Title:

Healthcare utilisation of pregnant women who experience sciatica, leg cramps and/or varicose veins: a cross-sectional survey of 1,835 pregnant women

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 1973-1978 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.

Keywords: Sciatica, varicose veins, pregnancy, leg cramps, health services, complementary therapies

Introduction

Anatomical and physiological adaptations of pregnancy are necessary to support the development and birth of the baby.¹ 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 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.⁶ Complementary and alternative medicine (CAM) describes a broad array of health care approaches with a history of use or origins outside of mainstream medicine.⁷ Women often utilise CAM to manage common ailments associated with pregnancy.⁸ 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. Commonly used CAM products^{9 10} include vitamins and minerals, herbal medicines, aromatherapy oils, flower essences and homeopathy 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

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 intervertebral foramina 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%² and 22%⁸ 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 active¹⁵ 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 non-pregnant 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 utilization 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 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 utilization 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?*'

Participants and Methods

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=1,835). 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.

Demographic characteristics

The women were asked about their highest educational qualification attained (post-graduate university degree; under-graduate 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 pregnancy-related 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 ≥ 100000 people) and rural (populations < 100000 people).²⁸

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).

Statistical Analyses

Comparisons between the means scores on the SF-36 dimensions and the three symptoms groups (*yes, sought help; yes, did not seek help; no*) were made using linear regression, with adjustment for diagnosed conditions. For each of the three symptoms (i.e. sciatica, leg cramps, and/or varicose veins) separate logistic regression models were used to determine the factors associated with women who sought help for that symptom and women with the symptom who did not seek help for that symptom (i.e. dependent variable), and a number of independent variables including area or residence, level of education, marital status, health insurance, and number of previous births. Statistical significance was set at p-value < 0.05 (i.e. $\alpha = 0.05$). All analyses were conducted using statistical program Stata 11.1.

Findings

The socio-demographic characteristics of participants are outlined in Table 1. Sciatica was experienced by 406 (22.1%; 95% CI: 20.2, 24.0) women during their pregnancy, with 322 (79.3%) of these women seeking help for their sciatica from a healthcare practitioner. Specifically, 189 (46.6%) women sought help from 1 healthcare practitioner, 79 (19.5%) sought help from 2 different healthcare practitioners, 41 (10.1%) sought help from 3 different healthcare practitioners, and 13 (3.2%) sought help from 4 or more different healthcare practitioners. Table 2 shows that massage therapist (n=107) were the most common healthcare practitioners that the women consulted for their back pain, followed by an obstetrician (n=75), and a GP (n=73).

Approximately one in six (n=334, 18.2%; 95% CI: 16.4, 20.0) women experienced leg cramps during their pregnancy, with 156 (46.7%) of these women seeking help for their leg cramps from a healthcare practitioner. That is, 105 (31.4%) women sought help from 1 healthcare practitioner, 34 (10.2%) sought help from 2 different healthcare practitioners, 16 (4.8%) sought help from 3 different healthcare practitioners, and 1 (0.3%) sought help from 4

different healthcare practitioners. As can be seen in Table 2, obstetrician (n=62) were the most common healthcare practitioners that the women consulted for their leg cramps, followed by a GP (n=44), and a midwife (n=40).

Varicose veins were experienced by 172 (9.4%; 95% CI: 8.1, 10.7) women during their pregnancy. Of these women with varicose veins, 123 (71.5%) sought help for their varicose veins from a healthcare practitioner. Specifically, 71 (41.3%) women sought help from 1 healthcare practitioner, 31 (18.0%) sought help from 2 different healthcare practitioners, 20 (11.6%) sought help from 3 different healthcare practitioners, and 1 (0.6%) sought help from 4 different healthcare practitioners. Obstetricians (n=54) were the most common healthcare practitioners that the women consulted for their varicose veins, followed by a GP (n=50), and a midwife (n=41) (Table 2).

