Journal Club February 2013

Impressum: M. Baechler DC (Coordinator, Spine J, Man Ther, Others), F. Fehr DC (Chiropr Man Therap), S. Nardini DC (Clinical Chiropractic), C. Peterson DC, MMEd (JMPT), M. Vianin DC (Pain, Others)

JMPT September 2012

Predictors of improvement in patients with acute and chronic low back pain undergoing chiropractic treatment.

Peterson CK, Bolton J, Humphreys BK.

Source

Professor, Chiropractic Department, Faculty of Medicine, University of Zürich, Zürich, Switzerland. Electronic address: Cynthia.peterson@balgrist.ch.

Abstract

OBJECTIVES:

The purpose of this study was to investigate outcomes and prognostic factors in patients with acute or chronic low back pain (LBP) undergoing chiropractic treatment.

METHODS:

This was a prognostic cohort study with medium-term outcomes. Adult patients with LBP of any duration who had not received chiropractic or manual therapy in the prior 3 months were recruited from multiple chiropractic practices in Switzerland. Participating doctors of chiropractic were allowed to use their typical treatment methods (such as chiropractic manipulation, soft tissue mobilization, or other methods) because the purpose of the study was to evaluate outcomes from routine chiropractic practice. Patients completed a numerical pain rating scale and Oswestry disability questionnaire immediately before treatment and at 1 week, 1 month, and 3 months after the start of treatment, together with self-reported improvement using the Patient Global Impression of Change.

RESULTS:

Patients with acute (<4 weeks; n = 523) and chronic (>3 months; n = 293) LBP were included. Baseline mean pain and disability scores were significantly ($P < .001$) higher in patients with acute LBP. In both groups of patients, there were significant ($P < .0001$) improvements in mean scores of pain and disability at 1 week, 1 month, and 3 months, although these change scores were significantly greater in the acute group. Similarly, a greater proportion of patients in the acute group reported improvement at each follow-up. The most consistent predictor was self-reported improvement at 1 week, which was independently associated with improvement at 1 month (adjusted odds ratio [OR], 2.4 [95% confidence interval, 1.3-4.5] and 5.0 [2.4-10.6]) and at 3 months (2.9 [1.3-6.6] and 3.3 [1.3-8.7]) in patients with acute and chronic pain, respectively. The presence of radiculopathy at baseline was not a predictor of outcome.

CONCLUSIONS:

Patients with chronic and acute pain reporting that they were "much better" or "better" on the Patient Global Impression of Change scale at 1 week after the first chiropractic visit were 4 to 5 times more likely to be improved at both 1 and 3 months compared with patients who were not improved at 1 week. Patients with acute pain reported more severe pain and disability initially but recovered faster. Patients with chronic and acute back pain both reported good outcomes, and most patients with radiculopathy also improved.

Chiropractic use, health care expenditures, and health outcomes for rural and nonrural individuals with arthritis.

Enyinnaya EI, Anderson JG, Merwin EI, Taylor AG.

Source

Postdoctoral Research Fellow, Center for the Study of Complementary and Alternative Therapies, School of Nursing, University of Virginia, Charlottesville, VA. Electronic address: ee2fv@virginia.edu.

Abstract

OBJECTIVE:

Arthritis is considered the leading cause of disability among adults in the United States today and contributes substantially to the rising cost of health care. Residents of rural areas are especially affected. The purposes of this article are to describe chiropractic use by rural and nonrural individuals with arthritis and to identify differences in other health care use and health status by those using chiropractic care plus conventional care or conventional care alone.

METHODS:

A longitudinal cohort from panel 12 (N = 12440) of the Medical Expenditure Panel Survey spanning 2007 to 2008 was selected for this study to represent changes in health care expenditures and use and outcomes throughout this period. The population was stratified by self-reported physician-diagnosed arthritis and rural status and compared across demographics, health status, and health care use and expenditures, including use of chiropractic services plus conventional care or conventional care alone.

RESULTS:

Twice as many rural people with arthritis had 1 or more visits with a doctor of chiropractic compared with nonrural persons with arthritis. More rural chiropractic users with arthritis reported their perceived health status as excellent, very good, or good compared with nonrural chiropractic users with arthritis and to rural people with arthritis who reported no chiropractic visits. Health care expenditures for other physician services were higher among rural chiropractic users with arthritis than nonrural users with arthritis.

CONCLUSIONS:

Differences in chiropractic use were observed between rural and nonrural individuals with arthritis. More studies are needed to investigate these differences and the impact on health care use and expenditures and outcomes of individuals with arthritis.

