

The Characterisation and Response to Care of Pregnant Patients Receiving Chiropractic Care within a Practice-based Research Network

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Abstract: *Objectives:* To characterise the chiropractic care of pregnant patients in a practice-based research network (PBRN). *Main Outcome Measures:* Patient demographics (*i.e.*, age, gender, level of education) and weeks of gestation, presenting complaints based on hierarchical designation of primary (1^o), secondary (2^o), and tertiary (3^o) complaints, perceived effectiveness of care and the specific effects of care. *Results:* One hundred and twenty six pregnant patients participated in our PBRN survey. Their average age was 30.56 years and presented for chiropractic care at an average gestational age of 29.42 weeks. Approximately 25% of the patients indicated presenting for “wellness care.” A total of 241 complaints were documented by the patient population and designated as 1^o (N=118), 2^o (N=91) and 3^o (N=32). A majority of the specific complaints were musculoskeletal in nature with low back pain specific to the lumbar spine as the most common site. A majority of the patients reported a high perceived effectiveness in 98% of patients with 1^o complaints, 97% of patients with 2^o complaints and 100% of patients with 3^o complaints. Response to specific effects of the chiropractic spinal manipulative therapy were categorized to 3 main domains as “decreased pain”, “improved function and “other” due to heterogeneity of indicated responses. *Conclusions:* Pregnant patients present for chiropractic care for musculoskeletal complaints in addition to wellness care with high-perceived effectiveness. We support further research to examine the safety and effectiveness of this popular non-allopathic approach to women’s health.

INDEX TERMS: (MeSH): CHIROPRACTIC; PREGNANCY; MANIPULATION, SPINAL.

Chiropr J Aust 2012;42: 60-7.

INTRODUCTION

A myriad of changes take place during pregnancy. Maternal stress from a biopsychosocial point of view has been linked to adverse health outcomes for both the mother and fetus.^{1,2}

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Received: 7 January 2011, revised version accepted: 31 January 2012

This study was funded by the International Chiropractic Pediatric Association, Media, PA, USA

With the well-known biomechanical changes that take place in a woman’s body, approximately 25% of pregnant women have disabilities that compromise their performance in the workplace and their activities of daily living.³ Although low back pain is the most common complaint, the pregnant woman may also suffer from other neuromusculoskeletal (NMS) complaints such as peripheral neuropathy, nausea and vomiting, problems with labor, postpartum perineal discomfort, and lactation disorders to name a few.⁴ Both allopathic and complementary and alternative medicine (CAM) treatment approaches have been offered to address these complaints. However, due to the intimate maternal-fetal relationship, concerns regarding adverse events associated with pharmacological interventions motivate the pregnant woman’s willingness to try CAM therapies. The effectiveness of chiropractic spinal manipulative therapy (SMT) in treating NMS conditions^{5,6} and its overall popularity among CAM users⁷ makes chiropractic an attractive CAM option for the pregnant woman. Based on our review of the literature⁸⁻⁶⁰ no study has examined the presenting complaints and perceived effectiveness of pregnant patients to chiropractors within a practice-based research network (PBRN). A relatively recent systematic review of the literature by Stuber and Smith⁴⁹ admonished that there is a need for the chiropractic profession to elicit more epidemiologic and clinical information about the pregnant patients who access chiropractic services in terms of their demographics, reasons for seeking chiropractic care, and

clinical presentations. Additionally, the most common pain-causing structures and etiologies of pregnancy-related low back pain (LBP) remain to be determined.” To contribute to the literature on the above-mentioned aspects on this special patient population, we characterise the demographics, reasons for seeking chiropractic care and clinical presentations, the subtypes of pregnancy-related (LBP) and perceived chiropractic effectiveness of pregnant women attending care in a chiropractic PBRN.

