

## The Use of Complementary and Alternative Medicine by Patients with Lower Back Pain in Taif City, KSA in 2020

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### Abstract

**Objectives:** Complementary and alternative medicine (CAM) encompasses various non-medicinal, interventional and manipulative approaches for treating several diseases. We aimed to study the prevalence of patients with lower back pain (LBP) using CAM in Taif City, Saudi Arabia. Specifically, we assessed the relationship between the participants' characteristics and their perceptions regarding the use of CAM.

**Methods:** This involved a cross-sectional descriptive study of patients with a history of LBP. The data were collected from Taif City (Saudi Arabia) between May 1, 2020 and July 30, 2020. The inclusion criteria were all patients in Taif City older than 15 years of age. Patients who refused to participate or leave incomplete questions were excluded. In this study, we investigated a total of 231 participants who completed and returned the surveys.

**Results:** The prevalence of LBP was found to be 75.3%, of which 26.4% suffered from spinal disease. Almost two-thirds of the sample (58.4%) used CAM, whereas 18% only had visited either the emergency room (ER) or primary health care (PHC) clinic after they suffered from back pain. The most common modality used was a manipulative approach for 35.9%. Then, 25.5% used more than one modality. The majority of patients (84.8%) did not disclose using CAM to their physician.

**Conclusion:** LBP is a common problem with different causes and treatments. CAM has many modalities that need to be further investigated for efficacy and safety.

**Keywords:** Lower Back Pain; Back Pain; LBP; CAM; Complementary and Alternative Medicine

### Introduction

#### Background

Lower back pain (LBP) is a common problem in Saudi Arabia, and its prevalence ranges from 64% to 89% in the working age group [1]. LBP refers to pain in the back between the last rib and the gluteal fold [2]. It can also be neuropathic in nature [3]. Many patients try different non-conventional methods to decrease the pain and other symptoms, and one method is called complementary and alternative medicine (CAM), which is a group of diverse medical and health-care systems, practices and products that are not presently considered to be part of conventional modern medicine [4].

CAM has been widely used for many different diseases in Saudi Arabia. For example, it has been used for cancer by 69% of patients, for liver diseases by 55% and for rheumatoid arthritis by 67% [5-7].

There are many types of CAM in Saudi Arabia, including cupping, herbs, skin cauterization, and reciting of the Holy Quran. Use of these different modalities varies, and the spiritual type, such as praying, is primarily employed. Additionally, herbs (8 - 76%), honey (14 - 73%), and dietary products (6 - 82%) have been used, and Hijamah has been used only in 4 - 45% of people [8].

CAM use is not limited to those who have cancer and liver diseases; in our community, people use it for many diseases, including back pain and different neurological diseases. Wet cupping therapy of prophetic medicine (Al-hijamah) is another kind of Al-hijamah that is practiced according to the Arabic medical literature, and it is widely used in Islamic culture and has a neuroprotective benefit [9].

### Literature Review

We used the following words to search the literature: prevalence of CAM in Saudi Arabia, alternative medicine in neurosurgery, prevalence of low back pain in Saudi Arabia, prophetic medicine in low back pain, CAM in low back pain and CAM.

Search engines that we used included PubMed, NCBI and Google Scholar.

In 2010, Balkees., *et al.* performed a study on diabetic patients using CAM via topical treatment of diabetic foot disorders in Jeddah, Western Saudi Arabia, and they found that 21.7% used CAM products alone, whereas 31.2% used both CAM and conventional therapy. Then, 56.6% were found to use honey, 37.4% used Myrrh, 35.1% used Black seed, and 12.1% used Henna [10].

Another study was performed by Abdul Rahman., *et al.* in 2012 on patients with cancer who used CAM and aimed to determine the patterns of CAM use among patients with cancer in Saudi Arabia, The commonly used CAM was religious in nature, i.e. reciting the holy Quran in 74.8% of patients [11].

In Canada in 2005, Violaine Foltz., *et al.* performed a study on the use of CAM therapies in patients with chronic back pain. The study found that many participants were using CAM for their chronic back pain (39.07%) [12].

In 2017, Tsang., *et al.* performed a study on the prevalence of using CAM for LBP in China in which 72.3% of patients sought CAM treatment. The most used treatment was traditional Chinese medicine, followed by massage therapy and chiropractic treatment [13].

### Methods

This is a cross-sectional descriptive study. Data were collected from Taif City (Saudi Arabia) May 1, 2020 and July 30, 2020. The inclusion criteria were patients who were older adults and living in Taif City. Those who were less than 15 years of age were excluded from participation in this study. Data were collected from Taif residents using a random sampling method.

To recruit an adequate sample size, the questionnaire was available in electronic version and via hard copies. The electronic version of the questionnaire was sent to specific clinics and hospitals. The hard copies were distributed in places that commonly accommodate more people, such as malls and supermarkets in Taif City. This city was chosen because it has a population of approximately 579,970 residents. The duration of data collection was 3 months from May 2020 until July 2020.