Musculoskeletal symptoms and associated risk factors among office workers with high workload computer use.

Cho CY, Hwang YS, Cherng RJ.

Source

Physical Therapist, Assistant Professor, Department of Physical Therapy, Medical College, National Cheng Kung University, Tainan, Taiwan. Electronic address: cycho@mail.ncku.edu.tw.

Abstract

OBJECTIVE:

Although the prevalence of reported discomfort by computer workers is high, the impact of high computer workload on musculoskeletal symptoms remains unclear. The purpose of this study was to investigate the prevalence of musculoskeletal symptoms for office workers with high computer workload. The association between risk factors and musculoskeletal symptoms was also assessed.

METHODS:
Two questionnaires were posted on the Web sites of 3 companies and 1 university to recruit computer users in Tainan, Taiwan, during May to July 2009. The 12-item Chinese Health Questionnaire and Musculoskeletal Symptom Questionnaire were chosen as the evaluation tools for musculoskeletal symptoms and its associated risk factors. Chinese Health Questionnaire greater than 5 and computer usage greater than 7 h/d were used to as the cutoff line to divide groups. Descriptive statistics were computed for mean values and frequencies. $\chi(2)$ Analysis was used to determine significant differences between groups. A 0.05 level of significance of was used for statistical comparisons.
RESULTS:
A total of 254 subjects returned the questionnaire, of which 203 met the inclusion criteria. The 3 leading regions of musculoskeletal symptoms among the computer users were the shoulder (73%), neck (71%), and upper back (60%) areas. Similarly, the 3 leading regions of musculoskeletal symptoms among the computer users with high workload were shoulder (77.3%), neck (75.6%), and upper back (63.9%) regions. High psychologic distress was significantly associated with shoulder and upper back complaints (odds ratio [OR], 3.46; OR, 2.24), whereas a high workload was significantly associated with lower back complaints (OR, 1.89). Females were more likely to report shoulder complaints (OR, 2.25).
CONCLUSIONS:
This study found that high psychologic distress was significantly associated with shoulder and upper back pain, whereas high workload was associated with lower back pain. Women tended to have a greater risk of shoulder complaints than men. Developing an intervention that addresses both physical and psychologic problems is important for future studies.

Consensus process to develop a best-practice document on the role of chiropractic care in health promotion, disease prevention, and wellness.

Hawk C, Schneider M, Evans MW Jr, Redwood D.
Source
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Abstract

OBJECTIVE:
The purposes of this project were to develop consensus definitions for a set of best practices that doctors of chiropractic may use for promoting health and wellness and preventing disease and to describe the appropriate components and procedures for these practices.
METHODS:
A multidisciplinary steering committee of 10 health care professionals developed seed statements based on their clinical experience and relevant literature. A Delphi consensus process was conducted from January to July 2011, following the RAND methodology. Consensus was reached when at least 80% of the panelists were in agreement. There were 44 Delphi panelists (36 doctors of chiropractic, 6 doctors of philosophy, 1 doctor of naturopathy, 1 registered nurse).
RESULTS:
The statements developed defined the terms and practices for chiropractic care to promote health and wellness and prevent disease.
CONCLUSION:
This document describes the procedures and features of wellness care that represent a reasonable approach to wellness care and disease prevention in chiropractic clinical practice. This living document provides a general

framework for an evidence-based approach to chiropractic wellness care.

Risk factors for the onset of nonspecific low back pain in office workers: a systematic review of prospective cohort studies.

Janwantanakul P, Sitthipornvorakul E, Paksaichol A.

Source

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Abstract

OBJECTIVE:

The purpose of this study was to systematically review prospective cohort studies to identify risk factors for the onset of low back pain (LBP) in office workers.

METHODS:

Online searches were conducted on PubMed, CINAHL Plus with full text, ScienceDirect, PEDro, ProQuest, and Scopus databases from 1980 to November 2011 using the following keywords: low back pain paired with risk or prognostic factors and office or computer or visual display unit (VDU) or visual display terminal (VDT). The methodological quality of each study was assessed using a 21-item checklist, which was divided into 2 parts: the internal validity (11 items) and descriptive quality (10 items) of studies. Strength of evidence for risk factors associated with the development of nonspecific LBP was assessed by defining 5 levels of evidence based on the number of studies and the quality score of studies.