MATERIALS AND METHODS

This study was approved by the Institutional Review Board of Life University, Atlanta, GA, USA. Pregnant patients were recruited by chiropractors participating in a PBRN established by the International Chiropractic Pediatric Association⁶¹ to participate in a survey study to examine aspects of the care they received. Inclusion criteria for chiropractor participation in the PBRN were (a) the chiropractor must be in good standing with the regulatory board in his/her domain of practice; (b) agree to the terms of participation as an ICPA PBRN participant (*i.e.*, PBRN participation must not be used for practice-building or marketing in addition to maintaining patient confidentiality and informed consent) and (c) the respondent chiropractor was the attending clinician on the pregnant patient. Inclusion criteria for patient participation include: (1) currently undergoing chiropractic care for pregnancy, (2) attended care for a minimum of 1 visit and (3) received SMT at each office visit. The patients were informed that participation was strictly voluntary and anonymous and were assured that non-participation did not affect the quality of their care. Demographics (*i.e.*, age and level of education and weeks of gestation), clinical presentation and/or reasons for attending chiropractic care, perceived effectiveness and results of care were collected from the patients. Demographics such as age, gender, years in practice, post-graduate training and primary chiropractic technique rendered to pregnant patients were also determined in a separate survey.

STATISTICAL ANALYSIS

Data was entered in a Portable Document Format (.pdf) through Adobe Reader (Adobe Systems). From this PDF an Extensible Markup Language (XML) file was created containing the data entered in the original form. Using Adobe Acrobat (Adobe Systems) the XML files were converted to a single Comma Separated Value (.csv) file, which was exported to a spreadsheet (Excel, Microsoft Corp) and analyzed using descriptive statistics.

RESULTS

The data described here was provided by 139 chiropractors (100 females; 41 males). Their average age was 33.96 years (median=33.00 years; mode=33.00 years) and have been practicing for an average of 7.05 years (median=5.50 years; mode=8.00 years). With respect to post-graduate training in paediatrics and women’s health, the following were reported: ICPA 120 hour Certification (N=27), ICPA 180hour certification (N=49), ICPA 360 Hour Diplomate Program (N=8), Webster Technique certification (N=102), non-ICPA Pediatric Certification (N=8). The chiropractic technique primarily utilized in the care of the pregnant patients were: Diversified (N=43); Thompson Technique (N=35); Webster Technique (N=27); Gonstead Technique (N=13), and Other (N=21) with one missing data.

A convenience sample of 126 women participated in our PBRN study. The participants were recruited from the existing patient population of the PBRN chiropractors. These patients were already receiving chiropractic care (*i.e.*, for a minimum of one office visit) for pregnancy-related complaints. A letter of invitation was provided to potential patient participants. The letter described the purpose of the study, assurances of anonymity in their participation and that non-participation in no way affects the quality of their care. Consent for the purpose of this study was obtained from all 126 pregnant patients described in this study. The patients’ average age was 30.56 years (median =31 years, mode=32 years). They presented for chiropractic care at an average of 29.42 weeks of gestation (median = 32.00 weeks, mode=37.00 weeks). Approximately 25% (N=32) indicated presenting for “wellness care.” When asked to indicate their presenting complaint(s) as 1⁰ (highest hierarchy), 2⁰ and 3⁰ (lowest hierarchy) for chiropractic care, 4% (N=5) of the patients did not indicate a specific complaint and were associated with presenting for “wellness care.” A total of 243 clinical presentations were documented. Note that approximately 49.4% (N=120) of these were 1⁰ complaints, 37.4% (N=91) are 2⁰ complaints and the remaining 13.2% (N=32) were 3⁰ complaints. Table 1 describes the types and frequencies of clinical presentations and reasons for seeking chiropractic care by pregnant women. Note that that majority of patients presented with sacrospinal pain complaints.

