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Assessment and Management of Chronic Non-Oncological Pain in Primary Health Care Service of Albania: Data from Clinical Practice

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Abstract

Background: Chronic non-oncological pain (CNCP) is defined as moderate to severe pain lasting six months or longer, including conditions such as neuropathic pain, osteoarthritis, and fibromyalgia. CNCP negatively impacts patients' daily functioning and emotional well-being, posing challenges for healthcare systems.

Methods: This study evaluated the assessment and management practices of CNCP among 117 primary healthcare professionals in Albania from Tirana and Vlora during January–March 2025. Participants included 36.8% nurses, 48.7% other professionals (psychologists, physiotherapists), and mainly females (86.3%) working mostly in urban centers (84.6%).

Results: The most common pain types treated were back/neck pain, joint pain, and headaches. Treatment primarily relied on non-steroidal anti-inflammatory drugs and paracetamol, while only a minority reported regular use of multidisciplinary care. Knowledge and use of standardized pain assessment tools were limited. Statistically significant differences ($p < 0.001$) were observed between professions regarding the frequency of multidisciplinary care and methods to evaluate treatment effectiveness.

Conclusion: Findings indicate CNCP care in Albanian primary healthcare is inconsistent and underdeveloped, which calls for improved training, standardized protocols, and enhanced interprofessional collaboration. A multidimensional approach with early

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intervention and greater access to specialist services is essential to improve CNCP outcomes and reduce its burden on patients and health systems.

Keywords: Chronic non-oncological pain, primary healthcare, pain assessment, multidisciplinary care, treatment management, DJO KRON project.

INTRODUCTION

Chronic non-oncological pain, also known as chronic non-cancer pain (CNCP), is generally described as moderate to severe pain that lasts six months. Different illnesses, including neuropathic pain, rheumatoid arthritis, low back pain, osteoarthritis, and fibromyalgia, are a cause of CNCP (1). CNCP interferes with the ability to perform daily living activities and the emotional sphere, making it the main cause of morbidity affecting patients, families, communities, and healthcare systems. These factors have a huge impact on the control and management of CNCP and its complications (2). Chronic pain varies widely in its effects on individual quality of life and function, even within the same primary pain condition. Thus, the appropriate therapeutic strategy depends on an individualized evaluation to determine the cause and nature of the pain and its impacts. Determine the cause and type of pain; assessment and the initial therapeutic strategy for chronic non-oncological pain certainly depend on an accurate diagnosis of the cause of the pain and the type of pain syndrome (3). The potentially effective options for treating chronic non-oncological pain are the combination of pharmacological and nonpharmacological approaches. Typically, all pain should be treated according to the World Health Organization (WHO) pain guidelines, starting with non-opioid modalities to weak opioids and escalating to opioid therapy, with antidepressants conventionally reserved for neuropathic pain. For moderate or severe pain, a combination of multiple analgesic agents should be considered. These combination therapies have synergistic effects, which allow lower doses of each analgesic and reduce the risks of side effects of each analgesic. When treatment is initiated, efficacy can be assessed after 2–4 weeks. If considered ineffective, the drug can be switched to an alternative agent, reduced, or withdrawn (4). Among the nonpharmacological approaches in pain management, physiotherapy does more than simply alleviate or manage many ailments. Exercises are designed to reduce stress placed on these areas, with the aim of relieving pain and improving mobility and the ability to function on a daily basis. Depending on the area and problem affected, the treatment plan may include low-impact aerobic exercises to increase patient's heart rate without putting additional stress on joints as well as strengthening exercises, often with resistance bands or weights (5). In recent decades, one of the alternative therapies that has received the most attention is CNCP treatment and management, which is also acupuncture (6). Mindfulness interventions can be used in conjunction with other treatments or as a stand-alone approach through several approaches (7), including group-based programs, retreats, comprehensive treatment programs such as cognitive-behavioral stress management and acceptance and commitment therapy, and the Internet and smartphone applications (8). Documentation of the treatment plan and regular monitoring of the patient's response are also crucial (9). Based on the evidence, chronic non-