RESULTS:

Eighteen full-text articles were identified, and 15 were excluded. A total of 3 articles were judged to meet the selection criteria and were included in the methodological quality assessment. Risk factors were divided into 3 groups: individual, work-related physical, and work-related psychosocial risk factors. There was strong evidence that history of LBP is a predictor of the onset of LBP. Limited evidence was found that the combination of postural risk factors and job strain is associated with the onset of LBP.

CONCLUSION:

After review of 3 high-quality prospective studies on the association between risk factors and the onset of nonspecific LBP in office workers, few risk factors were found to predict the onset of LBP in office workers.

JMPT October 2012

Efficacy of chiropractic manual therapy on infant colic: a pragmatic single-blind, randomized controlled trial.

Miller JE, Newell D, Bolton JE.

Source

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Abstract

OBJECTIVE:

The purpose of this study was to determine the efficacy of chiropractic manual therapy for infants with unexplained crying behavior and if there was any effect of parental reporting bias.

METHODS:
Infants with unexplained persistent crying (infant colic) were recruited between October 2007 and November 2009 at a chiropractic teaching clinic in the United Kingdom. Infants younger than 8 weeks were randomized to 1 of 3 groups: (i) infant treated, parent aware; (ii) infant treated, parent unaware; and (iii) infant not treated, parent unaware. The primary outcome was a daily crying diary completed by parents over a period of 10 days. Treatments were pragmatic, individualized to examination findings, and consisted of chiropractic manual therapy of the spine. Analysis of covariance was used to investigate differences between groups.
RESULTS:
One hundred four patients were randomized. In parents blinded to treatment allocation, using 2 or less hours of crying per day to determine a clinically significant improvement in crying time, the increased odds of improvement in treated infants compared with those not receiving treatment were statistically significant at day 8 (adjusted odds ratio [OR], 8.1; 95% confidence interval [CI], 1.4-45.0) and at day 10 (adjusted OR, 11.8; 95% CI, 2.1-68.3). The number needed to treat was 3. In contrast, the odds of improvement in treated infants were not significantly different in blinded compared with nonblinded parents (adjusted ORs, 0.7 [95% CI, 0.2-2.0] and 0.5 [95% CI, 0.1-1.6] at days 8 and 10, respectively).
CONCLUSIONS:
In this study, chiropractic manual therapy improved crying behavior in infants with colic. The findings showed that knowledge of treatment by the parent did not appear to contribute to the observed treatment effects in this study. Thus, it is unlikely that observed treatment effect is due to bias on the part of the reporting parent.

The 2008 Prevalence of Chiropractic Use in the US Adult Population.

Zodet MW, Stevans JM.

Source

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Abstract

OBJECTIVE:
The purpose of this study was to produce prevalence estimates and identify determinants of variability in chiropractic use in the US adult population.
METHODS:
The Medical Expenditure Panel Survey was used to estimate prevalence for the adult population and subpopulations according to several sociodemographic, geographic, and health characteristics. Multivariable logistic regression model was used to explore the effects of the independent predictors on chiropractic use.
RESULTS:
The 2008 chiropractic prevalence of use was estimated to be 5.2% (95% confidence interval, 4.7-5.6). The adjusted odds of using chiropractic services were approximately 46% less for Asians, 63% less for Hispanics, and 73% less for blacks compared with whites; 21% less for men than women; and 68% higher for those with arthritis compared with those without. Persons from high-income families have greater odds of using chiropractic services compared with those from middle-income (42%) and low-income (67%) families. There was a significant interaction between Census region and urban-rural location. The results showed the prevalence of chiropractic use to be highest in small metro areas in the Midwest (10.5%) and Northeast (10.4%) as well as micropolitan/noncore areas in the West (10.8%) and Midwest (10.1%).
CONCLUSIONS:
This study validates previous findings showing the prevalence of use is higher for whites, women, and persons with higher family income or reported arthritis. The results of this study also indicate that chiropractic use varies

across the urban-rural landscape depending on the region of the country, suggesting that the effect of geographic location may be more complex than previously reported.

Clinical, demographic, and geographic determinants of variation in chiropractic episodes of care for adults using the 2005-2008 medical expenditure panel survey.

Stevans JM, Zodet MW.

Source

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Abstract

OBJECTIVE:

The primary aim of this study was to report nationally representative estimates of the visit utilization, per visit expenditures, and total expenditures for chiropractic episodes of care in the US adult population. The secondary aim was to identify clinical, demographic, geographic, and payment factors associated with variation in the levels of utilization and expenditures.