With respect to perceived effectiveness, the patients were asked to indicate a “Yes” or “No” response when asked if they found chiropractic care effective in addressing their 1⁰, 2⁰ and 3⁰ complaints. Table 2 describes the frequency of “Yes” or “No” responses with respect to the perceived effectiveness of chiropractic care in addressing a 1⁰, 2⁰ or 3⁰ patient complaint. As observed from Table 2, there is a high-perceived effectiveness on the part of the patient population. (*i.e.*, 97% or N=221 indicated a “Yes” response to perceives effectiveness) with chiropractic care. We followed up with the “No” responses (*i.e.*, the patient did not find their chiropractic care as effective) and found the following. Of the 5 patients indicating a “No” perceived effectiveness, 2 patients had only a 1⁰ complaint, while 3 patients had 2⁰ or 3⁰ complaints in addition to a 1⁰. These 3 patients indicated indicated perceived effectiveness with chiropractic in addressing their 2⁰ and 3⁰ complaints but not with their 1⁰ complaint. When asked to provide details on the positive effects of the chiropractic care as perceived by the patients, their responses were conveniently categorized into 3 domains: “decreased pain”, “increased function” and “other.” Table 3 provides the frequency of responses based on these 3 domains and whether the perceived effectiveness was to address a 1⁰, 2⁰, and 3⁰.

Discussion

Upchurch and colleagues,⁶² in identifying various socio-demographic, health, and lifestyle factors associated with use of various types of CAM among women in the United States, found that American women CAM users were mostly white, over the age of 30 years and highly educated. These socio-demographic findings are consistent with that of other studies^{63,64} and those of our patient population.

With respect to the use of practitioner-based CAM therapies, chiropractic is very popular among women –

Table1

THE CLINICAL PRESENTATIONS OF PREGNANT PATIENTS ATTENDING CARE IN A CHIROPRACTIC PBRN.				
THE FREQUENCIES OF CLINICAL PRESENTATIONS BASED ON HIERARCHY OF 1 ^o , 2 ^o , AND 3 ^o COMPLAINT				
CLINICAL PRESENTATION	1 ^o COMPLAINT	2 ^o COMPLAINT	3 ^o COMPLAINT	TOTAL COUNT (%) OF CLINICAL PRESENTATIONS
SACRO-SPINAL PAIN	95 (79.1%)	54 (59.3%)	21 (65.6%)	170 (69.9%)
OTHER NMS PAIN COMPLAINTS	13 (10.8%)	15 (16.5%)	8 (25.0%)	36 (14.8%)
POSSIBLE PREVENTION OF DYSTOCIA	2 (1.7%)	4 (4.4%)	0 (0%)	6 (2.5%)
ADDRESS ABNORMAL FETAL POSITION	3 (2.5%)	5 (5.5%)	0 (0%)	8 (3.3%)
ROUND LIGAMENT DISCOMFORT	4 (3.3%)	6 (6.6%)	1 (3.1%)	11 (4.5%)
HEADACHE	1 (0.9%)	4 (4.4%)	2 (6.3%)	7 (2.9%)
OTHER	2 (1.7%)	3 (3.3%)	0 (0%)	5 (2.1%)
TOTAL BASED ON 1 ^o , 2 ^o OR 3 ^o COMPLAINT	120 (100%)	91 (100%)	32 (100%)	243 (100%)
NO SPECIFIC COMPLAINT INDICATED	6 ^o	35 ^o	94 ^o	

^oALL "WELLNESS CARE" PATIENTS

Table2

PERCEIVED EFFECTIVENESS OF PREGNANT PATIENTS WITH CHIROPRACTIC CARE				
FREQUENCY OF RESPONSES AS "YES" OR "NO" TO EFFECTIVENESS OF CHIROPRACTIC CARE				
HIERARCHY OF PRESENTING COMPLAINT	YES WITH ONGOING CHIROPRACTIC CARE	YES	NO	TOTAL COUNT BASED ON 1 ^o , 2 ^o , OR 3 ^o COMPLAINT
1 ^o	82 (53.9%)	32 (46.4%)	5 (71.4%)	119 (52.2%)
2 ^o	55 (36.2%)	22 (31.9%)	2 (28.6%)	79 (34.6%)
3 ^o	15 (9.9%)	15 (21.7%)	0 (0%)	30 (13.2%)
Total Count Based on Yes/No response	152 (100%)	69 (100%)	7 (100%)	228 (100%)

