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Research paper

A cross sectional study on complementary and alternative medicine use among a sample of Turkish hospital outpatients with chronic lower back pain

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ABSTRACT

Introduction: Complementary and alternative medicine (CAM) is commonly used to treat chronic lower back pain. This study aimed to explore CAM use among Turkish patients with chronic lower back pain attending a neuro surgery department hospital.

Methods: This cross-sectional study was conducted between September 2015 and January 2016 in the neurosurgery clinic of the state hospital in Giresun, in northern Turkey. A random sample of patients (n = 182) with at least three months of pain, and whose pain intensity was 3 or higher (on a 0 (without any pain) to 10 (the worst pain possible) scale) were included.

Results: The most frequently used complementary and alternative therapy by patients was prayer (87.4%). Massage was the second most common CAM modality. There was a significant difference between pain intensity and participants' use of prayer and biofeedback ($p < 0.05$). Pain intensity was associated with an increased use of prayer and biofeedback ($p < 0.05$) of patients that used CAM modalities. They also reported greater severity.

Conclusions: The most utilized CAM modality in patients with low back pain was prayer which is classified as a mind-body intervention. Our findings suggest that patients with chronic lower back pain in Turkey tend to use complementary and alternative therapies for pain management.

1. Introduction

Complementary and alternative medicine (CAM) has gained in popularity worldwide in recent years [1,2], and there is a tendency towards increased use, especially among patients with chronic diseases [3]. CAM is defined by the National Center for Complementary and Integrative Health (NCCIH) in the United States as a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine [4]. While complementary medicine is often used together with conventional medicine, alternative medicine is usually defined as being used instead of conventional medicine. CAM interventions and products are perceived to be as effective as conventional medicine, but more natural and economical, with fewer side effects and available without need of prescription. They include physical therapies (i.e. exercise, acupuncture), nutraceuticals (i.e. dietary and nutritional supplements) and herbal remedies (i.e. plants and plants extracts) [5–7].

Such approaches are sometimes used by nurses as self-care options, prevent disease, decrease anxiety and pain, and increase patients' satisfaction and comfort [8]. The use of CAM is common practice for nurses treating patients suffering from chronic lower back pain (CLBP). CLBP is defined as a pain attributed to degeneration of the spine and it continues for more than 12 weeks [9]. Intervertebral disc prolapses are often occurred as a result of the compression of the spinal cord and nerve roots. Prolapses are more common below the L_2 part of the spinal cord in the lumbar region [9,10]. Chronic lower back pain is prevalent in the elderly population and often leads to functional limitations, psychological symptoms, low quality of life, and high healthcare costs [11,12]. Clinical studies have shown that many older adults frequently rely on self-care and explore the use of CAM for pain relief [13,14]. According to data from the 2012 National Health Interview Survey, more than 40% of adults with musculoskeletal pain disorder used a complementary health approach during the past 3 months and use of any complementary health approach was high among those with low-back pain (43%) for people with musculoskeletal pain. The current study also reported that the use of any complementary health approach for any reason among persons with a musculoskeletal pain disorder (41.6%) was significantly higher than use among persons without a

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musculoskeletal pain disorder (24.1%) [15].

Complementary and alternative medicine is commonly used to treat back pain [4]. A study conducted by Barnes et al. [16] surveyed 31.044 adults and indicated that CAM use rates were 36% in the last year. The study's purpose was to investigate potential reasons for the use of CAM above other treatment methods. It was found that 16.8% of patients used CAM methods for back pain in the first rank and 6.6% of the patients used for neck pain in the third rank. Chang et al. [17] reported that the most common health condition experienced during the year prior the survey were back pain or problems (6.4%) in the first rank. Research stated that 985 patients in a sample of 1310 women aged 60–65 years had self-prescribed one or more CAM treatment for back pain in the previous twelve months. The frequency of self-prescribed CAM use was highest for supplements (59.2%), followed by vitamins/minerals (45.2%), yoga/meditation (14.3%), herbal medicines (13.1%) and aromatherapy oils (8.5%) [18]. A study conducted by Cosio and Lin [19] surveyed 103 veterans and evaluated the effect of a pain education program in CAM utilization. The majority of the sample had back pain. It was found that the five most utilized CAM modalities before attending pain education program were chiropractic (31%), massage therapy (28%), spirituality/religion (18%), biofeedback/relaxation (16%), and acupuncture (14%).