METHODS:

Data from the 2005-2008 Medical Expenditure Panel Survey were used to construct complete episodes of chiropractic care (n = 1639) for the civilian, noninstitutionalized adult population. Bivariate descriptive statistics were calculated for visit utilization, per visit expenditures, and total expenditures per episode of care by several clinical, demographic, geographic, and payment variables. Multivariable regression models were used to evaluate the effects of the independent variables on each of the 3 dependent variables.

RESULTS:

The unadjusted mean number of visits per episode was 5.8 (95% confidence interval [CI], 5.3-6.4] and varied significantly by race/ethnicity, perceived mental health, urban-rural location, and source of payment. The mean total expenditures per visit per episode were estimated to be $69 (95% CI, $65-$73). There was variation associated with the census region, urban-rural location, and source of payment variables. Total expenditures for an episode of care were estimated to be $424 (95% CI, $371-$477] with variation according to urban-rural location and source of payment. During 29% of the episodes all expenditures were paid with out-of-pocket funds.

CONCLUSIONS:

Variation in the utilization and expenditures during chiropractic episodes of care is primarily associated with payment source and geographic factors.

Modulation of pain-induced neuromuscular trunk responses by pain expectations: a single group study.

Tétreau C, Dubois JD, Piché M, Descarreaux M.

Source

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Abstract

PURPOSE:

The purpose of this study was to investigate the alteration of pain-induced neuromuscular trunk responses by expectations in healthy volunteers.

METHODS:
Twenty-three asymptomatic participants performed series of flexion-extension movements in 3 different experimental conditions: innocuous heat stimulation (control) and noxious heat stimulation associated with expectations of low or high pain intensity. These stimuli were administered by a contact thermode placed over the lumbar region (L4 and L5) to assess the modulation of neuromuscular responses and kinematics during the flexion-extension task. Surface electromyography (EMG) of lumbar erector spinae at L2 and L3 and L4 and L5 as well as lumbopelvic kinematic variables were compared across conditions.
RESULTS:
Noxious stimulation significantly altered EMG responses but only in full trunk flexion. Interestingly, this alteration was significant only for muscles where noxious stimulation was applied (L4 and L5) and not for the other segment (L2 and L3). Conversely, expectations significantly altered EMG activity at L2 and L3 but not at the segment where noxious stimulation was applied.
CONCLUSION:
These results confirm previous findings and indicate that experimental pain can alter neuromuscular responses during a trunk flexion-extension task. Furthermore, this study suggests that expectations can alter some of these alterations. Future studies should determine whether neuromuscular changes induced by expectations may contribute to the transition from acute to chronic low-back pain.

Quantification of cavitation and gapping of lumbar zygapophyseal joints during spinal manipulative therapy.

Cramer GD, Ross K, Raju PK, Cambron J, Cantu JA, Bora P, Dexheimer JM, McKinnis R, Habeck AR, Selby S, Pocius JD, Gregerson D.

Source

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Abstract

OBJECTIVES:
The purpose of this study was to use previously validated methods to quantify and relate 2 phenomena associated with chiropractic spinal manipulative therapy (SMT): (1) cavitation and (2) the simultaneous gapping (separation) of the lumbar zygapophyseal (Z) joint spaces.
METHODS:
This was a randomized, controlled, mechanistic clinical trial with blinding. Forty healthy participants (18-30 years old) without a history of low-back pain participated. Seven accelerometers were affixed to the skin overlying the spinous processes of L1 to L5 and the S1 and S2 sacral tubercles. Two additional accelerometers were positioned 3 cm left and right lateral to the L4/L5 interspinous space. Participants were randomized into group 1, side-posture SMT (n = 30), or group 2, side-posture positioning (SPP, n = 10). Cavitations were determined by accelerometer recordings during SMT and SPP (left side = upside for both groups); gapping (gapping difference) was determined by the difference between pre- and postintervention magnetic resonance imaging scan joint space measurements. Results of mean gapping differences were compared.
RESULTS:
Upside SMT and SPP joints gapped more than downside joints (0.69 vs -0.17 mm, P < .0001). Spinal manipulative therapy upside joints gapped more than SPP upside joints (0.75 vs 0.52 mm, P = .03). Spinal manipulative therapy upside joints gapped more in men than in women (1.01 vs 0.49 mm, P < .002). Overall, joints that cavitated gapped more than those that did not (0.56 vs 0.22 mm, P = .01). No relationship was found between the occurrence of cavitation and gapping with upside joints alone (P = .43).

