

CHIROPRACTIC CARE FOR OLDER ADULTS: EFFECTS ON BALANCE, DIZZINESS, AND CHRONIC PAIN

Cheryl Hawk, DC, PhD,^a and Jerrilyn Cambron, DC, PhD^b

ABSTRACT

Objective: This study is part of an avenue of research exploring the effect of chiropractic care on balance in older adults. The purpose of this study was to (1) assess the use of the 7-item version of the Berg Balance Scale, (2) explore possible effects of an 8-week course of chiropractic care on balance as measured by the 7-item Short-Form Berg Balance Scale (SF-BBS) in adults 65 years or older with impaired balance, and (3) collect preliminary information on the possible relationships of dizziness and/or chronic pain to poor balance.

Methods: This was a single-group, pretest/posttest design intervention study. Patients 65 years and older who could stand on one leg for less than 5 seconds were eligible. They received pragmatic chiropractic care for 16 visits for an 8-week period. Outcomes were assessed at baseline, visit 8 and visit 16 in terms of balance SF-BBS, dizziness (Dizziness Handicap Inventory [DHI]), chronic pain (Pain Disability Index), and depression (Geriatric Depression Scale).

Results: Sixteen patients were enrolled; 14 completed the study. There was one mild and transient adverse effect, muscle soreness, which self-resolved. One patient was depressed, and his Geriatric Depression Scale score improved significantly during the study. Of the 6 patients with significant dizziness at baseline, 3 had scores of 0 (no dizziness) on the DHI at visit 16. Patients with dizziness tended to have greater chronic pain and show greater reductions in that pain than nondizzy patients. No clinically important effects on balance as measured by the SF-BBS were apparent for the group as a whole, although 3 individual patients improved by 4 to 6 points.

Conclusion: The Short-Form Berg Balance Scale (SF-BBS) did not show a great deal of clinical responsiveness in this study population. The outcome measures used for chronic pain (Pain Disability Index) and dizziness (DHI) appear to be appropriate for assessing patients in future larger studies for longer periods. (*J Manipulative Physiol Ther* 2009;32:431-437)

Key Indexing Terms: *Chiropractic; Manipulation, Chiropractic; Dizziness*

Falls are an important public health concern, making major contributions to death, disability, and health care costs in older adults.¹ Because of the importance of fall prevention to the well-being of the aging population, as well the extremely high health care costs associated with falls, the evidence base on this topic is growing exponentially. At least 16 controlled studies have been done examining the contribution of various risk factors to falls.² Lower-extremity weakness, balance, and gait deficits are the

top risk factors.² Interventions that target these have been shown to reduce risk of falls.

Although a great deal of research has addressed the effectiveness of chiropractic care, specifically spinal manipulation, for musculoskeletal complaints, especially back and neck pain,^{3,4} few studies have considered possible effects on gait and balance, which might be effected by improvements in pain and stiffness. Spinal manipulation has also been shown to have some benefit for certain types of dizziness, which is a common factor contributing to balance deficits in the elderly.⁵ This study is part of an avenue of research beginning to explore the effect of chiropractic care on balance in older adults.⁶⁻⁸ The purpose of this study was to (1) assess the use of the 7-item version of the BBS, (2) explore possible effects of an 8-week course of chiropractic care on balance as measured by the 7-item SF-BBS in adults 65 years or older with impaired balance, and (3) collect preliminary information on the possible relationships of dizziness and/or chronic pain to poor balance.

METHODS

This project was a single-group, pretest/posttest design intervention study.

^a Vice President of Research and Scholarship, Cleveland Chiropractic College, Kansas City, MO and Los Angeles, CA.

^b Professor, Department of Research, National University of Health Sciences, Lombard, IL.

Submit requests for reprints to: Cheryl Hawk, DC, PhD, Cleveland Chiropractic College, 10850 Lowell Avenue, Overland Park, KS 66210 (e-mail: hawkcheryl@aol.com).

Paper submitted January 9, 2009; in revised form April 7, 2009; accepted April 24, 2009.

0161-4754/\$36.00

Copyright © 2009 by National University of Health Sciences.

doi:10.1016/j.jmpt.2009.06.009

Safety and Other Human Subjects Considerations

The Cleveland Chiropractic College institutional review board approved the study before recruitment. All patients signed an informed consent form before any data were collected or treatment administered. Data were securely stored in a password-protected computer. Patient safety was protected by conduct of a thorough physical examination, including diagnostic x-rays if indicated by the history and physical examination, to identify contraindications to manipulation. Patients reporting dizziness underwent additional examination procedures to identify conditions that might require referral or additional testing. The treating chiropractors were licensed clinical faculty of the college and had at least 5 years' experience.