A 35-item survey questionnaire was developed using our literature review and WHO materials on alternative medicine. The questionnaire was sent to five subject matter experts in the field of alternative medicine. They were asked to rate the readability of the questionnaire from 0 to 10 (0 - 3: Not understandable; 4 - 6: Difficult; 7 - 9: Standard; 9 - 10: Easy). The pilot study was performed on a sample of 15 older adults to assess the clarity, readability, and relevance of the questionnaire. The expected time to fill out the questionnaire was between 5 and 10 minutes.

The questionnaire covered two sections. The first part was a recruitment statement to agree to participate in this study. No participant identifiers were included in the questionnaire. The second part of the questionnaire included patient demographics, clinical information regarding the presence of LBP, specific diagnosis causing LBP, history of trauma, and the duration of LBP. It also included the respondents' opinions regarding CAM use regarding safety and effectiveness. Those who used CAM were asked which modality of CAM they used. We categorized different CAM modalities into the major categories as mentioned by the Institute of Medicine (US) Committee on the Use of Complementary and Alternative Medicine by the American Public from 2005 [14]. Zamzam water and Quran recitation were included in the spiritual category because they are religious in nature, packs (hot or cold), massage, and physiotherapy were included in the manipulative category, and those who used camel products (urine or milk), honey, black seed, and different herbs were categorized in the biological category. Another category that included acupuncture, cauterization, and cupping was interventional-based CAM.

**Ethical considerations**

The study was approved by the Taif University Institutional Review Board. The recruitment statement included specific information regarding participants' autonomy, confidentiality, and anonymity. The risks and benefits of participation in this study were described in the recruitment statement. We expected some multi-age groups of participants; thus, the language used in the recruitment statement and questionnaire did not include any advanced terminologies. Participants were informed that their participation was voluntary, and they had the right to withdraw without any consequences. There were no names or identifiers collected from the participants. Access to the participants' responses was restricted to the research team.

**Results**

IBM-SPSS was used to analyze the data. The sample characteristics were described using the frequencies and percentages. Binomial logistic regression was used to determine the relationship between the individual characteristics and types of modality.

Between May 2020 and July 2020, a total of 400 questionnaires were distributed among eligible older adults in Taif City, Saudi Arabia. A total of 231 participants completed and returned the surveys. Table 1 displays the demographic characteristics of the participants. The ages of the participants ranged from 18 to 65 with 49.4% of participants (N = 114) aged 18 - 30. Most of the participants were female (65.8%). Approximately 83.5% of participants had higher education degrees.

Demographic Data	Range	Frequency	%
Age	18 - 65	231	
	18 - 30	114	49.4
	31 - 45	70	30.3
	≥ 46	47	20.3
<b>Gender</b>			
Male		79	34.2
Female		152	65.8
<b>Education Level</b>			
≤ High school		38	16.5
Higher education		193	83.5

**Table 1:** Demographic characteristics.

Table 2 presents the health status of the participants. Although the majority of participants (75.3%) had LBP, only 26.4% of them suffered from spinal disease. The medical diagnosis for the majority of participants (25.1%) was degenerative disc disease. Almost 50% of participants suffered from the illness for 1 year or more. Almost two-thirds of the sample (58.4%) used CAM, whereas 18% had only visited either the ER or PHC after they suffered from LBP.

Items	Frequency	%
<b>Low Back Pain</b>		
Yes	174	75.3
No	57	24.7
<b>Spinal Disease</b>		
Yes	61	26.4
No	170	73.6
<b>Medical Diagnosis</b>		
I do not know	141	61.1
Degenerative Disc Disease	58	25.1
Mechanical	19	8.2
Trauma	11	4.8
Scoliosis	2	.8
<b>Duration of Illness</b>		
I do not know	82	35.5
< Week	16	6.9
< Month	5	2.2
1 to 3 months	11	4.8
1 year or more	117	50.6
<b>Action after LBP</b>		
Went to ER	42	18.2
Went to CAM	135	58.4
Went to PHC	43	18.6
None	11	4.8

Table 2: Health status of the participants.

Table 3 lists the participants’ perceptions toward using CAM. The participants had mixed thoughts regarding the effectiveness and safeness of CAM. More than half of the participants agreed that CAM is safe and effective for controlling LBP. Regarding the CAM modalities, the majority of participants (35.9%) used manipulative CAM, whereas 25.2% used more than one modality of CAM simultaneously. Of note, more than two thirds (84.4%) of participants did not inform the physician regarding their use of CAM in treating/controlling their LBP.

Items	Frequency	Percentage
<b>Effectivity of CAM</b>		
Effective	131	56.7
Not effective	100	43.3
<b>Safety of CAM</b>		
Safe	118	51.1
Not Safe	113	48.9
<b>Modality of CAM</b>		
Biological	5	2.2
Intervention	6	2.6
Manipulative	83	35.9
Spiritual	3	1.3
>One selection	59	25.5
I do not remember	75	32.5
<b>Inform Physician About Using CAM</b>		
Yes	35	15.2
No	196	84.8

Table 3: Participants’ perceptions toward CAM.

Table 4 shows the relationship between the participants’ characteristics (age, gender, educational level) and their perceptions toward the use of CAM. The model was significant ( $p < 0.001$ ). Only gender was a significant predictor ( $p < 0.05$ ). Female participants were more likely to use CAM than male participants ( $\beta = 0.820, p < 0.05$ ).

