

Original Article

## Complementary Therapies Used for Pain Relief by Lumbar and Cervical Disc Hernia Patients before Surgery

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### Abstract

**Purpose :** This study was conducted to determine the complementary therapies used by patients diagnosed with lumbar and cervical disc hernia with planned surgical intervention in order to relieve the pain.

**Methods :** 92 patients who were hospitalized due to lumbar/cervical disc hernia were included in the study between 01 December 2014- 30 June 2015 in Department of Neurosurgery, Training Hospital. During the preoperative period, data in the questionnaire form were filled by direct conversations with the patients.

**Results :** We found of 34 percent of patients used a complementary therapy for pain relief. It was determined that 43.8 percent of the patients were using the complementary methods with the influence of the social environment, 31.3 percent of them used them to reduce the pain and 62.5 percent of patients who use complementary therapies say they benefit from this method. The difference between the gender, medical diagnosis of patients and the application of complementary therapy in later life was statistically significant.

**Conclusions :** The study showed that patients with lumbar/cervical disc hernia referred to complementary methods at the time of preoperative pain relief and that the most commonly used complementary method was traction.

**Key Words:** Nursing, complementary therapies, alternative therapies, pain

### Introduction

Lumbar disc hernia (LDH) and Cervical disc hernia (CDH) are two of the most commonly occurring cases in neurosurgery. Together they are the leading causes of work related medical leave and loss of revenue. Studies revealed that LBH and CDH cause 90% and 9% of all disc hernias respectively (Zileli, 2002; Kizil, 2009; Toplamoglu & Ofluoglu, 2010).

A study in Turkey expressed that interventions like cervical discectomy, thoracic discectomy, lumbar discectomy and lumbar laminectomy are the largest groups of spinal interventions. The same study showed that the number of lumbar discectomies was 66.4% of all spinal interventions in 2010, 64.6% in 2011, and 59.83% in 2012; while cervical disc interventions were 6.57% in 2010, 6.98% in 2011, and 7.36% in 2012 (Naderi, 2014).

Back and neck pain are serious health problems that effect the working population and some occupation groups are at high risk. Occupations that require sitting or standing for long periods of time, carrying heavy weights or being exposed to vibration are known to create higher risk for occurrence of disc hernia (Erdil & Elbas, 2001; Korkut et al., 2015).

The conservative and surgical treatment of lumbar disc hernias and cervical disc hernias is used. Conservative treatment includes rest, anti-inflammatory drugs and physical therapy. Transforaminal steroid injection is considered useful in some patients. Initially, patients with severe neurological, especially myelopathic findings, should be treated surgically for patients who do not benefit from conservative treatment (Zileli, 2002; Aydogan 2005; Karabekir & Yalcioglu, 2007; Kizil, 2009).

Even though progress is being made on pain, which is the most common symptom of lumbar disc hernia and cervical disc hernia, it still can't be managed sensibly for all patients. This has caused both patients and care givers to explore different approaches for pain management, leading to Complementary and Alternative Medicine (CAM) practices. CAM is a broad health area that contains every health care method, administration, theory, and belief that practiced is outside of the generally dominant health system of a specific society or culture in a specific period (Ucan & Ovayolu, 2007; Bulbul et al., 2009; Gungormus & Kiyak, 2012). Unfortunately, many individuals are unable to express their complementary approaches in fear of being criticized by health professionals. For this reason health professionals should approach their patients without prejudice. Thus improving the communication between the patient and the health care professional and reducing the side effects and costs that may arise from these methods (Tokem, 2006; Cetin, 2007; Kutlu et al., 2009, Gungormus & Kiyak, 2012).

The increased interest in complementary therapies has forced health care professionals and nurses, as part of the health team, to implement some of these practices to try and keep up with other people and organizations who tried to fulfill this need (Nazlikul & Eraltan, 2002, Khorshid & Yapucu, 2005; Karagoz, 2007; Ozcelik & Fadiloglu, 2009).

