

Chronic Pain, Depression, and Attitudes Toward Complementary and Alternative Medicine Therapy in Older Adults

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Abstract:

Objective: This study aimed to describe the level of depression, the impact of chronic pain on daily life, and the attitudes of older adults toward complementary and alternative medicine (CAM), as well as to explore the relationships among these factors.

Material and Methods: A cross-sectional descriptive study was conducted on 289 older adults receiving treatment at Hospital C–Da Nang. Data were collected using a self-administered questionnaire. Pearson correlation was used to identify associations among variables.

Results: The impact of chronic pain on the lives of older adults was at a moderate level (28.9 ± 10.9), with pain having the most significant effects on sexual life, self-care, and recreational activities. A total of 73.7% of participants exhibited symptoms of depression. Attitudes toward the use of CAM for self-managing chronic pain were at a moderate level (28.7 ± 3.2). There was a statistically significant association between the impact of chronic pain and attitudes toward CAM use among older adults (p -value < 0.001). Furthermore, those with higher levels of depression appeared to be less proactive in accessing complementary care interventions (p -value < 0.001).

Conclusion: The findings underscore the link between chronic pain, psychological factors, and CAM attitudes in older adults, indicating implications for future integrative care approaches.

Keywords: alternative medicine, attitudes, chronic pain, complementary therapy, depression, older adults

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Introduction

Chronic pain is a common issue and remains a significant challenge for effective treatment. It is estimated that chronic pain affects 116 million adults in the United States and is the most common reason individuals seek medical assistance¹. In Vietnam, the prevalence of chronic pain among older adults is notably high, especially in those with osteoporosis and knee osteoarthritis, ranging from approximately 40% to 90%².

Chronic pain exerts a profound influence on nearly all aspects of daily life, limiting patients' capacity to work, engage in social activities, and maintain psychological well-being. It is strongly associated with depression, anxiety, anger, and diminished self-esteem and self-efficacy.³ Contemporary evidence emphasizes that chronic pain is optimally managed through a multidisciplinary, multimodal approach that integrates pharmacological and non-pharmacological strategies^{4,5}. Clinical guidelines, such as the NICE guideline on chronic pain management⁶ and the World Health Organization (WHO) guidelines on the management of chronic pain in primary care⁷, explicitly recommend the combination of individualized pharmacological treatment with self-management support, physical activity, and psychological interventions. For older adults, the risks associated with long-term pharmacotherapy, including polypharmacy and adverse drug events, make the incorporation of non-pharmacological approaches particularly critical⁸.

Complementary and Alternative Medicine (CAM) is generally defined as "a broad set of health-care practices that are not part of that country's own tradition or conventional medicine and are not fully integrated into the dominant health-care system"⁷. Recent studies have assessed patient attitudes toward CAM. For example, a study by Gaul et al. involving 694 patients with chronic headaches and back pain found that 88.5% had a positive attitude toward CAM use⁹. Another study by Makarem et

al., conducted among 213 patients in Lebanon, reported a moderate attitude toward CAM (mean score 3.67 ± 0.56)¹⁰. However, the specific attitudes of older adults toward using CAM for chronic pain management have not been investigated in any study globally or within Vietnam.

In Vietnam, CAM encompasses traditional medicine practices, such as herbal medicine, acupuncture, massage therapy, and cupping, which are commonly integrated into primary care and hospital settings alongside conventional biomedical approaches.¹¹ The use of CAM may contribute to improved quality of life by alleviating depressive symptoms and enhancing the ability to carry out daily activities among those experiencing chronic pain.¹⁰ Nevertheless, most research on CAM has overlooked the particular circumstances of older adults with chronic pain, given the diverse needs and multidimensional symptoms they experience. Therefore, this study was conducted to: (1) describe the levels of depression, the impact of chronic pain on daily life, and older adults' attitudes toward CAM; and (2) explore the relationships among these factors.

Material and Methods

Study design

A cross-sectional study was conducted from December 2024 to April 2025 in the following departments of Hospital C – Da Nang: Nephrology–Urology, Neurology–Musculoskeletal, Gastroenterology, Geriatrics, Pulmonology, Cardiology, and Endocrinology.

