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journal homepage: www.elsevier.com/locate/wombi



ORIGINAL RESEARCH - QUANTITATIVE

Healthcare utilisation of pregnant women who experience sciatica, leg cramps and/or varicose veins: A cross-sectional survey of 1835 pregnant women



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ARTICLE INFO

Article history: Received 10 December 2014 Received in revised form 16 July 2015 Accepted 27 July 2015

Keywords: Sciatica Varicose veins Pregnancy Leg cramps Complementary therapies

ABSTRACT

Background: Common discomforts of pregnancy experienced in the lower extremity include sciatica, leg cramps and varicose veins. Whilst research attention has focused on aetiology and outcomes, the health service utilisation of pregnant women suffering from these complaints has been largely overlooked. Aim: To examine the health status and health service utilisation profile of pregnant women experiencing sciatica, leg cramps or varicose veins.

Methods: Linear and logistic regression was applied to a cross-sectional survey of a pregnant women drawn from the 1973 to 1978 cohort (aged 31–36 years in 2009), of the Australian Longitudinal Study on Women's Health (n = 1835). Participant's demographics, health status and health service utilisation were compared for all three complaints based upon three subgroups (yes, sought help; yes, did not seek help; no).

Findings: A number of women experienced sciatica (22.1%), leg cramps (18.2%) or varicose veins (9.4%). Of these, a greater proportion of women with sciatica (79.3%) or varicose veins (71.5%) sought help for their condition compared with women with leg cramps (46.7%). Comparisons between women with the conditions of interest who did seek help and those who did not only found that women with a university degree were 0.29 (95% CI: 0.10, 0.85) times less likely to seek help for their condition compared to women with a school only education.

Conclusion: Further research examining all health seeking behaviour and treatment use of pregnant women who experience lower extremity problems is required in order to facilitate safe, effective and coordinated maternity care to further support these women during pregnancy.

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1. Introduction

Anatomical and physiological adaptations of pregnancy are necessary to support the development and birth of the baby. Although often referred to as 'minor discomforts of pregnancy,' the physical impact of hormonal and mechanical changes in the body can manifest in debilitating symptoms for some woman. Common

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symptoms experienced in the lower extremity include sciatica, leg cramps and varicose veins. $^{2-5}$

While many of these symptoms resolve soon after birth, women may seek out a wide variety of both conventional and/or complementary and alternative medicine to assist them throughout pregnancy. Complementary and alternative medicine (CAM) describes a broad array of health care approaches with a history of use or origins outside of mainstream medicine. Women often utilise CAM to manage common ailments associated with pregnancy. Indeed research undertaken in Australia indicates that approximately half (52.0%) of women used at least one CAM therapy (excluding vitamins and minerals) during pregnancy.

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Commonly used CAM products^{9,10} include vitamins and minerals, herbal medicines, aromatherapy oils, flower essences and homoeopathy and the most popular CAM practitioners visited in Australia are massage therapist, chiropractor, acupuncturist, aromatherapist, herbalist/naturopath and osteopath.⁸ The pregnancy-related conditions women are using CAM to manage include complaints of the lower extremities such as sciatica, leg cramps and varicose veins.⁸

2. Literature review

Sciatica (lumbar radiculopathy) describes a set of symptoms, including radiating pain in the lower extremities, caused by a compression or inflammation of the sciatic nerve root within the interverterbral formina due to herniated nucleus pulposus in the lumbar region of the spine.¹¹ The prevalence of sciatica in pregnancy has rarely been investigated and on the few occasions that it has been examined this has been predominantly in conjunction with low back pain.^{2,12} While an early study¹² identified only 1% of pregnant women experienced sciatica, more recent data has identified prevalence rates of 17% and 22% with nearly 80% of those consulting conventional or CAM practitioners. Evidence however is very limited for the treatment of sciatica during pregnancy. 13 Several methods used in the general population such as traction, 14 bed rest or staying active 15 had little to no effect on sciatic symptoms. For chiropractic manipulation one study reported favourable outcomes regarding sciatica pain intensity, 16 this study however was only conducted on a nonpregnant population. The research examining pregnancy related lower back pain, which may include sciatica, has found limited positive results from chiropractic treatment, osteopathic manipulation, acupuncture, exercise and physiotherapy. 17-19