Because of technological improvements and scientific information advancements in the medical field, nurses' roles and responsibilities have changed. Nurses are now expected to know how to use alternative and complementary therapies to establish strategies and direct healthy/sick individuals in using them (Karagoz, 2007; Turan et al., 2010).

## Methodology

### Study Population

This descriptive research was done between December 1, 2014 and June 30, 2015 at Training and Research Hospital Neurosurgery Service.

The sample for this study was generated from 92 individuals that had lumbar or cervical hernia diagnosis from a training and research hospital neurosurgery service, and who had surgical intervention planned. Subjects age 18-78 years were chosen by a random sampling method. Those who agreed to participate, and were

determined to have the mental capacity to understand the information, were informed by explaining its purpose. Each gave verbal and written permission to participate.

Data for this research was gathered, after the institution and patients written permissions were obtained, by the researcher using face to face interview techniques on the first day they were admitted to the clinic. Data was gathered on descriptive characteristics, their knowledge of complementary treatment information in any form and pain levels using the Verbal Numeric Scale (VNS). Data obtained from this research was statistically analyzed using SPSS 15.0 (Statistical Package for Social Sciences, Chicago, Illinois, United States). For data pertaining to descriptive characteristics of the subjects, and attributes related to other expressions, a number percentage distribution and chi-squared test was used. Results have been evaluated in a 95% confidence interval with a 0.05 statistical significance.

### Ethical Considerations

Before starting, the research was given approval from Training and Research Hospital Department of Neurosurgery and Ethics Review Committee.

### Results

The average age of participating patients was found to be 48 (min 18 – max 78) with 65.2% of the patients being male. 71.7% had been diagnosed with lumbar hernia and 28.3% with cerebral hernia. 35.9% had graduated from university, and 29.3% had graduated from elementary school. 27.1% has occupations that require sitting, 39.1% has occupations that require standing for long periods of time, 77.2% has an income that could cover their expenses. 82.6% has social security. 66.3% were married. The study found that 34.8% of the patients had used CAM while 65.2% of them had not. 37.5% had used spinal traction from CAM treatments. 40.6% had used CAM treatments when they were first diagnosed. 40.6% had used CAM under the suggestion of another person and 43.8% knew people who had used CAM. 31.3% used it for reducing pain. 75% didn't consulted a caregiver and/or nurse before beginning CAM treatments. 62.5% had positive benefits from CAM practices. 30.4% might consider using CAM if their pain continues after traditional treatment and 36.9% found CAM practices beneficial (Table 1).

**Table 1. Distribution of the answers that patient gave about CAM questions.**

		<b>Number (N)</b>	<b>Persent (%)</b>
<b>Patients status of using CAM</b>	Yes	32	34.8
	No	60	65.2
<b>Methods of CAM used</b>	Pray	3	9.4
	Traction	12	37.5
	Herbs	1	3.1
	Bioenergy	8	2.5
	Massage	8	2.5
<b>Which Stage that they used CAM</b>	Before illness	9	28.1
	When diagnosed	13	40.6
	After medical treatment	2	6.3
	No results from medical treatment	7	21.9
	Other reasons	1	3.1
<b>Leading factors to use of CAM</b>	People they know uses	14	43.8
	No social security	3	9.4
	By suggestion	13	40.6
	Other reasons	2	6.2
<b>Patients reasons for using CAM</b>	Reduce pain	10	31.3
	Suggestion	9	28.1
	For benefits	9	28.1
	Defeat the disease	4	12.5
<b>Consulting doctor/nurse before starting CAM</b>	Yes	8	25
	No	24	75
<b>In what situation they will think about using CAM in future?</b>	No recovery	19	20.7
	Reocurrence of the disease	21	22.8
	Continuation of pain	28	30.4
	Other reasons	24	26.1
<b>Did they have benefits from CAM they used?</b>	Yes	20	62.5
	No	12	37.5
<b>Are CAM methods useful?</b>	Yes	34	36.9
	No	58	63.1

