back pain had consulted a general practitioner (GP), 16.2% (n=213) had consulted a medical specialist and 37.3% (n=488) had consulted a physiotherapist for their back pain. Women consulted a GP and/or a medical specialist for back pain related symptoms/conditions: 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%). On the other hand, a physiotherapist was consulted: 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%). Further, women with regular or continuous back pain were more likely to consult a GP (OR=3.98), medical specialist (OR=5.66) and a physiotherapist (OR=1.63). Women who consulted a general practitioner and/or a medical specialist had a statistically

significantly higher mean typical back pain intensity compared to women who did not consult a general practitioner ($p=0.001$) or medical specialist ($p<0.001$).

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. However, women were more likely to consult a GP for back pain associated with psychosomatic comorbid conditions and consulted a physiotherapist for musculoskeletal issues. There is a need for a more formal cross-referral system, wherein medical specialists and physiotherapists refer patients with comorbid conditions to a GP if they were the first practitioners to be visited. It is important that future research to further investigate the consultation and referral patterns identified in this study to inform healthcare industry and the policy makers about the healthcare utilisation among Australian women with back pain.

Key words: Medical health care, allied health care, physiotherapist, back pain, referral patterns