

## ORIGINAL RESEARCH

# The Effects of Physiotherapists' Attitudes Towards Complementary and Alternative Medicine on Their Perspectives to Chronic Low Back Pain

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Received: 29.04.2024

Accepted: 05.06.2024

### Abstract

**Objective:** This study aims to investigate how physiotherapists' perspectives on complementary and alternative medicine practices influence their strategies for managing chronic low back pain.

**Material-Method:** The study included 162 physiotherapists. Participants' attitudes toward complementary and alternative medicine were assessed using the Complementary, Alternative, and Traditional Medicine Attitude Scale. Physiotherapists' attitudes and beliefs related to chronic low back pain were evaluated using the Pain Attitudes and Beliefs Scale.

**Results:** Positive significant correlations were observed between Complementary, Alternative, and Traditional Medicine Attitude Scale-Total Score and Pain Attitudes and Beliefs Scale Factor 1 ( $r=0.204$ ,  $p=0.009$ ) and Factor 2 ( $r=0.174$ ,  $p=0.027$ ). Significant correlation was found between Complementary, Alternative, and Traditional Medicine Attitude Scale-Philosophical congruence with complementary and alternative medicine subscore and Pain Attitudes and Beliefs Scale Factor 1 ( $r=0.319$ ,  $p=0.000$ ) and Factor 2 ( $r=0.286$ ,  $p=0.000$ ). Complementary, Alternative, and Traditional Medicine Attitude Scale-Holistic balance subscores showed significant correlation with Pain Attitudes and Beliefs Scale Factor 1 ( $r=0.222$ ,  $p=0.005$ ) and Factor 2 ( $r=0.155$ ,  $p=0.049$ ).

**Conclusion:** Physiotherapists with a more positive attitude towards complementary and alternative medicine practices tend to lean towards a biomedical approach to chronic low back pain. Increasing physiotherapists' knowledge about complementary and alternative medicine practices and evidence-based interventions may influence their approaches to chronic low back pain.

**Keywords:** Chronic Low Back Pain, Complementary and Alternative Medicine, Physiotherapist

### INTRODUCTION

Low back pain (LBP) is characterized by discomfort and pain typically situated between the lower rib margins and buttock creases, with or without lower extremity symptoms. Chronic low back pain is identified as enduring the condition for more than three months.<sup>1</sup> It is projected that by 2050, there will be an estimated 800 million cases of common low back pain globally, a notable increase from the 500 million cases reported in 2020.<sup>2</sup>

Globally, a substantial gap exists between evidence-based recommendations and actual practices in managing low back pain despite the presence of multiple clinical guidelines offering similar advice.<sup>3</sup> The attitudes and beliefs of healthcare professionals play a crucial role in the clinical treatment of patients with LBP, and they need to be aware of this aspect during patient consultations.<sup>4</sup> Physiotherapists, as healthcare professionals, play a vital role in the management of chronic low back pain.<sup>5</sup>

Complementary and alternative medicine (CAM), as

defined, encompasses various medical care systems, products, and practices that deviate from conventional medicine. CAM practices are classified into five categories, including body-based and manipulative therapies (e.g., osteopathy, yoga, acupuncture, hydrotherapy, chiropractic), alternative medical systems (e.g., homeopathic approaches, ayurveda), energy healing therapies, nutritional therapies, and mind-body therapies (e.g., hypnosis, yoga).<sup>6</sup> Due to the variable outcomes of traditional treatments, there has been a growing inclination among both LBP patients and healthcare providers to explore CAM options.<sup>7</sup>

A study investigating the utilization of CAM methods by physiotherapists in the treatment of lower back pain revealed that while physiotherapists were aware of their patient's use of CAM, their understanding of the effectiveness of these practices was deemed insufficient.<sup>8</sup>

The primary objective of this study is to examine how physiotherapists' perspectives on CAM

practices influence their approach to managing chronic low back pain.

## MATERIALS AND METHODS

### Study design

This research was conducted as a prospective observational study involving physiotherapists in Turkey. Approval for the study was obtained from the Ethics Committee of a State University (2023/11-16). Before commencing the survey, participants were required to sign a declaration expressing their willingness to take part in the study, and adherence to the Declaration of Helsinki guidelines was ensured.

### Study population

The study encompassed physiotherapists in Turkey, and a web-based survey created in the Turkish language using Google Forms was distributed to participants through social media and email channels. The survey comprised four sections and took approximately ten minutes to complete.

### Inclusion and exclusion criteria

Physiotherapists in Turkey who willingly participated in the study were included, while physiotherapy and rehabilitation department students who had not yet graduated, as well as other healthcare professionals, were excluded.