Study participants

The study included older adults receiving treatment at the internal medicine departments of Hospital C–Da Nang.

Inclusion criteria: Patients aged ≥ 60 years who were hospitalized in internal medicine departments with non-malignant medical conditions and diagnosed with chronic pain according to ICD-11 criteria (pain that recurs or persists for more than three months); individuals with

no communication disorders and who were able to read, hear, and understand Vietnamese.

Exclusion criteria: Patients experiencing acute pain or who had undergone surgery within the previous six months; those with significant fatigue; individuals diagnosed with psychiatric or neurological disorders, cognitive impairment (as assessed by the Mini-Cog with a score <3), or those unable to complete the questionnaire.

Sample size

The sample size was determined using G*Power 3.1.9.2 software for a correlational study design. Assuming a medium effect size of $r=0.15$, $\alpha=0.05$, and power=0.80, the required sample size was 273. Ultimately, 289 patients were included in the study by the convenience sampling method.

Instruments

The data collection instrument consisted of four main parts:

Part 1: General demographic information with 5 questions, including gender, age, educational level, marital status, location of chronic pain, and CAM therapies previously used.

Part 2: The Pain Disability Index (PDI), developed by Pollard in 1981, was used to assess the impact of chronic pain on various aspects of the participants' lives.¹² It contains 7 items evaluating pain interference in seven areas: family/home responsibilities, recreation, social activity, work, sexual life, self-care, and life-support activity. Each item is rated on a 10-point scale (0=no disability, 10=total disability), with a total maximum score of 70. A higher total score indicates greater interference of chronic pain in daily life.

Part 3: The Patient Health Questionnaire-9 (PHQ-9), developed by Kroenke et al., was used to assess depressive symptoms.¹³ It includes 9 items, each scored from 0 to 3 based on frequency: 0 – not at all, 1 – several days, 2 – more than half the days, 3 – nearly every day. The total score ranges from 0 to 27, with depression

levels categorized as follows: 0–9=none, 10–14=mild, 15–19=moderate, and 20–27=severe.

Part 4: Attitudes toward CAM use were assessed using the Scale of Attitudes Toward Complementary and Alternative Medicine (SACAM) developed by Arzu et al. in 2006¹⁴. The scale consists of 8 items—4 assessing attitudes toward complementary therapy and 4 toward alternative therapy. Each item is rated on a 5-point Likert scale ranging from 1 – “Strongly disagree” to 5 – “Strongly agree.” Each subscale has a maximum score of 20, with higher scores indicating more positive attitudes toward CAM use.

The instruments assessing the impact of chronic pain and older adults' attitudes toward CAM were translated into Vietnamese using the standardized back-translation procedure recommended by Cha et al. to ensure linguistic accuracy and conceptual equivalence before data collection¹⁵. Then, the Vietnamese version of the instrument was piloted on a sample of 30 participants to test its reliability. The internal consistency (Cronbach's alpha) of each section was 0.83 for the Pain Disability Index, 0.96 for PHQ-9, and 0.90 for the SACAM scale (Complementary Subscale was 0.94 and Alternative Subscale was 0.85).

Sampling and data collection

Convenience sampling was used. Following ethical approval, data were collected from older patients in the internal medicine wards at C-Da Nang Hospital between February and April 2025. Participants provided written informed consent before completing the questionnaire; for those with poor vision or writing ability, questions were read aloud and responses recorded by the research team. All questions were administered using the Vietnamese version of the toolkit. For clarity, participants were given definitions of “complementary medicine” and “alternative medicine” consistent with the WHO framework, and the distinction between the two was explained before answering. In addition to the examples listed in Table 1, commonly used therapies in Vietnam (e.g., acupuncture, herbal remedies,

massage, cupping) were also mentioned to help participants interpret the questions accurately¹⁶.