Table 3

PATIENT COMPLAINTS DESIGNATED AS "OTHER."			
Type of Complaint Addressed	Reported Effect of "Decreased Pain"	Reported Effect of "Increased Function"	"Other" effects chiropractic care
1 ^o Complaint	N=75	N=39	<ul style="list-style-type: none"> Fetus moved from breech to head down position (N=1) "Loosened Up" in the low back (N=1) Numbness in thigh (N=1) Decrease in headache frequency (N=1) Migraines headaches resolved (N=1) Increased comfort during sleep (N=1) Immune system improvement (N=1)
2 ^o Complaint	N=43	N=29	<ul style="list-style-type: none"> Diminished Numbness (N=1) Baby moved to left occiput anterior/transverse (N=1) Decreased headache frequency (N=3) Bowel movement improved (N=1) "More energy" (N=1)
3 ^o Complaint	N=16	N=4	<ul style="list-style-type: none"> Headache improvement (i.e., decreased use prescribed medication) (N=1) Breech Presentation less uterine tension, increased body movement (N=1) Baby is moving (N=1) Decreased Dyspnea (N=1) Improved Sleep (N=1) Decreased headache frequency (N=3)

especially during pregnancy. Allaire and colleagues,⁶⁵ in their survey of North Carolina midwives on the use of herbal and other CAM therapies, found that 53% of midwives would recommend chiropractic to their clients. Bayles,⁶⁶ in a survey on the use, recommendation, and referral of Texas midwives, reported that chiropractic was the most popular for the care of pregnancy-related MSK complaints. Although 29%- 36% of chiropractors diagnose conditions such as pregnancy, menstrual disorder, *etc.*, for the majority of this genre of conditions, chiropractors most often act in the capacity of co-management.⁶⁷

With respect to the chiropractor demographics, this is the first reporting in the scientific literature that characterised chiropractic providers for pregnant patients. The Job Analysis of Chiropractic provides the most comprehensive database characterising chiropractors with respect to demographics, practice activities and their patients.⁶⁸ To the extent possible in making a comparison, our PBRN chiropractors are

mostly female unlike that of the dominant male gender in the profession. The PBRN chiropractors are young (*i.e.*, average age of 33.96 years), and have been in practice for a relatively shorter period of time (*i.e.*, an average of 7.05 years compared to 15.6 years for the "typical" chiropractor) with a larger percentage having a post-graduate certification (*i.e.*, about two-thirds of the profession having not worked toward certification in a specialty area). With respect to chiropractic technique, similar to the "typical" chiropractor, Diversified Technique, the Thompson Technique and the Gonstead Technique are commonly utilised. The popularity and common use of the Webster Technique by the PBRN chiropractors reflects the uniqueness of this technique in the care of pregnant patients and its need for expertise in the specialization of this type of care (*i.e.*, pregnant patient care). Chiropractic technique is an important variable in achieving effectiveness and safety in the care of the pregnant patients. The data described herein may provide a basis for comparison with future studies.