Previous research shows up to 50% of women experience *leg cramps* in the later stages of pregnancy.^{3,20,21} Although cramps do not cause persistent damage to the muscles, they can be quite painful and disturbing.³ The aetiology of leg cramps during a pregnancy remains unclear but associated factors include venous congestion, nutritional deficiencies, exercise and a number of underlying medical conditions.^{5,22} Despite the high prevalence, limited data is available regarding treatment and health care utilisation of women who experience leg cramps during pregnancy.²² In addition to self-care methods such as walking, massaging or stretching, various nutritional supplements are often recommended, including magnesium, calcium or certain vitamins. However none of these interventions has strong evidence for safety or efficacy for use in treating leg cramps during pregnancy.²²

Pregnancy is considered the major contributing factor to the incidence of *varicose veins* ^{23,24} with up to 40% of expectant women experiencing enlarged, dilated or twisted blood vessels in their legs. ⁴ The main causes of varicose veins include increased blood pressure, hormonal changes and increased pressure on pelvic blood vessels. ²⁵ While varicose veins often subside after birth, common symptoms experienced during pregnancy include cramps and pain, oedema and in more severe cases result in eczema and ulceration. Therapeutic interventions such as surgery or pharmacological treatments are usually avoided during pregnancy, leaving limited treatment options such as compression stockings or rest. Complementary therapies including nutritional supplements, and herbal medicines such as horse chestnut or pine bark extracts, may have beneficial effects, however their safety during pregnancy has not been established. ²⁶

So far, health care utilisation of women suffering from common lower extremity problems experienced during pregnancy has not yet been investigated. This study aims to fill this gap by providing data on health status and health care utilisation of pregnant women living in Australia. The research questions included 'what is

the prevalence of sciatica, leg cramps and/or varicose veins?' and, 'what are the health care practices pregnant women engaged to manage these problems?'

3. Participants and methods

3.1. Sample

The Australian Longitudinal Study on Women's Health (ALSWH) was established in 1996, with the aim of examining aspects of women's health, wellbeing and health service use. Women in three age groups ('younger' 18-23, 'mid age' 45-50 and 'older' 70-75 years) were randomly selected from the national Medicare database. The respondents have been shown to be broadly representative of the national population of women in the target age groups.²⁷ The research presented here was conducted as part of a sub-study of the ALSWH. The aim of the sub-study, conducted in 2010, was to investigate women's health and their use of health care during pregnancy. The sub-study investigated data collected from women from the ALSWH younger cohort, who were aged 31–36 years in 2009 (n = 8012) and who identified as being pregnant or as having recently given birth in the 2009 ALSWH survey (n = 2445). The response rate to the 2009 ALSWH survey was 79.2% (n = 1835). Ethics approval for the sub-study reported here was gained from the relevant ethics committees at the University of Newcastle, the University of Queensland and the University of Technology Sydney.

3.2. Demographic characteristics

The women were asked about their highest educational qualification attained (post-graduate university degree; undergraduate university degree; certificate/diploma; trade/apprenticeship; higher school certificate; school certificate; no formal qualifications), current marital status (married/de facto; never married; divorced; separated; widowed) and income management (always difficult to manage on available income, sometimes difficult to manage on available income, managing on available income is not too bad, easy to manage on available income). They were also asked about their level of health insurance at the time of the pregnancy and birth of their youngest child (yes, full coverage including pregnancy-related care; yes, not including pregnancyrelated care; no), number of previous births, and area of residence (urban or rural). Postcode of residence was used to classify area of residence as urban or non-urban. Specifically, the Rural, Remote and Metropolitan Areas (RRMA) index was used to map postcodes to zones; urban (populations $\geq 100,000$ people) and rural (populations < 100,000 people).²⁸

3.3. Health status and health care utilisation

The Short-Form 36 (SF-36) Quality of Life questionnaire (version 1) was used to produce a measure of health status and quality of life.²⁹ Results of the SF-36 were reported in eight domains: general health, physical functioning, role physical, bodily pain, role emotional, social functioning, vitality, mental health.²⁹ The women were also asked if they had been diagnosed or treated for diabetes, hypertension, asthma, bronchitis, depression, anxiety, urinary tract infection, cancer. Women were also asked if they had experienced sciatica, leg cramps, or varicose veins during their pregnancy. In addition, if they did have any of these symptoms, the women were asked if they sought help for the symptom and from whom did they seek that help (GP, obstetrician, midwife, chiropractor, acupuncturist, herbalist/naturopath, massage therapist, other CAM practitioner).

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