Data analysis

Data were entered and analyzed using Statistical Package for the Social Sciences (SPSS) version 20.0. Descriptive statistics were used to describe participant characteristics. Pearson's correlation test was used to determine the relationships between attitudes toward CAM, the impact of chronic pain, and levels of depression, with a significance level set at p -value<0.05.

Ethical considerations

The study was conducted after receiving approval from the Biomedical Research Ethics Committee of Danang University of Medical Technology and Pharmacy, under decision number 66/CT-HĐĐĐ dated December 16, 2024. Patient confidentiality and the right to withdraw were fully respected throughout the study.

Results

A total of 289 participants were enrolled in the study, and all completed the study without any withdrawals or loss to follow-up.

Characteristics of participants

The mean age of the participants was 68.8 ± 6.9 years, with 56.7% being male. The highest proportion had a university or postgraduate education level, accounting for 44.3%. The most common site of chronic pain among older adults was the hand/arm (76.1%), and the most frequently used CAM method for pain relief was herbal and biologically based therapies (81.3%) (see Table 1).

Impact of chronic pain on daily life and depression levels among older adults

The impact of chronic pain on the lives of older adults was at a moderate level, with a mean score of 28.9 ± 10.9 . Pain most significantly affected sexual life (mean= 5.29 ± 2.94),

Table 1 Characteristic of participants

Contents		Number (n)	Percent (%)
Age	Mean; S.D.= 68.8 ± 6.9		
Sex	Male	164	56.7
	Female	125	43.3
Education level	Primary	12	4.2
	Secondary	56	19.4
	High school	93	32.2
	University/postgraduate	128	44.3
Position of chronic pain	Hand/arm pain	220	76.1
	Knee/leg pain	179	61.9
	Neck pain	211	73.0
	Back pain	133	46.0
	Lower back pain	207	71.6
	Other (shoulder, head)	2	0.6
CAM used	Use of manipulative services (acupuncture, massage, physiotherapy, thermotherapy)	158	54.7
	Relaxation techniques (yoga, meditation, autogenic training, hypnosis, music therapy)	125	43.3
	Herbal and biologically based therapies (high-dose vitamins, herbal medicines, medicinal plants)	235	81.3

CAM=complementary and alternative medicine

self-care (mean=4.39±2.16), and recreational activities (mean=4.20±1.99). Regarding depression levels, the average PHQ-9 score was 16.76±7.88, with 34.6% of participants experiencing moderate depression and 32.9% experiencing severe depression (see Table 2).

Attitudes toward the use of complementary and alternative therapies in the self-management of chronic pain among older adults

As shown in Table 3, the overall attitude toward the use of CAM in self-managing chronic pain among older adults had a mean score of 28.7±3.2. Among the subscales, the mean score for attitudes toward alternative medicine was higher than that for complementary therapies (see Table 3).

Relationship between depression levels, the impact of chronic pain on daily life, and attitudes toward the use of complementary and alternative therapies in chronic pain self-management among older adults

Table 4 shows a significant relationship between the impact of chronic pain and older adults' attitudes toward CAM use ($r=0.206$; $p\text{-value}<0.001$). Specifically, the greater the impact of chronic pain on daily life, the more positive the attitudes were toward both complementary therapies ($r=0.154$; $p\text{-value}=0.009$) and alternative medicine ($r=0.161$; $p\text{-value}=0.006$). Among the pain-affected life domains, "recreational activities" and "self-care" showed the strongest correlations with overall CAM attitude ($r=0.268$

Table 2 Impact of chronic pain on aspects of life and depression in older adults

Contents	Mean ±S.D.	Min – max
The impact of chronic pain on aspects of life	28.9±10.9	0 – 70
Family/home responsibilities	4.09±1.98	0 – 10
Recreational activities	4.20±1.99	0 – 10
Social Interactions	3.25±2.02	0 – 10
Work	3.66±2.16	0 – 10
Sex life	5.29±2.94	0 – 10
Self-care	4.39±2.16	0 – 10
Community living	4.18±2.11	0 – 10
Depressive level	16.76±7.88	0 – 27
No (n %)	76 (26.3)	
Low (n %)	18 (6.2)	
Medium (n %)	100 (34.6)	
Severe (n %)	95 (32.9)	