CONCLUSIONS:
Zygapophyseal joints receiving chiropractic SMT gapped more than those receiving SPP alone; Z joints of men gapped more than those of women, and cavitation indicated that a joint had gapped but not how much a joint had gapped.
http://download.journals.elsevierhealth.com/pdfs/journals/0161-4754/PIIS0161475412001200.pdf

Myofascial trigger points, pain, disability, and sleep quality in individuals with mechanical neck pain.

Muñoz-Muñoz S, Muñoz-García MT, Alburquerque-Sendín F, Arroyo-Morales M, Fernández-de-Las-Peñas C.
Source
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Abstract

OBJECTIVE:
The purpose of this study was to investigate the presence of active myofascial trigger points (MTrPs) in a greater number of muscles than previous studies and the relation between the presence of MTrPs, the intensity of pain, disability, and sleep quality in mechanical neck pain.
METHODS:
Fifteen patients with mechanical neck pain (80% women) and 12 comparable controls participated. Myofascial trigger points were bilaterally explored in the upper trapezius, splenius capitis, semispinalis capitis, sternocleidomastoid, levator scapulae, and scalene muscles in a blinded design. Myofascial trigger points were considered active if the subject recognized the elicited referred pain as a familiar symptom. Myofascial trigger points were considered latent if the elicited referred pain was not recognized as a symptom. Pain was collected with a numerical pain rate scale (0-10); disability was assessed with Neck Disability Index; and sleep quality, with the Pittsburgh Sleep Quality Index.
RESULTS:
Patients exhibited a greater disability and worse sleep quality than controls ($P < .001$). The Pittsburgh Sleep Quality Index score was associated with the worst intensity of pain ($r = 0.589$; $P = .021$) and disability ($r = 0.552$; $P = .033$). Patients showed a greater ($P = .002$) number of active MTrPs (mean, 2 ± 2) and similar number ($P = .505$) of latent MTrPs (1.6 ± 1.4) than controls (latent MTrPs, 1.3 ± 1.4). No significant association between the number of latent or active MTrPs and pain, disability, or sleep quality was found.
CONCLUSIONS:
The referred pain elicited by active MTrPs in the neck and shoulder muscles contributed to symptoms in mechanical neck pain. Patients exhibited higher disability and worse sleep quality than controls. Sleep quality was associated with pain intensity and disability. No association between active MTrPs and the intensity of pain, disability, or sleep quality was found.

Spine J. 2012 Nov;12(11):1021-8.

Validation of a novel sham cervical manipulation procedure.

Vernon HT, Triano JJ, Ross JK, Tran SK, Soave DM, Dinulos MD.
Source
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Abstract

BACKGROUND CONTEXT:

No clinical trial of spinal manipulation for chronic neck pain (NP), for either single or multiple intervention session(s), has used an effective manual sham-manipulation control group.

PURPOSE:

Validate a practical sham cervical high-velocity low-amplitude spinal manipulation.

STUDY DESIGN/SETTING:

Randomized experimental validation study in an institutional clinical research laboratory.

PATIENT SAMPLE:

Eligible subjects were males and females, 18 to 60 years of age with mechanical NP (as defined by the International Association for the Study of Pain Classification) of at least 3 months' duration. Subjects with arm pain, any pathologic cause of NP, or any contraindication to spinal manipulation were excluded.

OUTCOME MEASURES:

The primary outcome was the patient's self-report or registration of group allocation after treatment. Secondary outcomes were numerical rating scale-101 for NP, range of motion (ROM; by goniometer), and tenderness (by pressure algometry).

METHODS:

Eligible subjects were randomly allocated to one of two groups: real cervical manipulation (RM) or sham cervical manipulation (SM). All subjects were given two procedures in sequence, either RM+SM or SM+SM. Immediately after the two procedures, subjects were asked to register any pain experienced during the procedures and to identify their treatment group allocation. Force-time profiles were recorded during all procedures. Secondary clinical outcome measures were obtained at baseline, 5 and 15 minutes after the intervention, including ROM, self-report of pain, and local spinous process tenderness. Data for each variable were summarized and tested for normality in distribution. Summary statistics were obtained for each variable and statistically tested.

RESULTS:

Sixty-seven subjects were randomized. Data from 64 subjects (32 per group) were available for analysis. There were no significant differences between the groups at baseline. One adverse event occurred in the "real" group, which was a mild posttreatment pain reaction lasting less than 24 hours. In the RM group, 50% of subjects incorrectly registered their treatment allocation; in the sham group, 53% did so. For the SM group, none of the procedures resulted in cavitation, whereas in the RM group, 87% of procedures resulted in cavitation. There were no significant changes between groups on pain, tenderness, or ROM. Force-time profiles of the RM and SM procedures demonstrated fidelity with significant differences between components as intended.

