Dynamic Chiropractic

CHIROPRACTIC (GENERAL)

Research Abstracts From the *Journal of Manipulative and Physiological Therapeutics*

JULY/AUG ABSTRACTS VOLUME 33, ISSUE 6

The *JMPT* is the premier scientific journal of the chiropractic profession, dedicated to the advancement of chiropractic health care. The National University of Health Sciences, owner of the journal, upholds the journal's compliance with the highest publication standards, which expressly support editorial freedom and best publication practices. The *JMPT* is an independent publication that strives to provide the best scientific information that improves health care practice and future research.

Editor's note: This is a special theme issue of JMPT dedicated to public health.

Health Providers' Role and Patient Compliance to Health Promotion Advice: User Perspective

Harrison Ndetan, MSc, MPH, DrPH, Marion Willard Evans Jr., DC, PhD, Sejong Bae, PhD, et al.

Objective: The recommendations of health care providers have been shown to be a predictor of future healthy behaviors. However, patient adherence to these recommendations may differ based upon the type of health care professional providing the information. This study explored patient compliance in the United States over a 12-month period and contracted the patient response to recommendations given by chiropractors versus medical doctors.

Methods: Multiple logistic regression models were used for analyses of data from the Sample Adult Core component of the 2006 National Health Interview Survey (n = 24,275). Analyses were performed separately for recommendation and compliance of weight loss, increase exercise, and diet change by health profession subtype (chiropractor and medical doctor).

Results: About 30.5% of the respondents reported receiving advice from their provider. Among these, 88.0% indicated they complied with the advice they received. Patients who were advised were more likely to comply (odds ratio [OR] [95% CI], 10.41[9.34-11.24]). Adjusting for seeing a physical therapist, age, and body mass index, chiropractors were less likely to advice patients compared to medical doctors (OR [95% CI], 0.38 [0.30-0.50]). In general, there was a 21% increased odds that patients who received and complied with health promotion advice from their health care provider would report an improved health status (OR [95% CI], 1.21 [1.10-1.33]) compared with those who did not comply or were not advised.

Conclusion: Chiropractors in the United States give health promotion recommendations to their patients, but are less likely to do so than general medical doctors. Patients tend to comply with health providers' recommendations and those who do report better health.

Chiropractic and Medical Use of Health Promotion in Arthritis Management

Harrison Ndetan, MSc, MPH, DrPH, Marion Willard Evans Jr., DC, PhD, Martha Felini, DC, PhD, et

al.

Objective: The importance of integrating healthy behavior counseling into routine health care is universal, but may depend on the type of medical care provider as well as the conditions presented by patients. The purpose of this study was to evaluate whether health promotion (HP) recommendations for known risk factors of arthritis differed between general medical doctors and doctors of chiropractic (DCs) in a nationally representative U.S. population with arthritis.

Methods: Multiple logistic regression models were used for analyses of data from the Sample Adult Core component of the 2006 National Health Interview Survey (n = 6,374 diagnosed with arthritis). Analyses were performed separately for recommendation of weight loss and increase in exercise by health profession subtype (chiropractor and medical doctor).

Results: Comparing the reported HP efforts between DCs and medical doctors (MDs), while adjusting for the effect of physical therapist and body mass index, we observed no significant differences (weight loss: adjusted odds ratio [95% confidence interval] = 0.76 [0.50-1.18]; increased exercise: adjusted odds ratio [95% confidence interval] = 0.87 [0.59-1.29]).

Conclusion: Health promotion efforts to patients with arthritis do not differ significantly between MDs and DCs, as reported by National Health Interview Survey 2006. This investigation makes it difficult to suggest that DCs or MDs are doing all they can do to manage arthritis through suggested modification of lifestyle in their patients. More research specific to what is and can be recommended to those with arthritis should be conducted particularly because it relates to health-promoting behaviors. Given the recent implementation of required clinical competencies in HP into chiropractic college curriculums, future studies regarding translation of HP messages into public practice should be more informative.

Association of Self-Reported Backpack Use and Backpack Weight With Low Back Pain

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Objective: Back pain has consistently ranked among the top general health complaints among college students, but few studies have examined risk factors for back pain in this age group. This cross-sectional survey evaluated the association between the self-reported annual low back pain with the estimated usual backpack weight among college students.

Methods: Data were collected from health education students during the spring semester of 2007 at the Colorado State University using an online survey. Adjusted odds ratios were calculated using logistic regression.

Results: Four hundred sixty-five (94.6%) health education students completed the online survey. The annual prevalence of low back pain was 29.2% (n = 136). A 25% increase in the odds of annual low back pain for each 4-kg increase in the estimated usual backpack weight was observed after adjusting for sex, smoking, reporting frequently feeling overwhelmed, and body mass index (adjusted odds ratio per 4-kg increase, 1.25; 95% confidence interval, 1.17-1.32). There was no evidence of an increased association of annual low back pain with carrying a backpack weight greater than 10% of the students body weight compared with those carrying less (adjusted odds ratio, 1.02; 95% confidence interval, 0.63-1.65).

Conclusions: The results of this study suggest that increasing reported backpack weight is associated with increased prevalence of annual low back pain. However, these results do not

provide evidence to support the recommendation that the backpack weight necessarily be less than 10% of body weight.