**Table 2. Pain assessment**

VNS Score	Number (n)	Persent (%)
4	6	6.5
5	7	7.6
6	17	18.5
7	21	22.8
8	16	17.4
9	15	16.3
10	10	10.9

**Table 3. Comparison of patients' gender and possibility of patients to choose using CAM in the future periods of their lives**

Gender	Reasons for patients to choose using CAM in the future periods of their lives				X <sup>2</sup> P	
	Not recovering	Reoccurrence of the disease	Continuation of pain	Other reasons		
<b>Female</b>	n	3	12	7	10	<b>9,333</b>  <b>0,025</b>
	Expected Value	6.6	7.3	9.7	8.3	
	%	9.4	37.5	21.9	31.3	
<b>Male</b>	n	16	9	21	14	
	Expected Value	12.4	13.7	18.3	15.7	
	%	26.7	15	35	23.3	
<b>Total</b>	n	19	21	28	24	
	Expected Value	19	21	28	24	
	%	20.7	22.8	30.4	26.1	

**Table 4. Comparison of patients' diagnoses and possibility of patients to choose using CAM in the future periods of their lives**

Diagnose		Reasons for patients to choose using CAM in the future periods of their lives				X <sup>2</sup> p
		Not recovering	Reoccurrence of illness	Continuation of pain	Other reasons	
Lumbar Hernia	n	15	15	24	12	8,780 <b>0.032</b>
	Expected Value	13.6	15.1	20.1	17.2	
	%	22.7	22.7	36.4	18.2	
Cervical Hernia	n	4	6	4	12	
	Expected Value	5.4	5.9	7.9	6.8	
	%	15.4	23.1	15.4	46.2	
Total	n	19	21	28	24	
	Expected Value	19	21	28	24	
	%	20.7	22.8	30.4	26.1	

When evaluating the patients' back and neck pains with VNS, no patient expressed a pain score under 4. 27.2% patients rated their pain score to be 9-10 (Table 2).

When patients gender and whether the patient preferred to use CAM in the future was compared, the expected result for women on repetition of the illness was 7.3%, while the result was 37.5%. In if the pain persisted, the expected result was 9.7% and had result of 21.9%. When men were asked if they would prefer to keep using CAM after healed, the expected result was 12.4%, actual result: 26.7%. If the pain persists, expected: 18.3% result: 35% found and it has been noted that the results are statistically significant (Chi-squared test,  $p=0.023<0.05$ ) (Table 3).

When patients' diagnosis and their preferment to use CAM in the future was compared, expected results for use of CAM in the future if the pain persisted in patients that had lumbar hernia was 20.1%; actual results were 36.4%. For patients with cervical hernia expected result was 7.9%; actual result was 15.4%. In cases of disease reoccurrence, in patients with lumbar hernia the expected was 15.1%; actual result was 22.7%. In patients with cervical hernia the expected was 5.9%; actual result was 23.1%. For lumbar hernia, patient use of CAM after recovery, the

expected result was 13.6%; actual result was 22.7% and in patients with cervical hernia the expected result was 5.4% but an actual result of 15.4% was found. It was determined that the results are statistically significant (Chi-squared test,  $p=0.023<0.05$ ) (Table 4).

### Discussion

Average age of the participants had been established as 48 years (min 18- max 78). As the result of the vertebra getting older, degenerative changes happen in intervertebral disc and occupational risk factors point to individuals between the age of 30-50 years that are of laboring age have more occurrences of lumbar/cervical hernia (Zileli, 2002; Karabekir & Yaylacioglu, 2007; Toplamoglu & Ofluoglu, 2010). Other papers have listed that the risk factors that cause disc hernia are occupations that require sitting or standing for long periods of time, lifting heavy items, traveling and being exposed to vibration (Cagnie et al., 2007; Ongel, 2007; Kizil, 2009). This research has identified that 39.1% were from occupations (laborer, farmer, self-employment) that required standing for prolonged periods, and it was found that 27.1% of the patients' occupation were office jobs that require a prolonged time sitting.