As a prelude to further discussion on the chiropractic care of pregnant patients and provide a context to the contribution of this study, a systematic review of the literature on the chiropractic care of pregnant patients would be appropriate. Two systematic reviews of the literature have recently been published on this topic. Stuber and Smith⁵⁸ systematically reviewed the literature regarding chiropractic SMT for pregnancy-related low back pain. Six papers, 1 quasi-experimental single-group pretest-posttest design, 4 case series, and 1 cross-sectional case series study^{43,48,54,60,69,70} met their inclusion criteria for scoring with a 27-item revised checklist by Downs and Black.⁷¹ Stuber and Smith⁵⁸ found positive reports of chiropractic care for pregnancy-related LBP with quality scores ranging from 5 to 14 of 27. As with most CAM interventions, the authors concluded that definitive statements on the efficacy of such a treatment (*i.e.*, SMT for pregnancy-related LBP) could not be made due to the lack of higher-level designed studies (*i.e.*, randomised controlled studies). Khorsan and colleagues⁵⁹ also recently performed a systematic review of the literature on the effectiveness of SMT on low back pain and other related symptoms during pregnancy. Thirty-two articles met their inclusion criteria consisting of 1 RCT, 2 systematic review, 1 cohort study, 2 case-control studies, 1 small non-randomised static-group comparison study (pre-experimental design), 4 narrative reviews, 6 case series, 9 descriptive surveys and 6 case reports (of 1-2 cases). Using quality checklists from the Scottish Intercollegiate Guidelines Network⁷² and the Council on Chiropractic Guidelines and Practice Parameters,⁷³ the authors concluded that the use of SMT during pregnancy to reduce back pain and other related symptoms is supported by limited evidence and best described as “emergent.” For our purpose, we also performed a systematic review of the literature to examine the presenting complaints of pregnant patients to chiropractors. The following electronic databases were searched: MANTIS [1965-2009]; ICL [1984-2009]; Pubmed [1966-2009]; Medline [1965-2009] EMBASE [1974-2009], AMED [1975-200], CINAHL Plus [1965-2009], Alt-Health Watch [1965-2009] and PsychINFO [1965-2009]. Key words used were pregnancy in Boolean combination with “chiropractic” along with related words when appropriate. The search was limited to publications in the English language and in peer-reviewed journals. Additionally, chiropractic journals (*i.e.*, Journal of Manipulative and Physiological Therapeutics, Journal of the Canadian Chiropractic Association, Clinical Chiropractic, and the Chiropractic Journal of Australia) were hand-searched for the last five years for possible relevant materials. Key informants and experts in the field were also contacted to provide assistance in providing relevant literature. The gray literature was also searched as well as the bibliography lists of all retrieved articles and relevant studies. Three of the authors (JA, JDA and JA) independently reviewed the title and abstracts of all articles generated from the electronic database search as well as from the reference lists of relevant articles. The full manuscripts of reports relevant to the chiropractic care of pregnant patient were retrieved by applying the following set of eligibility criteria: (1) the study was a primary investigation/report (*i.e.*, case reports, case series, case control, randomised controlled trials and survey or surveillance studies) published in peer-reviewed journals in the English language; (2) part or all of the study population involved pregnant patients. Our review

revealed 52 articles consisting of commentaries (N=31),⁸⁻³⁸ case reports (N=6),³⁹⁻⁴⁴ case series (N=4),⁴⁵⁻⁴⁸ cohort studies (N=4),⁴⁹⁻⁵² survey/observational studies (N=4),⁵³⁻⁵⁷ systematic review of the literature (N=2)⁵⁸⁻⁵⁹ and one limited review.⁶⁰ To the best of our knowledge, this is the first reporting in the scientific literature on the presenting complaints and perceived effectiveness of chiropractic care on pregnancy-related low back pain within a PBRN setting.