### Measures

#### Demographics

The survey included questions about participants' gender, age, university graduation status (private/public), and their current workplace.

#### Complementary, alternative and conventional medicine attitude scale (CACMAS)

Köse et al. (2018) conducted a validity and reliability study of this scale, originally developed by McFadden et al. (2010), in Turkey.<sup>9,10</sup> The scale, consisting of 27 questions, comprises three subscales: "Holistic Balance," "Dissatisfaction with Conventional Medicine," and "Philosophical Congruence with CAM." Responses are scored on a Likert-type scale ranging from "1 = Strongly Disagree" to "7 = Strongly Agree." Positive and negative expressions are evaluated separately, and an overall higher score indicates a more positive attitude toward traditional complementary medicine.

#### The pain attitudes and beliefs scale for physiotherapists (PABS-PT)

Dalkılıç et al. conducted the Turkish validity and reliability study for this scale, which assesses health professionals' attitudes and beliefs regarding pain based on biomedical and biopsychosocial approaches.<sup>11,12</sup> The survey consists of 13 items,

with 7 covering biomedical approaches (Factor 1) and 5 covering biopsychosocial approaches (Factor 2). Participants rate statements on a scale from "1 = Completely Disagree" to "6 = Completely Agree," and higher scores on each subscale indicate a stronger inclination toward the respective treatment approach.

### Statistical analysis

The sample size was determined using the G\*Power program (version 3.1), considering a power ratio of 80%, a correlation of  $\rho_{H1}=0.2$ , and a significance level of  $\alpha=0.05$  based on a pilot study. The calculated sample size was 153 physiotherapists, but accounting for potential data loss, 162 physiotherapists were included. Data were analyzed using the statistical program JASP, with the Shapiro-Wilk test assessing a normal distribution. Categorical variables were presented as frequencies (percentages) using the chi-square test, and Spearman's rank correlation analysis was employed for parameters lacking normality, with  $p<0.05$  considered statistically significant.

## RESULTS

The study comprised 162 physiotherapists, with an average age of  $29.38 \pm 5.48$ . Table 1 details the participants' descriptive information, while Table 2 presents the mean and standard deviation values for the participants' total scores and sub-scores on the CACMAS and PABS-PT.

The association between physiotherapists' attitudes toward complementary, alternative, and conventional medicine and their attitudes and beliefs concerning chronic low back pain is outlined in Table 3. A positive and statistically significant correlation was observed between the CACMAS Total Score and PABS-PT Factor 1 ( $r=0.204$ ,  $p=0.009$ ) and PABS-PT Factor 2 ( $r=0.174$ ,  $p=0.027$ ). Similarly, a positive and statistically significant relationship was found between the CACMAS-Philosophical congruence with CAM subscore and PABS-PT Factor 1 ( $r=0.319$ ,  $p=0.000$ ) and PABS-PT Factor 2 ( $r=0.286$ ,  $p=0.000$ ). A statistically significant and positive relationship was identified between the CACMAS-Holistic balance subscore and PABS-PT Factor 1 ( $r=0.222$ ,  $p=0.005$ ) and PABS-PT Factor 2 ( $r=0.155$ ,  $p=0.049$ ). No significant relationship was observed between CACMAS-Dissatisfaction with conventional medicine subscore and PABS-PT Factor 1 ( $r=-0.098$ ,  $p=0.213$ ) and PABS-PT Factor 2 ( $r=-0.027$ ,  $p=0.735$ ).

**Table 1.** Descriptive Characteristics of Participants

Variables	N=162
Age (years) ( $X \pm SD$ )	29.38 $\pm$ 5.48
Gender n (%)	
Female	106 (65.4%)
Male	56 (34.6%)
Graduated University n (%)	
State University	146 (90.1%)
Private University	16 (9.9%)
Where does he/she work? n (%)	
Public Hospital	71 (43.8%)
Special Education And Rehabilitation Center	18 (11.1%)
Healthy Lifestyle Center	24 (14.8%)
Academical Personal	15 (9.3%)
Private Hospital	15 (9.3%)
Not Working	19 (11.7%)

X:mean, SD: standard deviation, N: number of total participants, n: number of participants, %: percent

**Table 2.** Mean Scores of Scales

	X $\pm$ SD
CACMAS Total Score	116.78 $\pm$ 19.94
CACMAS-Philosophical congruence with CAM	33.30 $\pm$ 10.20
CACMAS- Holistic balance	48.81 $\pm$ 7.50
CACMAS- Dissatisfaction with conventional medicine	34.64 $\pm$ 9.30
PABS-PT Factor 1	28.43 $\pm$ 6.23
PABS-PT Factor 2	21.52 $\pm$ 4.95
PABS-PT Total Score	49.97 $\pm$ 10.21