Practice of CAM is increasing worldwide and general populations frequency to alternative

medicine use is 9-80%. In Turkey, the ratio of usage of complementary medicine has been reported as being between 12.6% and 76% percent (Kutlu et al., 2009; Bulbul et al., 2009; Korkut et al., 2015). Similar to other papers, it has been established that 34.8% of the research group used some kind of complimentary or alternative therapy method (Table 1).

WHO's report on CAM states that most individuals use CAM with the idea that "things that are natural are trustworthy". Individuals commonly use methods like herbal mixes, vitamins, bio-energy, acupuncture, aromatherapy, and meditation. When looked at, our country's most commonly used CAM practices are herbal products and special diets; following these are body based practices such as praying, religious practices, massage and vitamins (Kav et al., 2008; Ulusoy et al., 2012). In this research, it was ascertained that the most commonly used CAM methods were traction massage and bioenergy while the methods used less commonly were herbal therapies and religious practices (Table 1).

In research that was done regarding individuals' reasons to choose CAM methods, they were identified as: side effects of medicines or treatments, high treatment or medicine prices, the individuals desire to control their own healthcare, boosting their immune system, escaping the feeling of despair, and fortification of healthy behavior (Ilgaz & Gozum, 2016). Karagoz's (2007) research with patients that had cervical and lumbar hernia presented that patients mostly use CAM methods to improve muscle strength and stop their pain. Similarly, in this research, it has been identified that patients commonly use CAM methods to reduce their pain (Table 1).

In Turkey, especially in groups with low education and socio-economic levels, medicine usage with the suggestion of friends, neighbors or relatives is common, and there is a common belief that usage of herbs is harmless (Ilgaz & Gozum, 2016). In this research, when the factors that lead to the usage of CAM methods are investigated, it has been established that the majority had used CAM with trial and by following suggestions from social circles (Table 1).

While this research shows that 62.5% of the patients expressed the method they used stopped their pain (Table 1), Bulbul et al, (2009) found 69.4% of the individuals expressed that it was beneficial. Gungormus and Kiyak (2012) found

83.7% of the individuals expressed that the method used was beneficial and their pain was ended.

The area of the spine where most pain complaints were expressed were the lumbar and cervical areas. For pain in this area, disc hernias were the highest cause (Zileli, 2002; Kizil, 2009). When patients that contributed to research's characteristics and their relation to pain was examined, it revealed that all of them had lumbar and cervical hernia that caused back and neck pain. When the patients' most intense pain in relation to the diagnosis was evaluated per the VNS scale, it was revealed that patients' pain score is at least 4 and the pain level of 22.8% of the patients was 7. Akca et al., (2013) research with patients that had lumbar hernia found this pain number to be 7.

In this research patients' gender and if they will think about using CAM in future was compared and in cases of women, if the illness repeats, and in men, if they don't recover or pain persists difference has been found significant (Table 3) ( $p < 0.05$ ). Difference being significant is even if they have surgery, patients if the illness repeats or not recovering and pain persisting they may use CAM methods results was statistically significant. Similarly diagnosis of patients and if they will think about using CAM in future was compared and in cases of LDH, if pain persists, and in CDH, if the illness repeats or other reasons difference has been found significant (Table 4) ( $p < 0.05$ ).

## Conclusions

Per these results, CAM usage is shown to be common with lumbar and cervical hernia patients. Therefore, nurses' patient diagnose process should include a query of CAM usage and if necessary inform patients and patients' relatives about correct practices, directing individuals to CAM methods that have proven harmless and effective. Nurses' knowledge of CAM should be increased and future studies should include studies on safe use of complementary and alternative therapies for pain relief.

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