The findings of our study indicate a high prevalence of NMS complaints in pregnant patients presenting for chiropractic care. Of the 243 documented clinical presentations in our study population, 85% (N=206) of the complaints were NMS in nature. Of the myriad of possible NMS conditions, sacrospinal pain (*i.e.*, low back pain) was the most common reported (see Table 1). Based on our systematic review of the literature, we are aware of only two other studies examining the presenting complaints of pregnant patients to chiropractors. Skaggs and colleagues⁵⁴ reported the prevalence of self-reported musculoskeletal pain of pregnancy for 599 low socio-economic women in their second trimester presenting at the Women’s Wellness Center of Barnes-Jewish Hospital and the Washington University School of Medicine in St Louis, Mo. Skaggs and colleagues⁵⁴ found that two-thirds of their patient population reported back pain at three sites: low back pain, pelvic pain and mid-back pain. A majority of the 599 women complaining of NMS pain was in the low back with nearly half of the women presenting with a multi-focal pattern of pain involving 2 or more sites, 1 in 3 of the women reported pain at 2 sites and 1 in 10 reported pain at all 3 sites. To triage the chiropractic visits of new and existing pediatric or pregnant patients in a 1-year period at one chiropractic clinic, Rubin⁴⁹ found that the 2 most common reasons for new pregnant patients presenting for chiropractic care were to address the possible causes of breech position and pain syndromes in the low back and neck pain and headaches. Of Rubin’s existing pregnant patients, common complaints were low back pain, psoas/ligament dysfunction, headache, midback pain, sinus problems and rib pain. Given the differences in research design, a valid comparison of our findings to those of Skaggs and colleagues⁵⁴ and Rubin⁴⁹ cannot be made. However, *ceteris paribus* - “all other things being equal” - our findings are similar to those of Skaggs and colleagues with respect to the predominance of NMS complaints and their multi-focal patterns.” It is our humble opinion that overall, our findings with respect to clinical presentations is relatively more representative of the chiropractic practice compared to those of Skaggs and colleagues⁵⁴ (*i.e.*, data derived from a hospital clinical setting) and Rubin⁴⁹ (*i.e.*, single practice) given the practice-based research setting of our study.

With respect to our PBRN pregnancy-related clinical presentations and perceived effectiveness of chiropractic care, some 96% of the patients with 1^o complaints, 97% with 2^o complaints and 100% of those with 3^o complaints found chiropractic SMT as effective. The perceived effectiveness were categorised, based on indicated responses, into 3 domains – decreased pain, improved functionality and due to the heterogeneity of responses - “others” (see Table 3). At the time of the survey, the patients had attended (on average) between 9-10 office visits with a vast majority having

continued chiropractic care throughout their pregnancy. We are aware of only one other study examining the perceived effectiveness of CAM therapy in obstetrics. Munstedt and colleagues⁷⁴ examined the perceived clinical effectiveness of acupuncture, homeopathy, and aromatherapy during childbirth by various personnel in departments of obstetrics in North Rhine-Westphalia, Germany. With respect to dystocia/protracted labour, labour pain, induction of labour (stimulation of labour, or both), placental retention, after pains and anxiety and stress, Munstedt and colleagues⁷⁴ found that acupuncture and homeopathy (overall) were “believe, more or less, in the effectiveness of the method” by the responders. Aromatherapy however, was “not effective” except for addressing labour pains and anxiety and stress. On the issue of the safety of chiropractic SMT during pregnancy, Stuber,⁵³ in an e-mail self-completion survey examined, in addition to the types of treatments employed and referral patterns of chiropractors in the care of pregnant patients, chiropractors’ perceived safety of chiropractic care for pregnant patients. Sixty-nine percent of 26 Canadian and Australian chiropractors with varying levels of clinical experience opined that SMT was a safe therapy for use on pregnant patients. Almost all of the respondents indicated there was no evidence that pregnant patients are at increased or decreased risk for vertebrobasilar incident after cervical SMT and pregnancy is not a contraindication for this therapy.

Despite the predominance of MSK complaints during pregnancy in our PBRN patients, approximately 25% of the patient population reported presenting for “wellness care.” Health promotion and disease prevention, including the pursuit of wellness, have been documented as a motivating factor for using CAM therapies.^{75,76} Wellness care, health promotion and disease prevention are paradigms of public health and are important mitigators in this age of chronic disease epidemiology.⁷⁷ With a theoretical framework founded on a vitalistic and holistic approach to patient care, chiropractic can be argued more as a wellness profession^{78,79} rather than the pure categorisation of manipulative and body-based therapy. Studies are now emerging to document “wellness care” as a motivation for presenting for chiropractic care. Alcantara⁸⁰ and Alcantara and colleagues,^{80,81} in describing the clinical presentation of pediatric patients (<18 years of age) receiving care in a PBRN, found that wellness care was a popular motivation for the benefits of chiropractic care. The patients (N=1316) of Sacro-Occipital Technique (SOT) practitioners from the USA, Europe and Australia were surveyed by Blum and colleagues⁸³ to explore the extent to which they sought wellness care when choosing chiropractors. Blum and colleagues³⁷ found that 40% of chiropractic patient visits were for the purposes of health enhancement and/or disease prevention. Rubin,⁴⁹ in analyzing the clinical presentations of both children and pregnant women for the purpose of triage found “wellness care” as a motivation for chiropractic care.

