Chiropractic Management for US Female Veterans With Low Back Pain: A Retrospective Study of Clinical Outcomes

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Abstract

Objective: The purpose of this study was to determine if female US veterans had clinically significant improvement in low back pain after chiropractic management.

Methods: This is a retrospective chart review of 70 courses of care for female veterans with a chief complaint of low back pain who received chiropractic management through the VA Western New York Healthcare System in Buffalo, New York. A paired *t* test was used to compare baseline and discharge outcomes for the Back Bournemouth Questionnaire. The minimum clinically important difference was set as a 30% improvement in the outcome measure from baseline to discharge.

Results: The average patient was 44.8 years old, overweight (body mass index 29.1 kg/m^2), and white (86%). The mean number of chiropractic treatments was 7.9. Statistical significance was found for the Back Bournemouth Questionnaire outcomes. The mean raw score improvement was 12.4 points ($P < .001$), representing a 27.3% change from baseline with 47% of courses of care meeting or exceeding the minimum clinically important difference.

Conclusion: For our sample of female veterans with low back pain, clinical outcomes from baseline to discharge improved under chiropractic care. Although further research is warranted, chiropractic care may be of value in contributing to the pain management needs of this unique patient population. (J Manipulative Physiol Ther 2017;40:573-579)

Key Indexing Terms: *Veterans; Low Back Pain; Chiropractic; Women's Health; Musculoskeletal Pain*

Introduction

Although female veterans have historically used Veterans Health Administration (VHA) medical services at low rates, they are becoming 1 of the fastest growing populations of VHA users.[1] Since 2000, female VHA users have more than doubled,[2] with 32% of female service members currently enrolling in VHA services after military seperation.[3] Women currently comprise 14% of those enlisted within the Department of Defense services (Army, Navy, Air Force, Marine Corps, Coast Guard), 17% of new recruits, and 16% of active duty officers.[3] Female veterans are younger,[4-10] less likely to be married,[5-9] more racially

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diverse,[4-8] and more educated than their male counterparts.[6-8] Female veteran VHA users also access VHA medical care more frequently than male veterans,[4,7] have a higher outpatient cost per patient,[4] seek evaluation at the Emergency Department more often,[11] and have a higher rate of service-connected (SC) disability greater than 50%,[4] which entitles them to lifelong VHA care for their SC conditions.

Irrespective of sex, the majority of VHA patients experience pain.[10,12] Painful musculoskeletal diagnoses are the most common ailments of all US veterans returning from Operation Iraqi Freedom and Operation Enduring Freedom,[13] with the back being the most common location of pain.[10,12] The rate of musculoskeletal diagnoses increases annually after military separation, and this rate is even faster for women.[6] As a result, musculoskeletal conditions are the leading cause of morbidity for female veterans.[4]

Chiropractic management is 1 of the available conservative treatment options for veterans with painful musculoskeletal conditions. Research in the civilian population indicates that chiropractic care is an effective management strategy for low back pain (LBP).[14,15] Currently 15.8% of VHA chiropractic patients are women,[16] but little is known specifically about female veterans' outcomes under chiropractic management. Historically women have been underrepresented in Veterans Affairs (VA) research.[17] To our knowledge, this is the first study of female veterans presenting to VHA chiropractic services.[18] The objective of this retrospective study was to determine if female veterans had evident improvement for their LBP complaints after chiropractic management in a sample of VHA Medical Center patients. We hypothesized that there would be a clinically significant improvement to LBP after a trial of chiropractic care for these individuals.

Methods

Design

This study was a retrospective chart review of a prospectively maintained quality assurance data set. This protocol was reviewed and approved before commencing the study through the VA Western New York Healthcare System Research and Development Committee and Institutional Review Board.

Sample

The chiropractic clinic at VA Western New York Healthcare System served as the setting for this retrospective chart review. Charts were reviewed for a 7-year period from January 1, 2009, to December 31, 2015, and data were collected on all charts from 18- to 89-year-old female veterans presenting for chiropractic care with a chief complaint of LBP. Patients were excluded if they had received fewer than 2 treatments or if baseline or discharge outcomes for both the Back Bournemouth Questionnaire (BBQ) and a Numeric Rating Scale (NRS) could not be obtained. To best allow for a reasonable measure of treatment response, patients were excluded if they had a low-level severity of complaint (<20% of the instrument) at baseline represented by a BBQ of <14 of 70 or an NRS pain severity of <2 of 10.

For veterans who presented for consultation at the clinic more than once during that 7-year period, data were collected from each individual trial of care initiated by a consultation as long as a minimum of 1 year had passed between the patient's last follow-up to the clinic and the next consultation. Of 70 consultations, 5 (7.1%) were included from individuals who had previously presented to chiropractic services for consultation with 2 to 4 years between consultations for these individuals.

Chiropractic Treatment Methods and Number of Treatments

The number of treatments provided was calculated by frequency counts. A typical course of care involved 1 treatment every 1 to 2 weeks with reevaluation and review of an updated outcome measure every fourth treatment or earlier if indicated. Care was delivered by 1 of 2 staff chiropractors with some contributions by supervised chiropractic students.

The type of manual therapy chosen was at the discretion of the provider and included spinal manipulative therapy (SMT), spinal mobilization, flexion-distraction therapy, and/or myofascial release. The treatment applied varied depending on the presentation of the individual patient, and that determination was made based on clinical judgment of the provider and patient preferences. For this study, *SMT* refers to a manipulative procedure involving the application of a high-velocity, low-amplitude thrust to the lumbar spine and/or sacroiliac joints.[19] Spinal mobilization is a form of manually assisted passive motion involving repetitive joint oscillations typically at the end of joint play and without the application of a high-velocity, low-amplitude thrust.[19] Flexion-distraction therapy is a gentle form of unloaded spinal manipulation involving traction components along with manual pressure applied to the low back of a patient in the prone position.[19] Myofascial release, for the purposes of this paper, refers to manual pressure applied to various muscles in a static state or while undergoing passive lengthening. Patients also received instruction on stretches and therapeutic exercises appropriate to their presentation.

Data Sources

Age, race, body composition as measured by body mass index (BMI), and SC disability percentages were extracted from the patient's chart and added to the quality assurance data set reflecting information within the patient record at