S.D.=standard deviation

Table 3 Overall attitudes toward CAM use

Contents	Mean±S.D.	Min – max
Attitudes toward complementary therapies	13.2±2.2	4–20
Attitudes toward alternative medicine	15.5±2.0	8–20
Attitudes toward CAM use	28.7±3.2	18–40

CAM=Complementary and Alternative Medicine, S.D.=standard deviation

and $r=0.235$, respectively; both p -value <0.001). Additionally, depression level was negatively correlated with attitudes toward complementary therapies ($r=-0.215$; p -value <0.001) (see Table 4).

Discussion

Impact of chronic pain on daily life and depression among older adults

The impact of chronic pain on the daily lives of older adults was found to be at a moderate level (mean= 28.9 ± 10.9). Among the various life domains, sexual life was the most affected, followed by self-care and recreational activities. These findings are consistent with those of Alschuler et al., who reported that older adults with chronic pain often restrict their social and sexual activities and experience difficulty maintaining independence in daily living¹⁷.

In addition, the mean depression score among participants was 16.76 ± 7.88 , with 34.6% experiencing moderate depression and 32.9% severe depression. Studies by Werneck and Stubbs also highlighted that persistent pain can lead to functional impairment and reduced quality of life, while depression may lower pain tolerance and the

ability to self-manage symptoms¹⁸. Therefore, screening for depression and providing psychological support should be considered integral components of chronic pain management models for older adults.

Attitudes toward the use of complementary and alternative therapies in chronic pain self-management among older adults

The average attitude score toward CAM use for chronic pain self-management among older adults was 28.7 ± 3.2 . This suggests that Vietnamese older adults not only support CAM as a complementary approach but also increasingly view it as a viable alternative for chronic pain control. This positive trend aligns with the findings of Bishop et al., who reported that older adults in the UK held favorable attitudes toward non-pharmacological CAM therapies such as yoga, meditation, and acupuncture, particularly due to the perceived benefits of pain relief without the side effects of medication¹⁹. Similarly, Morrissey et al. found that over 80% of older adults in Europe expressed positive attitudes toward CAM, with safety concerns about conventional medicine being a primary motivator²⁰. In the United States, Clarke et al. also showed that 68% of older adults trusted

Table 4 Associations between depression severity, chronic pain impact, and attitudes toward CAM

Contents	Attitudes toward CAM					
	Total		Attitudes toward complementary therapies		Attitudes toward alternative medicine	
	r	p-value	r	p-value	r	p-value
The impact of chronic pain on aspects of life	0.206	<0.001	0.154	0.009	0.161	0.006
Family/home responsibilities	0.132	0.025	0.114	0.053	0.086	0.144
Recreational activities	0.268	<0.001	0.251	<0.001	0.154	0.009
Social interactions	0.109	0.064	0.150	0.011	0.010	0.863
Work	0.182	0.002	0.172	0.003	0.103	0.080
Sex life	0.069	0.244	-0.037	0.532	0.151	0.010
Self-care	0.235	<0.001	0.171	0.004	0.189	0.001
Community living	0.062	0.295	0.009	0.883	0.010	0.128
Depressive level	-0.094	0.111	-0.215	<0.001	0.085	0.151

*Pearson correlation, CAM=complementary and alternative medicine

CAM therapies, such as acupuncture, massage, and herbal medicine, to improve quality of life, especially for chronic pain conditions²¹.

Beyond general attitudes, existing research highlights variations in CAM use depending on the type of chronic pain. For example, Chou et al. demonstrated strong evidence supporting acupuncture and mindfulness-based stress reduction for chronic low back pain²², while Häuser et al. found that mind-body therapies and herbal supplements were frequently used among patients with fibromyalgia²³. Likewise, Vickers et al. confirmed acupuncture as an effective adjunct for osteoarthritis-related pain²⁴, and Nahin et al. reported high CAM uptake among individuals with migraine and headache disorders.²⁵ These findings suggest that patient preference for CAM is not only culturally or demographically driven but also influenced by the nature and severity of their pain condition.