CONCLUSIONS:

The novel sham procedure has been shown to be effective in masking subjects to group allocation and to be clinically inert with respect to common outcomes in the immediate posttreatment stage. Further research on serial applications and for multiple operators is warranted.

Chiropr Man Therap. 2012 Aug 10;20(1):26.

The effect of spinal manipulative therapy on experimentally induced pain: a systematic literature review.

Millan M, Leboeuf-Yde C, Budgell B, Amorim MA.

Abstract

BACKGROUND: Although there is evidence that spinal manipulative therapy (SMT) can reduce pain, the mechanisms involved are not well established. There is a need to review the scientific literature to establish the evidence-base for the reduction of pain following SMT. Objectives To determine if SMT can reduce experimentally induced pain, and if so, if the effect is only i) at the level of the treated spinal segment, ii) broader but in the same general region as SMT is performed, or iii) systemic.

DESIGN:

A systematic critical literature review.

METHODS:

A systematic search was performed for experimental studies on healthy volunteers and people without chronic syndromes, in which the immediate effect of SMT was tested. Articles selected were reviewed blindly by two authors. A summary quality score was calculated to indicate level of manuscript quality. Outcome was considered positive if the pain-reducing effect was statistically significant. Separate evidence tables were constructed with information relevant to each research question. Results were interpreted taking into account their manuscript quality.

RESULTS:

Twenty-two articles were included, describing 43 experiments, primarily on pain (n = 27) or temperature (n = 9). Their quality was generally moderate. A hypoalgesic effect was shown in 19/27 experiments on pressure pain, in 3/9 on pain produced by temperature and in 6/7 tests on pain induced by other measures. Second pain provoked by temperature seems to respond to SMT but not first pain. Most studies revealed a local or regional hypoalgesic effect whereas a systematic effect was unclear. Manipulation of a "restricted motion segment" ("manipulable lesion") seemed not to be essential to analgesia. In relation to outcome, there was no discernible difference between studies with higher vs. lower quality scores.

CONCLUSIONS:

These results indicate that SMT has a direct local/regional hypoalgesic effect on experimental pain for some types of stimuli. Further research is needed to determine i) if there is also a systemic effect, ii) the exact mechanisms by which SMT attenuates pain, and iii) whether this response is clinically significant.

http://www.chiromt.com/content/pdf/2045-709X-20-26.pdf

Chiropr Man Therap. 2012 Sep 21;20(1):30.

A replication of the study 'Adverse effects of spinal manipulation: a systematic review'.

Tuchin P.

Source

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Abstract

OBJECTIVE:

To assess the significance of adverse events after spinal manipulation therapy (SMT) by replicating and critically reviewing a paper commonly cited when reviewing adverse events of SMT as reported by Ernst (J Roy Soc Med 100:330-338, 2007).

METHOD:

Replication of a 2007 Ernst paper to compare the details recorded in this paper to the original source material.

Specific items that were assessed included the time lapse between treatment and the adverse event, and the recording of other significant risk factors such as diabetes, hyperhomocysteinemia, use of oral contraceptive pill, any history of hypertension, atherosclerosis and migraine.

RESULTS:

The review of the 32 papers discussed by Ernst found numerous errors or inconsistencies from the original case reports and case series. These errors included alteration of the age or sex of the patient, and omission or misrepresentation of the long term response of the patient to the adverse event. Other errors included incorrectly assigning spinal manipulation therapy (SMT) as chiropractic treatment when it had been reported in the original paper as delivered by a non-chiropractic provider (e.g. Physician).The original case reports often omitted to record the time lapse between treatment and the adverse event, and other significant clinical or risk factors. The country of origin of the original paper was also overlooked, which is significant as chiropractic is not legislated in many countries. In 21 of the cases reported by Ernst to be chiropractic treatment, 11 were from countries where chiropractic is not legislated.

CONCLUSION:

The number of errors or omissions in the 2007 Ernst paper, reduce the validity of the study and the reported conclusions. The omissions of potential risk factors and the timeline between the adverse event and SMT could be significant confounding factors. Greater care is also needed to distinguish between chiropractors and other health practitioners when reviewing the application of SMT and related adverse effects.

http://www.chiromt.com/content/pdf/2045-709X-20-30.pdf

Chiropr Man Therap. 2012 May 24;20(1):16.