Study-related adverse events were defined as symptoms related to treatment and arising within 24 hours of treatment and lasting more than 24 hours. The clinical notes form included a question prompting the chiropractor to inquire at each visit about any discomfort the patient may have experienced since the last treatment. Symptoms meeting the "adverse event" definition were recorded on the "Adverse Event" form, and the treating chiropractor made a decision on whether a change in treatment protocol was warranted.

Study Population

Patients for this study were drawn primarily from the population of members, or spouses or friends of members, of a fitness center catering to older adults. Recruitment was through word of mouth and flyers in the fitness center only. Our institution maintains a treatment room within the fitness center, provided specifically for research studies.

Inclusion. The following are the inclusion criteria of the study: (1) 65 years or older and (2) One Leg Standing Test (OLST) for less than 5 seconds (average of both legs).

Exclusion. The following are the exclusion criteria: (1) wheelchair bound; (2) manual care procedure within the past month (by self-report); (3) exercise program specific for balance and/or lower body strength within the past month (by self-report); (4) contraindications to spinal manipulative therapy (SMT) or mild-exertion exercise, as determined through physical examination and diagnostic imaging (if indicated) (these included but were not limited to signs and symptoms of vertebrobasilar insufficiency; unstable or severe medical condition; severe osteoporosis, fracture, or other osseous abnormalities; increased cardiovascular risk [known severe cardiovascular, pulmonary, or metabolic disease, or signs/symptoms suggestive of such]); (5) absence of indications for SMT, as determined through history, physical examination, orthopedic tests, and static and motion palpation. (Indications for SMT include decreased or increased spinal joint mobility with tenderness and/or muscle tension and spasm.)

Study Protocol

Volunteers were screened at the fitness center for preliminary eligibility, by means of a screening questionnaire

and performing the OLST. Eligible volunteers were examined and, if necessary, x-rayed at the college's teaching clinic and, if no contraindications were present, were enrolled in the study. The original study design offered patients a choice of chiropractic care or exercise, but all patients chose chiropractic care, so the study became a single-group intervention.

Interventions

Chiropractic Care. Treatment represented usual and customary procedures used in chiropractic practice.⁹ Included were spinal and extravertebral manipulation using diversified technique (high-velocity, low-amplitude manipulation) or other manipulation techniques, soft tissue treatment such as myofascial release, and hot packs. The examining chiropractor specified in the chart if a given patient should receive modified (lower force) adjustive procedures, consistent with recommendations for treating frail elderly; the criteria for modifying force include age, frailty, presence, or likelihood of osteoporosis.¹⁰ Modifications included reduction of force, velocity, and rotation; instrument-assisted adjustments; and mobilization or flexion-distraction (table-assisted) technique.¹⁰

Exercise. Patients were also given an instruction booklet for performing mild lower-extremity-strengthening exercises recommended by the National Institute on Aging.¹¹ These are all performed standing and include hip flexion, hip extension, plantar flexion, knee flexion, side leg raise, heel-to-toe walking, and standing on one foot.

Frequency and Duration of Care

The study schedule included 2 visits per week for 8 weeks (total of 16 weeks). Treatment took approximately 10 to 15 minutes per visit.

Assessment Methods and Instruments

Baseline information included demographics, health history, health habits, current medications, and recent history of falls. A fall was defined as "a slip or trip, in which you lost your balance and landed on the floor or ground or lower level." Patients were mailed a medication list before their first visit so that they could complete it while actually looking at their medications, rather than by memory. Health habit questions included information about fluid and alcohol intake because dehydration may contribute to poor balance. Falls data were collected by the treating clinician at each visit; the clinical notes form prompted that the doctor ask if the patient had had any falls within the past week or since the last visit.

Outcome measure questionnaires were administered at baseline, visit 8 (1 month), and visit 16 (2 months, study end point). They were completed before the patient saw the chiropractor at that visit. Thus, outcomes were recorded after 7 and 15 visits.

Download English Version:

<https://daneshyari.com/en/article/2621252>

Download Persian Version:

<https://daneshyari.com/article/2621252>

[Daneshyari.com](https://daneshyari.com)