Table 3 provides a comparison between women with sciatica who sought help for their sciatica, women with sciatica who did not seek help for their sciatica and women without sciatica, based on the eight SF-36 domains. Tables 4 and 5 provide similar comparisons for women with leg cramps and varicose veins, respectively. With the exception of bodily pain for women with sciatica (Table 3), in all three tables there were no other significant differences in the mental and physical health measures between women with the symptom who sought help and women with symptom who did not seek help. Statistically significant differences occurred between women who sought help for sciatica and women without sciatica for the following SF-36 domains: bodily pain (70.8 vs. 77.9; $p<0.001$), general health (73.0 vs. 76.0; $p=0.016$), vitality (49.8 vs. 53.2; $p=0.030$) (Table 3). Also, statistically significant differences were found between women who sought help for leg cramps and women without leg cramps for the following SF-36 domains: physical functioning (88.7 vs. 91.5; $p=0.034$), role physical (72.5 vs. 81.9; $p=0.004$), bodily pain (71.2 vs. 77.6; $p<0.001$), vitality (48.9 vs. 53.4; $p=0.004$), social functioning (81.9 vs. 86.5; $p=0.008$), role emotional (80.7 vs. 88.0; $p=0.019$) (Table 4). Note that most of the differences may not only represent

statistical, but also minimal clinically important differences. Minimal clinically important differences occur in the range of 2-8 points for subscales and the component summaries; however no minimal clinically important differences are available for pregnancy related symptoms specifically. For patients between 26 and 50 minimal clinically important difference for SF-36 physical functioning is at least 7, and for bodily pain up to 5 points.³⁰

Logistic regression models output showing the association between women seeking help for their sciatica, leg cramps, and/or varicose veins and a range of factors are presented in Table 6. For all three models, women with a university education were less likely to seek help for their symptom, although this was only statistically significant for the sciatica model. Specifically, women with sciatica who had a school only education were 3.5 (95% CI: 1.17, 9.47) more likely to seek help for their sciatica compared to women with a university education. Note that there were no statistically significant associations between seeking help for sciatica, leg cramps, and/or varicose veins and area of residence, health insurance, marital status, or number of previous births.

Discussion

This paper reports the first examination of health care utilisation for lower extremity problems amongst a sample of pregnant women drawn from a nationally-representative cohort of women aged 31-36 years. Our analysis supports the findings from previous research showing a substantial percentage of women suffer from sciatica, leg cramps and/or varicose veins.²⁻⁵ For sciatica^{2,8} and leg cramps^{3, 20,21} the prevalence rates are mostly in line with previous research, especially with the most recent ones; varicose veins on the other hand were reported by less women than expected according to the literature review. The later might be a result of different diagnostic criteria, i.e. self-diagnosed varicose veins vs. sonography findings from previous studies⁴. The majority of those suffering from leg cramps and varicose veins were also seeking help for their complaints indicating a high amount of somatic disturbances.

The percentage of affected women seeking professional help was very high in those suffering from sciatica and/or varicose veins, and still remarkable in women affected by leg cramps. However some women with these conditions did not seek any help at all. The vast majority of women seeking professional treatment from a health provider for these symptoms consulted a conventional practitioner, rather than a CAM practitioner, except for those women experiencing sciatica. The fact that sciatica is often associated with low back pain^{2 12}, may explain their frequent utilization of massage therapists, chiropractic, acupuncturists and other CAM providers. The multiplicity of health care providers used by women suffering sciatica may be a reflection of the current lack of effectiveness of conventional treatments. This data does not, however, confirm the effectiveness of these treatments in managing sciatica. Previous research has indicated that women's perceptions and attitudes can also influence their use of CAM practitioners for pregnancy care and as such the frequent utilisation of CAM identified here may be due to a perception that CAM treatment of sciatica is more natural than conventional care options, or that the risk of side effects from CAM is lower.³¹ The level of satisfaction of women who used CAM therapies for sciatica was not assessed and future research examining this point is needed considering the limited evidence of effective treatments.¹⁷⁻¹⁹ Given the potential risks of using CAM during pregnancy³² further studies are urgently needed to further explore the safety of frequently used therapies in pregnancy.