Diagnostic imaging for spinal disorders in the elderly: a narrative review.

Taylor JA, Bussières A.

Source

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Abstract

The high prevalence of neck and low back pain in the rapidly aging population is associated with significant increases in health care expenditure. While spinal imaging can be useful to identify less common causes of neck and back pain, overuse and misuse of imaging services has been widely reported. This narrative review aims to provide primary care providers with an overview of available imaging studies with associated potential benefits, adverse effects, and costs for the evaluation of neck and back pain disorders in the elderly population. While the prevalence of arthritis and degenerative disc disease increase with age, fracture, infection, and tumor remain uncommon. Prevalence of other conditions such as spinal stenosis and abdominal aortic aneurysm (AAA) also increase with age and demand special considerations. Radiography of the lumbar spine is not recommended for the early management of non-specific low back pain in adults under the age of 65. Aside from conventional radiography for suspected fracture or arthritis, magnetic resonance imaging (MRI) and computed tomography (CT) offer better characterization of most musculoskeletal diseases. If available, MRI is usually preferred over CT because it involves less radiation exposure and has better soft-tissue visualization. Use of subspecialty radiologists to interpret diagnostic imaging studies is recommended.

http://www.chiromt.com/content/pdf/2045-709X-20-16.pdf

Chiropr Man Therap. 2012 Oct 9;20(1):32.

The treatment experience of patients with low back pain during pregnancy and their chiropractors: a qualitative study.

Sadr S, Pourkiani-Allah-Abad N, Stuber KJ.

Source

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Abstract

BACKGROUND:

Chiropractors regularly treat pregnant patients for low back pain during their pregnancy. An increasing amount of literature on this topic supports this form of treatment; however the experience of the pregnant patient with low back pain and their chiropractor has not yet been explored. The objective of this study is to explore the experience of chiropractic treatment for pregnant women with low back pain, and their chiropractors.

METHODS:

This qualitative study employed semi-structured interviews of pregnant patients in their second or third trimester, with low back pain during their pregnancy, and their treating chiropractors in separate interviews. Participants consisted of 11 patients and 12 chiropractors. The interviews consisted of 10 open-ended questions for patients, and eight open-ended questions for chiropractors, asking about their treatment experience or impressions of treating pregnant patients with LBP, respectively. All interviews were audio-recorded, transcribed verbatim, and reviewed independently by the investigators to develop codes, super-codes and themes. Thematic saturation was reached after the eleventh chiropractor and ninth patient interviews. All interviews were analyzed using the qualitative analysis software N-Vivo 9.

RESULTS:

Five themes emerged out of the chiropractor and patient interviews. The themes consisted of Treatment and Effectiveness; Chiropractor-Patient Communication; Pregnant Patient Presentation and the Chiropractic Approach to Pregnancy Care; Safety Considerations; and Self-Care.

CONCLUSIONS:

Chiropractors approach pregnant patients with low back pain from a patient-centered standpoint, and the pregnant patients interviewed in this study who sought chiropractic care appeared to find this approach helpful for managing their back pain symptoms.

http://www.chiromt.com/content/pdf/2045-709X-20-32.pdf

Chiropr Man Therap. 2012 Mar 28;20:8.

Adverse events from spinal manipulation in the pregnant and postpartum periods: a critical review of the literature.

Stuber KJ, Wynd S, Weis CA.

Source

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Abstract

BACKGROUND:

The safety of spinal manipulation during pregnancy and the postpartum periods has been a matter of debate among manual therapists. Spinal manipulative therapy during these periods is a commonly performed intervention

as musculoskeletal pain is common in these patients. To date there has not been an evaluation of the literature on this topic exclusively.

METHODS:

A literature search was conducted on PubMed, CINAHL and the Index to Chiropractic Literature along with reference searching for articles published in English and French in the peer-reviewed literature that documented adverse effects of spinal manipulation during either pregnancy or postpartum. Case reports, case series, and any other clinical study designs were deemed acceptable for inclusion, as were systematic reviews. The appropriate Scottish Intercollegiate Guidelines Network (SIGN) tools were used to rate included articles for quality when applicable.

