

Differences in Outcomes of Patients Treated by Male vs Female Chiropractors



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ABSTRACT

Objective: The purpose of this study was to compare treatment outcomes of low back pain patients depending on the sex of the treating doctor of chiropractic (DC).

Methods: For this study, 1095 adult patients with no manual therapy in the prior 3 months were recruited. Pretreatment pain levels (Numeric Rating Scale for pain [NRS]), Oswestry Disability Index (ODI), and patient demographic details were recorded. The NRS and Patient Global Impression of Change were assessed after 1 week and 1, 3, 6, and 12 months. The ODI was completed up to 3 months. The χ^2 test compared sex of the DC with the proportion of patients “improved” at all time points and with baseline categorical variables. The unpaired *t* test compared changes in NRS and ODI scores between patients of male and female DCs.

Results: Female DCs saw proportionally more acute patients ($P = .012$). Patients of male DCs presented more often with radiculopathy ($P = .007$). There were no differences in NRS and ODI baseline scores between male and female DCs’ patients.

At 1 week and 3 and 12 months, significantly more patients of female DCs reported improvement and they had greater decreases in NRS and ODI scores at 1 week. Removing acute patients from the data, there were no longer differences in outcome.

Conclusions: Significant differences in treatment outcome in favor of female DCs was no longer present on removal of the acute subgroup from the data. This suggests that patient outcome is influenced by other factors, such as chronicity, rather than sex of the treating DC. (*J Manipulative Physiol Ther* 2017;40:420-426)

Key Indexing Terms: *Patient Outcome Assessment; Chiropractic*

INTRODUCTION

The number of practicing male doctors of chiropractic (DCs) in Switzerland currently exceeds the number of female DCs, with men making up about 70% of the profession, according to the Swiss Chiropractic Association, ChiroSuisse.¹ A similar sex distribution is found among the medical profession in Switzerland, with around 65% male vs 35% female medical doctors in 2009.² However, this sex ratio is not mirrored in the student body at the University of Zürich Chiropractic Medicine program, where currently 75% of students are female. The percentage

of female students of chiropractic medicine exceeds the percentage of female students in human medicine by about 10%.^{1,2} Comparatively, since 2004, the percentage of female graduates in Swiss medical schools has been consistently >50% and rose to >60% in 2009.^{1,3} This phenomenon, known as the feminization of medicine, is a much discussed topic within the medical profession and academia.^{4,5} In contrast to past decades, where childbirth and motherhood may have prevented a specialty qualification or caused a career interruption of several years, female doctors today may complete their specialty qualification and continue working after childbirth, mostly part time.^{3,5-7} Thus an increasing need for part-time jobs is anticipated, exacerbating the shortage of medical doctors in Switzerland.^{2,4,6} The same scenario is likely for the chiropractic profession in the future.

It is estimated that in the ambulatory sector, 2 retiring physicians will have to be replaced by 3 young doctors.^{2,4,6} This is not due solely to the fact that the proportion of female physicians is growing. Male physicians are increasingly adapting their career preferences to allow for a controllable lifestyle with a good work-life balance. The priority given to work and career by the younger generation of physicians, regardless of sex, is decreasing.⁷

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Chiropractic in Switzerland is 1 of the 5 government-recognized and -regulated medical professions (medicine, dental medicine, veterinary medicine, pharmacology, and chiropractic) and is reimbursed under the mandatory national sickness and accident insurance programs, the same as medicine. In 2008, the University of Zürich started the first chiropractic medicine program in Switzerland, which is part of its faculty of medicine. Students of chiropractic medicine are considered part of the medical student population and have the same admission process and criteria and also the same basic curriculum and exam requirements for the first 4 years.¹ Chiropractic medicine is undisputedly integrated with medicine and shows a similar demographic shift in sex distribution within the student population. Therefore, it seems valid to extend observations on “feminization” within the medical profession to the chiropractic profession.^{5,6}

In light of the anticipated change in demographics within the chiropractic profession, it is of interest to portray and evaluate the differences between male and female DCs. The Swiss Job Analysis Survey has provided insight into differences between male and female DCs regarding practitioner characteristics.⁸ A closer look at the data reveals that male DCs have been in practice longer than their female colleagues. They also work more hours per week and see more patients and more new patients per week. Female DCs tend to spend more time with patients at follow-up visits.⁸ However, the Swiss Job Analysis Study did not evaluate how patients responded to chiropractic treatment. Therefore, the purpose of this study was to compare treatment outcomes and satisfaction with care of low back pain patients depending on the sex of the treating DC.

METHODS

This was a prospective cohort study with 1-year follow-up. Ethics approval was obtained from the Balgrist Orthopaedic University Hospital Ethics Committee and Canton of Zürich Ethics Review Board (EK16/2009). Written consent was obtained from all patients.

Patients

A total of 1095 adult patients with low back pain (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. Patients with specific pathologic conditions of the lumbar spine that are absolute or relative contraindications to chiropractic manipulative treatment were excluded. These include but are not limited to tumors, infections, inflammatory spondyloarthropathies, acute fractures, Paget disease, and severe osteoporosis.

Recruitment Process

All 286 active members of the Swiss Chiropractic Association were asked to contribute patients to this study.

Notification and instruction about the study and protocol were sent to all DCs by e-mail. Additionally, verbal instructions outlining the study protocol were provided during the mandatory annual postgraduate convention. Preceding the start of the study, workshops were conducted during the annual convention on the use of outcome measures in practice. Doctors of chiropractic interested in contributing patients to this study attended these workshops. Because the purpose of the study was to evaluate the outcomes of routine chiropractic practice, it was emphasized that there should be no changes in the treatment methods used by the participating DCs. Standardization of treatment method or treatment number was therefore not desired. No specific treatments were excluded. However, it is known from the Swiss Job Analysis in 2009 that between 76% and 100% of chiropractic patients in Switzerland are treated with “diversified” techniques. Common additional treatments used include advice on the activities of daily living, trigger-point therapy, therapeutic exercise, and mobilization techniques.⁸

Patient recruitment for this study was left up to the referring DCs. Although they were encouraged to ask all patients with LBP meeting the inclusion and exclusion criteria to participate, no attempt was made to monitor this process because of the logistics and labor involved. E-mail reminders about the study were needed occasionally when there was a decrease in numbers of patients referred to the study. The recruitment time period was from March 2011 until July 2014.

Baseline and Outcome Measures

The Numeric Rating Scale (NRS) for pain and the Oswestry Disability Index (ODI), which has been validated in German and French,^{9,10} were filled out by the patients immediately before their first treatment. Additional information, such as patient age, sex, marital status, work status, whether or not the onset of pain was caused by trauma, the working diagnosis, whether or not the patient smoked, current pain medication use, duration of current complaint, number of previous episodes, patient’s general health status, and the presence or absence of radiculopathy (defined as specific clinical signs and symptoms of nerve root compression) was supplied by the treating DC.

The NRS value and self-reported improvement on the Patient Global Impression of Change (PGIC) scale was assessed at 1 week, 1 month, 3 months, 6 months, and 1 year after the start of treatment. The PGIC scale is a 7-point verbal scale ranging from much worse (score of 7) to much better (score of 1). To categorize clinically relevant improvement, the PGIC scale was dichotomized. A score of 1 or 2 (“much better” or “better”) was considered clinically relevant “improvement” (primary outcome measure). A score of 3 (“slightly better”) and higher was categorized as “not improved.” The dichotomization of the PGIC has been proven to be valid and reliable and has been

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