While utilization of professional health providers was assessed, it was not reported if individuals also sought advice from other sources such as informal networks (family, peers and friends).³³ In reality pregnant women may also be relying on non-professional sources of information³³ and choosing to manage their condition with a range of over the counter conventional and complementary medicines, as well as various lifestyle interventions.

In terms of health-related quality of life, our analyses revealed no differences between those women reporting leg cramps and/or varicose veins who sought professional treatment and

those reporting these symptoms who did not seek professional treatment. There were however differences between women with sciatica who sought professional treatment compared to those who did not seek professional treatment; these women reported less quality of life on the bodily pain subscale indicating they were more affected by the symptoms. Further research is needed to explore the experiences and motivations behind why some women with these symptoms may seek professional help while others do not.

The only factor associated with health seeking behaviour was the level of education, which might be a proxy for socioeconomic status.³⁴ Pregnant women with higher education and had sciatica were less likely to seek help from a healthcare practitioner for their sciatica, compared to pregnant women with sciatica who had a school only education. Previous research has found that women with university qualifications were significantly more likely to use CAM products (such as herbal medicines, herbal teas, homeopathy etc.) to manage pregnancy-related health conditions but this trend was not seen for CAM practitioner consultations.⁹ Based upon this previous work, it is possible that the women with higher education levels were self-prescribing CAM or using other self-care methods to manage their symptoms. Future studies are desired to better understand the real impact of these factors.

The interpretation of the study results is limited because data are based on self-reports and possibly self-diagnosis; potentially introducing a recall bias. Further, the relatively sample size for the varicose veins logistic regression model was underpowered. Despite the sample being defined as nationally representative at the establishment of the cohort there may be some differences which have developed over time in areas such as education and private health insurance status. However clear data which describes these characteristics within the general population and within the specific age group are not available. However the Australian Longitudinal Study on Women's Health is a comprehensive and well respected source for epidemiological data. It is also the first analyses of health-care utilization in

pregnant women suffering from lower extremity problems such as sciatica, leg cramps and/or varicose veins.

Conclusion

The vast majority of women reporting sciatica, and/or varicose veins during pregnancy seek help from health professionals for these symptoms. While they primarily consult conventional providers for the treatment of leg cramps and varicose veins, almost the half of women with sciatica seek help from CAM practitioners, mainly massage therapists, chiropractic and acupuncturists. Further research examining all health seeking behaviour and treatment use of pregnant women who experience lower extremity problems is required in order to help facilitate safe, effective and coordinated maternity care to further support these women during pregnancy.

Acknowledgements and Disclosures

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Table 1: Socio-demographic characteristics of participating women

Demographics	All participants (n=1835)	
	<i>n</i>	%
Area of residence		
Urban	1134	62.4
Rural	629	34.6
Remote	55	3.0
Income Management		
Always difficult to manage on available income	221	12.1
Sometimes difficult to manage on available income	530	29.0
Managing on available income is not too bad	768	42.1
Easy to manage on available income	307	16.8
Number of children		
None	89	4.9
One	697	38.0
Two	700	38.2
Three or more	349	19.0
Marital status		
Never married	21	1.2
Married/De facto	1760	96.3
Separated/Divorced/Widowed	46	2.5
Qualifications		
Year 12 qualification or less	292	16.0
Apprenticeship or Diploma qualification	435	23.9
University degree	1095	60.1

Insurance status^{*}

Private health insurance <u>including</u> pregnancy-related care	1139	62.5
Private health insurance <u>excluding</u> pregnancy-related case	157	8.6
No private health insurance	527	28.9