This study has several limitations. Selection bias (*i.e.*, volunteer bias) and measurement bias (*i.e.*, attention bias) may likely have played a role in the results. The patients in this survey study were recruited by the ICPA PBRN chiropractors and were existing patients. Bias in the way of self-selection (*i.e.*, in favor of chiropractic care) may have played a role. Membership with ICPA implies interest in promoting

chiropractic and the benefits of wellness care. As Astin⁷⁷ pointed out, adult CAM users choose “health care alternatives to be more congruent with their own values, beliefs, and philosophical orientations toward health and life.” This may be reflected in our study. Fundamental methodological questions about the convenience sample such as the number of patients informed about the study by letters or other forms of communications were not addressed in this study. As such, the patient response rate is unknown and further places this study to sampling bias. There is also the presumption that a known or high response rate reflects a more accurate survey. In defense of our work, this study was exploratory in nature and the first descriptive study of its kind. Further, there are now a number of studies challenging the presumption that a low response rate translates to lower survey accuracy. For example, Curtin and colleagues⁸⁴ examined the consequences of a lower response rates on estimates of the Index of Consumer Sentiment (ICS). They examined the effect of excluding respondents who initially refused to participate (reducing the response rate 5-10 percentage points), respondents requiring >5 calls to complete the interview (reducing the response rate by @ 25 percentage points), and respondents requiring >2 calls (reducing the response rate by 50 percentage points). Curtin and colleagues⁸⁴ found no effect of excluding these respondent groups on estimates of the ICS using monthly samples based on hundreds of respondents and yearly estimates based on thousands of respondents. Holbrook and colleagues⁸⁵ examined the results of 81 national surveys with response rates varying from 5-54% and found that surveys with much lower response rates were only minimally less accurate with respect to representativeness. Keeter and colleagues⁸⁶ replicated a 1997 methodological experiment that compared results from a “Standard” 5-day survey employing the Pew Research Center’s usual methodology with results from a “Rigorous” survey conducted over a much longer field period and achieving a significantly higher response rate. The original and replicant study found little to suggest that unit nonresponse within the range of response rates obtained seriously threatens the quality of survey estimates. In 77 of 84 comparable items, the original and replicant studies yielded results that were statistically indistinguishable. As a result of such studies, we support the view that response rates are informative but “do not necessarily differentiate reliably between accurate and inaccurate data.”⁸⁷ Given these limitations, we caution the reader from generalising the results of our findings. On the issue of perceived effectiveness, we are aware of the unusually high level of patient satisfaction and clinical effectiveness reported. In hindsight, perhaps a five-point numerical scale of patient satisfaction or a numerical scale such as: “Very Effective,” “Effective,” “Somewhat Effective,” “Not Effective” may have been more appropriate. As it stands, there is the assumption that every patient responding “Yes” for each category assumes that chiropractic care was 100% effective. While this is possible, we accept that it also seems reasonable that such may not have been the case. Despite these limitations, our study provides the starting point in providing epidemiologic and clinical information about pregnant patients who access chiropractic services in terms of their demographics, reasons for seeking chiropractic care, clinical presentations and the most common pain-causing structures and etiologies (*i.e.*, sub-types) of pregnancy-related LBP.

CONCLUSION

We described the presenting complaints of pregnant patients and perceived effectiveness of chiropractic care in a PBRN setting. In addition to “wellness care,” pregnancy-related NMS complaints predominate the clinical presentations with a highly perceived effectiveness on the part of chiropractic. In the interest of evidence-base practice in the care of pregnant patients, we support further research in this field.

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