Effects of Chiropractic Care on Pain and Function in Patients Awaiting Hip Arthroplasty

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Objective: The purpose of this study was to explore the short-term effects of chiropractic care on pain and function in patients with hip osteoarthritis.

Methods: A convenience sample of 14 patients waiting to undergo unilateral hip arthroplasty at a large university hospital received either chiropractic care (n = 7) or no additional treatment (n = 7) during a three-week period. The main outcome was the change in self-rated hip pain on a 100 mm Visual Analogue Scale (VAS, 0-100). Secondary outcomes were the change in the five Hip disability and Osteoarthritis Outcome Subscales (HOOS, 0-100), which include pain, other symptoms, function in daily living, function in sport and recreation and hip related quality of life. Nonparametric statistics were used to explore outcome changes from baseline to follow-up after three weeks within and between the groups.

Results: Patients receiving chiropractic care, on average 4.4 (SD ±1.0) treatments over 3 weeks, showed a clinically and statistically significant improvement in self-rated hip pain, VAS - 26.0 (SD ±28.4), $P = .043$. The chiropractic patients also had clinically important, but not statistically significant, improvement scores in HOOS function in daily living 18.6 (SD ±18.5), pain 15.4 (SD ±17.2), and hip-related quality of life 12.4 (SD ±19.6). The waiting list controls had no statistically significant improvements in any outcome measured, but a clinically relevant improvement in HOOS Pain 12.2 (SD ±18.2), $P = .051$ was observed. There were no statistically significant differences between the groups due to the small sample size. Approximately 25 patients per arm would be required to adequately power a full scale randomized controlled trial with VAS for hip pain as the main outcome measure.

Conclusions: Chiropractic care may provide a short-term benefit in decreasing hip pain for patients with hip osteoarthritis waiting for hip arthroplasty. The pilot findings warrant larger scale randomized controlled trials with longer-term follow-ups.

Best Practice Recommendations for Chiropractic Care of Older Adults

Cheryl Hawk, DC, PhD, Michael Schneider, DC, PhD, Paul Daugherty, DC, et al.

Objective: At this time, the scientific evidence base supporting the effectiveness of chiropractic care for musculoskeletal conditions has not yet definitively addressed its appropriateness for older adults. Expert consensus, as a form of evidence, must be considered when higher levels of evidence are lacking. The purpose of this project was to develop a document with evidence-based recommendations on the best practices for chiropractic care of older adults.

Methods: A set of 50 seed statements was developed, based on the clinical experience of the multidisciplinary steering committee and the results of an extensive literature review. A formal Delphi process was conducted, following the rigorous RAND-UCLA (University of California, Los Angeles) methodology. The statements were circulated electronically to the Delphi panel until consensus was reached. Consensus was defined as agreement by at least 80% of the panelists. There were 28 panelists from 17 U.S. states and Canada, including 24 doctors of chiropractic, 1 physical therapist, 1 nurse, 1 psychologist, and 1 acupuncturist.

Results: The Delphi process was conducted in January-February 2010; all 28 panelists completed the process. Consensus was reached on all statements in two rounds. The resulting best practice document defined the parameters of an appropriate approach to chiropractic care for older adults, and is presented in this article.

Conclusion: A multidisciplinary panel of experienced chiropractors was able to reach a high level (80%) of consensus on evidence-informed best practices for the chiropractic approach to evaluation, management, and manual treatment for older adult patients.

Full Kinetic Chain Manipulative Therapy With Rehab for Patients With Hip Osteoarthritis

James Brantingham, DC, PhD, Gary Globe, DC, MBA, PhD, Tammy kay Cassa, DC, et al.

Objective: Hip osteoarthritis (HOA) affects 30 million Americans or more, and is a leading cause of disability, suffering, and pain. Standard treatments are minimally effective and carry significant risk and expense. This study assessed treatment effects of a chiropractic protocol for HOA.

Methods: Eighteen individuals, who did not qualify due to low baseline Western Ontario and McMaster Osteoarthritis Index scores (WOMAC) for other ongoing HOA randomized control trials, were selected. A prospectively planned protocol, consisting of axial manipulation to the affected hip with modified Thomas and active assisted stretch, was combined with full kinetic chain treatment or manipulative therapy to the spine, knee, ankle, or foot and assessed with use of valid and reliable outcome measures.

Results: The primary outcome measure, the Overall Therapy Effectiveness Tool, was assessed with X2 and demonstrated that 83.33% of participants were improved after the ninth visit, $P = .005$, and 78% improved at the three-month follow-up, $P = .018$. Using the paired t test, WOMAC was improved 64% at the ninth visit, $P = .000$, and 47% at follow-up, $P = .016$.

Conclusion: In HOA patients with lower WOMAC scores, a highly organized HOA treatment appears to have resulted in statistically and clinically meaningful intragroup changes in the Overall Effectiveness Therapy Tool, WOMAC, Harris Hip Scale, and range of motion, all with $P \leq .05$. Although the directionality and strength of the findings are encouraging, fully powered clinical trials are necessary to report generalizable findings.

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OCTOBER 2010

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