Conventional maternity health**professionals**

General practitioner	1562	90.1
Midwife	983	64.7
Obstetrician	1416	85.2

Birth environment

Public hospital	751	41.5
Private hospital (or private patient at public hospital)	981	54.1
Birth centre/community	80	4.4

mean***SD*****Age**

34.95

2.30

^{*}private health insurance coverage during the pregnancy and birth of their youngest child

Table 2: The frequency and percentage of women who sought help from various healthcare practitioners for sciatica, leg cramps and/or varicose veins

	During Pregnancy, Experienced:		
	Sciatica (n=406)	Leg Cramps (n=334)	Varicose Veins (n=172)
Sought Help From:	(n=322)	(n=156)	(n=123)
General Practitioner (GP)	73 (18.0%)	44 (13.2%)	50 (29.1%)
Obstetrician	75 (18.5%)	62 (18.6%)	54 (31.4%)
Midwife	44 (10.8%)	40 (12.0%)	41 (23.8%)
Massage Therapist	107 (26.4%)	10 (3.0%)	1 (0.6%)
Chiropractor	85 (20.9%)	4 (1.2%)	1 (0.6%)
Acupuncturist	18 (4.4%)	2 (0.6%)	1 (0.6%)
Other Alternative Practitioner	79 (19.5%)	23 (6.9%)	8 (4.7%)
Did Not Seek Help	84 (20.7%)	178 (53.3%)	49 (28.5%)

Note: the total number of healthcare practitioners seen is more than the number of women seeking help.

Table 3 Comparison of pregnant women with sciatica who did or did not seek help for their sciatica and women who did not have sciatica, across the eight domains of SF-36 Health-related quality of life measure

SF-36 Domains	Sciatica			p-value
	Yes:	Yes:	No	
	Sought help	Did not seek help		
	(n=322)	(n=84)	(n=1,429)	
	mean (SE) *	mean (SE) *	mean (SE) *	
Physical Functioning	90.3 (0.84)	90.9 (1.71)	91.3 (0.40)	0.574
Role Physical	77.5 (2.00)	82.5 (4.03)	81.4 (0.93)	0.196
Bodily Pain ^{A, B}	70.8 (1.23)	77.7 (2.50)	77.9 (0.58)	<0.001
General Health ^A	73.0 (1.02)	73.4 (2.07)	76.0 (0.48)	0.016
Vitality ^A	49.8 (1.17)	53.1 (2.36)	53.2 (0.55)	0.030
Social Functioning	84.1 (1.20)	87.4 (2.43)	86.1 (0.57)	0.260
Role Emotional	87.0 (1.73)	87.9 (3.53)	87.5 (0.82)	0.957

Mental Health	74.6 (0.85)	76.8 (1.72)	75.9 (0.40)	0.302
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* adjusted for diabetes, hypertension, asthma, bronchitis, depression, anxiety, urinary tract infection, cancer.

^A statistically significant difference between the *Yes: sought help* and *No* groups ($p < 0.05$)

^B statistically significant difference between the *Yes: did not seek help* and *Yes: did not seek help* groups ($p < 0.05$)

Table 4 Comparison of pregnant women with leg cramps who did or did not seek help for their leg cramps and women who did not have leg cramps, across the eight domains of SF-36 Health-related quality of life measure

SF-36 Domains	Leg Cramps			p-value
	Yes:	Yes:	No	
	Sought help	Did not seek help		
	(n=156)	(n=178)	(n=1,501)	
	mean (SE) *	mean (SE) *	mean (SE) *	
Physical Functioning^A	88.7 (1.19)	89.7 (1.15)	91.5 (0.39)	0.034
Role Physical^A	72.5 (2.77)	78.3 (2.70)	81.9 (0.91)	0.004
Bodily Pain^A	71.2 (1.76)	74.0 (1.71)	77.6 (0.57)	<0.001
General Health	74.1 (1.45)	72.8 (1.41)	75.8 (0.47)	0.075
Vitality^A	48.5 (1.67)	49.8 (1.61)	53.4 (0.54)	0.004
Social Functioning^A	81.9 (1.70)	83.0 (1.66)	86.5 (0.55)	0.008

Role Emotional ^A	80.7 (2.47)	88.4 (2.40)	88.0 (0.80)	0.019
Mental Health	74.6 (1.22)	73.3 (1.18)	76.1 (0.39)	0.057

* adjusted for diabetes, hypertension, asthma, bronchitis, depression, anxiety, urinary tract infection, cancer.