RESULTS:

Five articles identifying adverse events in seven subjects following spinal manipulation were included in this review, along with two systematic reviews. The articles were published between 1978 and 2009. Two articles describing adverse effects from spinal manipulation on two postpartum patients were included, while the remaining three articles on five patients with adverse effects following spinal manipulation were on pregnant patients. Injury severity ranged from minor injury such as increasing pain after treatment that resolved within a few days to more severe injuries including fracture, stroke, and epidural hematoma. SIGN scores of the prospective observational cohort study and systematic reviews indicated acceptable quality.

CONCLUSIONS:

There are only a few reported cases of adverse events following spinal manipulation during pregnancy and the postpartum period identified in the literature. While improved reporting of such events is required in the future, it may be that such injuries are relatively rare.

http://www.chiromt.com/content/pdf/2045-709X-20-8.pdf

PLoS One. 2012;7(9):e45599. Epub 2012 Sep 26.

Trauma-Associated Tinnitus: Audiological, Demographic and Clinical Characteristics.

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Source

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Abstract

BACKGROUND:

Tinnitus can result from different etiologies. Frequently, patients report the development of tinnitus after traumatic injuries. However, to which extent this specific etiologic factor plays a role for the phenomenology of tinnitus is still incompletely understood. Additionally, it remains a matter of debate whether the etiology of tinnitus constitutes a relevant criterion for defining tinnitus subtypes.

OBJECTIVE:

By investigating a worldwide sample of tinnitus patients derived from the Tinnitus Research Initiative (TRI) Database, we aimed to identify differences in demographic, clinical and audiological characteristics between tinnitus patients with and without preceding trauma.

MATERIALS:

A total of 1,604 patients were investigated. Assessment included demographic data, tinnitus related clinical data, audiological data, the Tinnitus Handicap Inventory, the Tinnitus Questionnaire, the Beck Depression Inventory, various numeric tinnitus rating scales, and the World Health Organisation Quality of Life Scale (WHOQoL).
RESULTS:
Our data clearly indicate differences between tinnitus patients with and without trauma at tinnitus onset. Patients suffering from trauma-associated tinnitus suffer from a higher mental burden than tinnitus patients presenting with phantom perceptions based on other or unknown etiologic factors. This is especially the case for patients with whiplash and head trauma. Patients with posttraumatic noise-related tinnitus experience more frequently hyperacousis, were younger, had longer tinnitus duration, and were more frequently of male gender.
CONCLUSIONS:
Trauma before tinnitus onset seems to represent a relevant criterion for subtypization of tinnitus. Patients with posttraumatic tinnitus may require specific diagnostic and therapeutic management. A more systematic and - at best - standardized assessment for hearing related sequelae of trauma is needed for a better understanding of the underlying pathophysiology and for developing more tailored treatment approaches as well.
http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0045599

PLoS One. 2012;7(6):e38887. Epub 2012 Jun 19.

Temporomandibular joint disorder complaints in tinnitus: further hints for a putative tinnitus subtype.

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Abstract

OBJECTIVE:
Tinnitus is considered to be highly heterogeneous with respect to its etiology, its comorbidities and the response to specific interventions. Subtyping is recommended, but it remains to be determined which criteria are useful, since it has not yet been clearly demonstrated whether and to which extent etiologic factors, comorbid states and interventional response are related to each other and are thus applicable for subtyping tinnitus. Analyzing the Tinnitus Research Initiative Database we differentiated patients according to presence or absence of comorbid temporomandibular joint (TMJ) disorder complaints and compared the two groups with respect to etiologic factors.
METHODS:
1204 Tinnitus patients from the Tinnitus Research Initiative (TRI) Database with and without subjective TMJ complaints were compared with respect to demographic, tinnitus and audiological characteristics, questionnaires, and numeric ratings. Data were analysed according to a predefined statistical analysis plan.
RESULTS:
Tinnitus patients with TMJ complaints (22% of the whole group) were significantly younger, had a lower age at tinnitus onset, and were more frequently female. They could modulate or mask their tinnitus more frequently by somatic maneuvers and by music or sound stimulation. Groups did not significantly differ for tinnitus duration, type of onset (gradual/abrupt), onset related events (whiplash etc.), character (pulsatile or not), hyperacusis, hearing impairment, tinnitus distress, depression, quality of life and subjective ratings (loudness etc.).
CONCLUSION:
Replicating previous work in tinnitus patients with TMJ complaints, classical risk factors for tinnitus like older age and male gender are less relevant in tinnitus patients with TMJ complaints. By demonstrating group differences

for modulation of tinnitus by movements and sounds our data further support the notion that tinnitus with TMJ complaints represents a subgroup of tinnitus with clinical features that are highly relevant for specific therapeutic management.

http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0038887