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup>	Gender	0.820	0.318	6.637	1	0.010	2.270
	Education_Cat	-0.132	0.411	0.103	1	0.748	0.877
	Age	0.297	0.201	2.183	1	0.140	1.346
	Constant	-2.339	0.868	7.269	1	0.007	0.096
a. Variable(s) entered at Step 1: Gender, Education_Cat, Age							

Table 4

Logistic regression (Table 5) was also used to determine the relationship between the participants’ characteristics and their perceptions toward the modality of CAM. Age was statistically significant to the prediction. The older the participant, the higher their perception to use more than one type of modality at the same time to control LBP ( $\beta = 0.623, p < 0.01$ ).

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup>	Gender	0.596	0.348	2.937	1	0.087	1.815
	Education_Cat	0.295	0.452	0.425	1	0.514	1.343
	Age	0.623	0.219	8.090	1	0.004	1.865
	Constant	-3.420	0.978	12.220	1	0.000	0.033
a. Variable(s) entered at Step 1: Gender, Education_Cat, Age							

Table 5

## Discussion

LBP is pain that localized in the back from the last rib to the gluteal fold with or without radiating symptoms in the leg [2], which is characterized by neuropathic and nociceptive causes of pain [3]. Modern studies have shown that the prevalence of LBP in high-income countries is higher than among the public in countries with low incomes (30% vs. 18.2%, respectively) [1]. The prevalence of LBP in this study was 75.3%, where 26.4% suffered from spinal disease and 25.1% were diagnosed with degenerative disc disease. This prevalence (75.3%) is within the rate found in a systematic review conducted in 2020 in which the prevalence of LBP in Saudi Arabia ranged from 63.8% to 89% [1]. Moreover, it was lower than the results of R. Freynhagen, who found that the prevalence of LBP in his sample was 87% [3]. Due to the limited effect of pharmacological treatment in controlling pain and improving function and the need for a restricted study regarding precautions, side effects, and drug-drug interactions of these treatments, some patients seeks other strategies to control their conditions [9]. Different modalities of CAM are becoming increasingly popular worldwide. Many patients suffering from chronic diseases seek CAM either in combination with conventional medical treatments or alone [12]. We found that 25.5% of our patients used more than one modality. This was significant in older female patients ( $p < 0.01$ ). In Saudi Arabia, the use of CAM is related to religious beliefs, and thus, practices, such as reciting the Holy Quran, black seed, honey, and alhijama, are commonly practiced [4]. The most common modality used in our study was manipulative approaches at 35.9%, which includes massage, chiropractic, and cold/hot packs. This is may be due to the common perceptions of these approaches in our population. In this study, the prevalence of using CAM was 58.4% among patients with LBP. This prevalence is in the same range as determined by a systematic review in which the prevalence of CAM in Saudi Arabia

ranged from 21.6% to 90.5% [4]. In another study, conducted on Saudi Arabian patients with cancer, it was found that up to 90.5% of participants had used at least one CAM in their life, such as reading the Quran, prayer, and black seed [5]. Moreover, in another study conducted on 232 patients with liver dysfunction, 55.6% had used at least one modality of CAM during their treatments, and 67% of patients had used it who had rheumatoid arthritis [6,8].

Almost half of our sample had a positive attitude toward CAM, agreeing that it is a safe and effective strategy for controlling LBP. This is similar to what was found in the study by A. A. Al-Zahim in which 50% of patients who used CAM had positive attitude towards CAM [6]. A study performed by Ghildayal, Neha., *et al.* in 2016 showed 58.1% of their respondents who used CAM perceived great benefit from its use [15]. Moreover, we found that both gender and age influenced this perception, and older females had more positive attitudes and an increased desire to use CAM for controlling their LBP. In another study, they found that 92.1% of CAM users were female, and 90.5% used at least one CAM modality in their systematic review [7,9]. Physicians should ask patients about CAM use because, as was found in our study, 84.8% of patients who use CAM do not disclose using it. Asking about CAM has significant implications, which might put the patient's health at risk for side effects. Asking about CAM use is also important for exploring integrative approaches with conventional treatment. Nondisclosure was found mainly because physicians did not ask their patients [16].

Our study has several limitations, including the relatively small sample size of 231 participants. Thus, future studies should aim to expand this population size and perform studies in more cities other than Taif to generalize the results to the country. Moreover, the study depended on self-reported questionnaires, which may show a bias in terms of participant answers because some participants may indicate usage of CAM but not for LBP. However, this is the first study to assess the prevalence of using CAM in Taif City and the perception of its population about CAM. We recommend more research to assess this strategy and to understand the causes behind increasing usage of CAM and clinical assessment of its effectiveness.

## Conclusion

We found that more than 50% of patients in Taif with LBP seek usage of CAM, and most think that it is a safe and effective strategy to reduce back pain. Physicians should ask patients about their history of CAM use because it influences the patient outcomes. More research is recommended to generalize the results all over the kingdom and to clinically assess the effectiveness of CAM in LBP patients.

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