^A statistically significant difference between the *Yes: sought help* and *No* groups (p<0.05)

Table 5 Comparison of pregnant women with varicose veins who did or did not seek help for their varicose veins and women who did not have varicose veins, across the eight domains of SF-36 Health-related quality of life measure

SF-36 Domains	Varicose Veins			p-value
	Yes:	Yes:	No	
	Sought help	Did not seek help		
	(n=123)	(n=49)	(n=1,663)	
	mean (SE) *	mean (SE) *	mean (SE) *	
Physical Functioning	91.4 (1.34)	90.4 (2.09)	91.1 (0.37)	0.926
Role Physical	76.7 (3.15)	78.4 (4.90)	81.1 (0.86)	0.355
Bodily Pain	76.9 (2.00)	75.6 (3.10)	76.7 (0.55)	0.933
General Health	77.8 (1.63)	75.8 (2.54)	75.2 (0.45)	0.305
Vitality	54.3 (1.89)	51.2 (2.92)	52.5 (0.52)	0.591
Social Functioning	84.1 (1.93)	87.4 (3.00)	85.8 (0.53)	0.595

Role Emotional	88.1 (2.81)	90.6 (4.32)	87.2 (0.76)	0.714
Mental Health	76.2 (1.38)	73.7 (2.13)	75.7 (0.38)	0.599

* adjusted for diabetes, hypertension, asthma, bronchitis, depression, anxiety, urinary tract infection, cancer.

Table 6 The factors associated with pregnant women seeking help from a healthcare practitioner for sciatica, leg cramps, and/or varicose veins.

Factors	Sciatica			Leg Cramps			Varicose Veins		
	Odd	(95	p	Odd	(95	p	Odd	(95	p
	s	%		s	%		s	%	
	Rati	C.I.		Rati	C.I.)		Rati	C.I.	
	o	)		o			o	)	
Area of Residence									
Urban	1.00			1.00			1.00		
Rural	0.73	(0.42, 1.26)	0.256	0.94	(0.57, 1.54)	0.795	1.05	(0.49, 2.22)	0.908
Marital Status									
married or Defacto	1.00			1.00			1.00		
Not Married or Defacto	1.71	(0.37, 7.9)	0.492	1.00	(0.19, 5.34)	0.999	1.26	(0.20, 12.36)	0.857

8))

Level of Education

University	1.00			1.00			1.00		
Trade/Certificate/Diploma	1.99	(0.99, 4.01)	0.054	2.01	(1.11, 3.63)	0.021	1.31	(0.48, 3.58)	0.592
School Only	3.50	(1.17, 9.47)	0.025	1.72	(0.87, 3.37)	0.116	1.54	(0.57, 4.17)	0.400

Health Insurance

Yes, inc. pregnancy-related care	1.00			1.00			1.00		
Yes, not inc. pregnancy-related care	0.86	(0.39, 1.89)	0.699	0.70	(0.36, 1.34)	0.280	0.77	(0.26, 2.34)	0.650
No	0.79	(0.42, 1.25)	0.459	0.93	(0.53, 1.38)	0.808	0.50	(0.20, 1.25)	0.139

1.4
7)
1.63
)

Number of

Previous Births

None	1.00			1.00			1.00		
One	1.17	(0.65, 2.09)	0.607	0.86	(0.50, 1.49)	0.592	0.93	(0.40, 2.14)	0.863
Two or more	1.09	(0.47, 2.53)	0.837	1.01	(0.49, 2.05)	0.988	2.48	(0.87, 7.07)	0.088

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