X:mean, SD: standard deviation, CACMAS: Complementary, Alternative and Conventional Medicine Attitude Scale, CAM; complementary and alternative medicine, PABS-PT: The Pain Attitudes and Beliefs Scale for Physiotherapists

**Table 3.** The Relationship between the Complementary, Alternative, and Conventional Medicine Attitude Scale and The Pain Attitudes and Beliefs Scale for Physiotherapists

		PABS-PT Factor 1	PABS-PT Factor 2
CACMAS Total Score	Spearman's Correlation	0.204	0.174
	Sig. (2-tailed)	0.009**	0.027*
	N	162	162
CACMAS-Philosophical congruence with CAM	Spearman's Correlation	0.319	0.286
	Sig. (2-tailed)	0.000**	0.000**
	N	162	162
CACMAS- Holistic balance	Spearman's Correlation	0.222	0.155
	Sig. (2-tailed)	0.005**	0.049*
	N	162	162
CACMAS- Dissatisfaction with conventional medicine	Spearman's Correlation	-0.098	-0.027
	Sig. (2-tailed)	0.213	0.735
	N	162	162

CACMAS: Complementary, Alternative and Conventional Medicine Attitude Scale, CAM; complementary and alternative medicine, PABS-PT: The Pain Attitudes and Beliefs Scale for Physiotherapists, N: number of participants, \*:p<0.05

## DISCUSSION

This study aimed to explore the connection between physiotherapists' attitudes towards CAM and their approach to managing chronic low back pain. The findings highlighted a significant correlation between physiotherapists exhibiting positive attitudes towards CAM practices and their inclination towards adopting biomedical approaches to addressing chronic low back pain. However, the correlation with the biopsychosocial approach was noteworthy but relatively lower.

Two models describe physiotherapists' attitudes and beliefs about chronic low back pain: the biomedical model, which emphasizes physical pathology as the cause of pain and disability, and the biopsychosocial

model, which emphasizes the role of psychological and social factors.<sup>11,13</sup> Healthcare professionals' attitudes and beliefs about health and illness play a crucial role in patient treatment decisions. The Theory of Planned Behavior suggests that individual behavior is influenced by attitudes and beliefs regarding the potential outcomes of their actions.<sup>14</sup> In chronic low back pain cases, various factors impact physiotherapists' decision-making, including clinical experience, patient expectations, socio-cultural factors, perceptions of pain by both the physiotherapist and patient, and the physiotherapist's knowledge level.<sup>15</sup> The increasing use of CAM methods globally and in Turkey

suggests a growing interest among physiotherapists.<sup>16-18</sup> The results indicated a significant correlation between positive attitudes towards CAM and a biomedical perspective on addressing chronic low back pain. This suggests that physiotherapists may be inclined to use CAM methods targeting symptomatic or pathologically related areas.

Studies show physiotherapists' interest in CAM methods, with acupuncture and massage being commonly utilized.<sup>19,20</sup> However, knowledge gaps about the evidence base for these methods persist. Enhancing physiotherapists' knowledge about CAM practices is crucial to influencing their attitudes and behaviors towards patients with chronic low back pain.

While our study focused on assessing attitudes, it did not delve into physiotherapists' knowledge and behaviors, limiting the exploration of the relationship between attitude, knowledge, and behavior.

## CONCLUSION

To our knowledge, this study is the first to unveil the link between physiotherapists' attitudes towards CAM and their approaches to chronic low back pain. The findings suggest that a positive attitude

towards CAM aligns with a more biomedical approach to managing chronic low back pain. Improving physiotherapists' knowledge about CAM practices and evidence-based applications may reshape their approaches to chronic low back pain. Practices aimed at enhancing the knowledge level of physiotherapists who frequently play a role in managing patients with chronic low back pain can lead to changes in their attitudes and behaviors, thereby potentially improving patient management clinically. It is recommended that future studies evaluate physiotherapists' attitudes and behaviors towards chronic low back pain and complementary and alternative medicine, as well as assess professional autonomy and satisfaction.

## ACKNOWLEDGEMENTS

The researcher would like to thank all participants who participated in the study.

**Disclosure statement:** The authors have no conflicts of interest to declare.

**Author contributions:** Conceptualization: HK; Design: HK; Writing: HK; Investigation/Data collection: HK

**Conflict of interest:** There is no potential conflict of interest relevant to this article.

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