A notable finding in our study is that attitudes toward alternative medicine (using CAM in place of conventional medicine) were more positive than those toward complementary medicine (using CAM alongside conventional medicine). This may be explained by the traditional beliefs of Vietnamese people in folk remedies, particularly among older adults who are often concerned about the side effects of Western drugs. However, this also poses a challenge for health education, as completely replacing conventional treatment with CAM may lead to adverse outcomes if not properly monitored. Leung et al. emphasized that while CAM therapies offer supportive benefits, their improper or exclusive use without integration with conventional medicine can reduce treatment effectiveness and increase the risk of complications⁸.

Relationships among depression, the impact of chronic pain, and attitudes toward CAM use in older adults

Our study identified a significant association between

the impact of chronic pain and older adults' attitudes toward CAM use (p -value <0.001), including both complementary (p -value=0.009) and alternative (p -value=0.006) therapies. These findings suggest that as chronic pain more severely interferes with daily functioning, particularly recreational activities and self-care (both p -value <0.001), older adults are more likely to consider CAM as a means of regaining independence and improving quality of life. This aligns with previous evidence that CAM therapies are often perceived as safer, more culturally acceptable, and offering patients a greater sense of control over their condition.

Importantly, we also found that higher levels of depression were inversely correlated with attitudes toward complementary therapies ($r=-0.215$; p -value <0.001). This implies that psychological distress may act as a barrier to engaging with or trusting CAM interventions. Our findings are consistent with Ashraf et al., who reported that patients with depression were less likely to adopt CAM, largely due to reduced motivation and trust in non-conventional treatments²⁶. Similarly, Hsu et al. observed that older adults with depressive symptoms in Taiwan were less inclined to use CAM compared to their healthier counterparts, suggesting that cultural and psychosocial factors may further reinforce this pattern²⁷. Other reviews also emphasize that while CAM is often sought by individuals with mental health concerns, depressive states can undermine help-seeking behaviors and adherence to these therapies²⁸⁻²⁹. Taken together, these results indicate that the decision to use CAM among older adults is not only driven by pain severity but also shaped by the psychological and functional consequences of chronic pain, underscoring the importance of integrated approaches that address both physical and mental health dimensions³⁰.

From a practical standpoint, these associations highlight the need for integrated intervention strategies that simultaneously address pain control, functional limitations, and psychological well-being, while providing appropriate

access to evidence-based CAM options. Nurses, in particular, are well-positioned to support older adults by promoting safe CAM use alongside conventional treatments, thereby helping to minimize the impact of chronic pain on daily living activities and overall quality of life.

Limitations

This study has several limitations. First, it was conducted at Hospital C in Da Nang, and therefore, the findings may not be generalizable to the entire older adult population in Vietnam, particularly those living in rural areas or regions with differing socio-economic conditions. In addition, the use of a convenience sampling method may introduce bias in assessing the current situation, as patients who agreed to participate might have different usage patterns and attitudes compared to those who declined. Lastly, data collection was primarily based on self-reports, which may compromise the accuracy and objectivity of the information, as participants might provide responses that are not entirely truthful or are influenced by memory bias. These limitations should be addressed in future research by expanding the geographic scope and employing random sampling techniques.

Conclusion

The impact of chronic pain on the daily lives of older adults was found to be moderate, while 73.7% of participants experienced depression. Attitudes toward the use of CAM in self-managing chronic pain were also at a moderate level (28.7 ± 3.2). A significant association was observed between the impact of chronic pain, depression, and older adults' attitudes toward CAM use (p -value < 0.001). These findings hold important practical implications, highlighting the need for integrated intervention strategies that combine pain management, psychological support, and enhanced access to appropriate CAM therapies for older adults. Therefore, nurses should support older adults in minimizing the impact

of chronic pain on daily living activities through the integrated use of CAM. Developing integrated pain management models that combine conventional medicine and CAM is recommended. Additionally, establishing standardized criteria to evaluate the effectiveness of CAM in caring for older adults is essential.

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Declaration of interest statement

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest, and there were no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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