Patients with CLBP are not satisfied with conventional medical treatments and often search for complementary and alternative therapies to cope with their pain [17,18,20]. Mind and body techniques, such as yoga, tai chi, prayer, music therapy, and breathing exercises are used by patients with lower back pain to relieve pain by enhancing body awareness [21]. Randomized controlled trials have shown that yoga is also an effective treatment for relieving pain and improving functions in patients with chronic lower back pain [20,22]. However, in a conventional qualitative study conducted on responses to open-ended questions in five randomized trials, Hsu et al. [23] indicated that participants reported positive outcomes such as increased ability to relax, emotional state, hope, body awareness, well-being, and the ability of coping with the pain in back. The trend in CAM use is well documented in previous studies [13,18,20], but less is known about what kinds of CAM therapies used in Turkey. There has been no research examining CAM methods used to cope with lower back pain in Turkey most studies related to CAM use have been conducted with cancer patients in Turkey [1,5]. Therefore, the aim of this study was to explore CAM usage among a sample of Turkish patients with chronic lower back pain. The following research questions were addressed:

- What are the pain characteristics of patients with chronic lower back pain?
- What kinds of CAM therapies are used by patients with lower back pain?
- Is there any correlation between pain intensity and CAM usage in patients?

2. Methods

2.1. Design and sample

This cross-sectional study was carried out between September 2015 and January 2016. A random sample of hospital outpatients (n = 182) attending the neuro-surgery clinic of the state hospital in Giresun, in northern Turkey and who met the study criteria. The eligibility criteria for the research were patients with at least three months of pain, whose pain intensity was 3 or higher on a 0 (without any pain) to 10 (the worst pain possible) visual analogue scale (VAS), and who had a diagnosis of a lumbar disc hernia and taken into the surgery program in the neurosurgery clinic. Patients who had experienced pain for less than 3 months and who were currently taking pain medication were excluded from the study. The G POWER 3.1 (Heinrich-Heine University of Dusseldorf, Germany) computer program was used to calculate the sample size. The sample size was based on a power analysis with a medium effect size of 0.50 to achieve a power of 0.95 and $\alpha = 0.05$. A similar study by Yoon and Kim [24] was considered to determine the sample size. The required sample size was more than 176 patients.

2.2. Instruments

The questionnaire was derived from the literature [2,8,22–25]. Content validity was assessed by three lecturers who were experts in the surgical nursing. The coefficient alpha of our survey was 0.85. The full questionnaire is provided in Supplementary file 1. The questionnaire survey consisted of 4 parts:

Part 1: This part included questions about the patients' demographics (i.e. age, gender, education, marital status, area of residence, profession, etc.)

Part 2: This section was related to the characteristics of the pain (i.e. the initial duration of pain, the experience of pain episodes during the following two weeks, pain intensity, the worst pain experienced by the patients). Patients' pain ratings were assessed using a scale of 0 to 10 (VAS).

Part 3: This section was related to the effect of pain on daily living activities (i.e. sleeping, appetite status, work or school life, interpersonal relationships, marriage and sex life, home activities, exercise, emotional status, etc.). The effect of pain on daily life activities was measured using a scale of 0 to 5 in the survey.

Part 4: This section was related to CAM therapies used by the patients with lower back pain. These CAM modalities were grouped under five main topics including mind and body interventions, manipulative body-based methods, biologically based therapies, energy therapies and alternative systems. In this part, specific CAM therapies and what they mean were listed and CAM therapies used by the patients were obtained through closed-ended questions (yes/no).

2.3. Data collection

A pilot test was conducted using a convenience sample of 10 patients with CLBP to ensure clarity and reliability of the survey. After obtaining ethical approval, the questionnaires were administered to participants by the researchers. If the participants met the eligibility criteria and were willing to participate, they were asked to do so. Patients had been briefly informed by the researchers on the purpose and methods of the study. Data were collected using face to face interview technique. Participants completed the forms within approximately 15 to 20 min and amends were made as a result.

2.4. Statistical analysis

The Statistical Package for Social Sciences (SPSS, Chicago, IL) for Windows version 21.0 was used for data entry and analysis. The Kolmogorov–Smirnov test was used to examine the distribution of all variables. The patient characteristic variables were evaluated using the percentage distribution and mean. Descriptive statistics (i.e., mean, range, standard deviation, frequency) were used to summarize use of CAM therapies. To make a comparison patients' pain intensity, age and CAM usage, independent *t*-test and Mann-Whitney *U* test were used. A p value below 0.05 was considered to indicate a statistically significant difference.

2.5. Ethical consideration

The study was approved by the ethics committee of the Health Sciences Institution at the University of Ataturk (number: 11.06.2015/1) and conducted according to the ethics guidelines set out in the Declaration of Helsinki. All participants were informed of the purpose and design of the study and they were guaranteed anonymity and confidentiality. They were assured that participation was voluntary and