oncological pain initially is best managed in the primary care settings. It requires a comprehensive approach to management that should reflect the biopsychosocial nature of chronic pain, typically requiring a multidimensional treatment strategy. Furthermore, chronic pain management is complex to manage in a primary care setting and often requires multidisciplinary co-management including a family doctor or general practitioner, pain specialist, physiotherapist, nurse, occupational therapist, and psychologist, with necessary patient empowerment and linkage to community resources (10). Best practice models for pain management support a multidisciplinary approach that includes the areas of physical activity and psychosocial factors along with medical treatment. Traditional multidisciplinary models of pain management, in which healthcare professionals from various specialties work with patients concurrently or sequentially and frequently only concentrate on their own area of expertise, support a "transdisciplinary" approach to patient education and patient health literacy, in which healthcare professionals not only concentrate on their own discipline but also look for and support the objectives set by other allied professionals. By promoting uniformity in therapeutic message, this transdisciplinary approach guarantees that patients receive a consistent understanding of how to treat their condition from all physicians (11). Identification and assessment of pain in primary healthcare settings, even if it is the most common symptom complained of by patients, remains a challenge. Although a study suggested that using validated tools for chronic pain assessment and screening results in an effective and feasible tool to identify patients with undocumented chronic pain as well as to provide information in relation to pain characteristics such as frequency, level, and interference (12). In addition, the availability of validated tools for chronic pain assessment as part of routine care in primary healthcare settings reveals the utmost relevance for patients with lower socioeconomic status and older patients. Furthermore, it is suggested that an accurate assessment of chronic pain also has an influence on the type of treatment prescribed, in particular for those of lower socioeconomic status who do not receive equal treatment, in particular in the medicine prescription opportunities to manage related pain from rheumatoid arthritis, osteoarthritis, or migraines (13). The same inequality exists also among older patients, who often feel stigmatized when psychological treatments for chronic pain are offered. This lack of public awareness also prevents doctors from referring older people for psychological treatment. While maintaining a close and therapeutic relationship with patients, involving family members, and continuing patient education about the multifaceted nature of chronic non-oncological pain are all important findings emphasizing the role of doctors and family nurses to optimize patient care (14). Three layers make up Albania's public health care system, which offers diagnosis and treatment. Health centers that are covered by family

physicians and nurses make up primary health care. Hospital services provided by hospitals and regional hospitals make up the second level of health care. The "Mother Teresa" University Hospital Center in Tirana is part of the third level of health care, which is the highest level (15). Medical professionals and nursing staff oversee the pharmaceutical management of pain in each of these facilities. There are no established procedures for the evaluation and treatment of pain in the Albanian healthcare system. To solve the problems that have been recognized and offer answers based on the combined experience of emerging countries in pain treatment, scientific research and ongoing scientific advancements in this area are required (16). There is no scientific evidence in relation to pain assessment and management in Albania and, in particular, the management of chronic non-oncological pain in primary settings. The few studies that exist in relation to pain and relevance for the Albanian population suggest that pain is the most common symptom that presents patients in particular to the emergency department, and no validated tools are part of routine chronic pain assessment and management (17).

The purpose of the study

The purpose of this study was to assess current practices of primary healthcare service in the evaluation, treatment and management of non-oncological chronic pain, including related practical skills of primary healthcare staff.

METHODOLOGY

Study Design, Participants and Settings

An online study via the Google Forms platform was conducted, including several primary health care centers in the cities of Tirana and Vlora during January–March 2025. The targeted population included in the study consisted of health professionals who provide health care in primary care centers and patients with chronic non-oncological pain. The participating health professionals group were family doctors, specialist doctors (neurologists, rheumatologists, orthopedists, endocrinologists, and psychiatrists), nurses, physiotherapists, pharmacists, and clinical psychologists. Participants were selected in a simple random manner based on their willingness to complete the questionnaire. The link to the survey was sent to them via email or WhatsApp where appropriate, using the snowballing method among the members of the research group as well as their contacts given during the various accredited continuing education for healthcare professionals offered both from the University of Medicine Tirana and the University of Vlore “Ismail Qemali.”

Data Collection Instrument

The instrument for data collection was a self-administered questionnaire related to the purpose and objectives of the research and development DJO-KRON project. The DJO-KRON (Enhancing Chronic Non-Oncology Pain Assessment and Management in Primary Healthcare) project objective is to identify the

current practice of assessment and management of chronic non-oncological pain in primary healthcare settings and to improve it by increasing the capacities of primary care health personnel, including family doctors and nurses, with an impact on increasing the quality of care offered and reducing health costs related to this issue. The DJO-KRON project is a project funded by the National Agency for Scientific Research and Innovation (NASRI) and the University of Medicine Tirana (UMT), Albania. The healthcare centers were selected specifically because the DJO KRON project's implementation involved primary healthcare facilities in the cities of Tirana and Vlore. The structured online questionnaire used for the data collection was developed, reviewed, and approved by the working group, based on standardized international questionnaires adapted to the Albanian context and the objectives of the study. The questionnaire included different sections: 1) sociodemographic data; 2) the type of oncological chronic pain most common in primary care; 3) strategies for treatment and management of non-oncological chronic pain; and 4) challenges and opportunities for treatment. 5) Knowledge about pain assessment tools, 6) patients perspectives seen by healthcare professionals, and 7) Recommendations for practice improvement. Multiple choices, no yes answers, and open questions were the options for the completion of the questionnaire, while some sections also had the 4-point Likert scale, where 1 means not at all confident/skilled and 4 means very confident/skilled. Before starting to complete the questionnaire, all participants were informed about the purpose of the study and the confidentiality of their data and the anonymity, and they could not proceed further if they did not tick the agreement box.

Data Analysis

The statistical program SPSS version 26.0 was used for the data analyses. Categorical variables included in the sociodemographic data were summarized using frequencies and percentages. While for the numerical variables such as age or knowledge scores were summarized using means and standard deviations when the data followed a normal distribution. To understand the relationships between different sociodemographic data and other sections of the questionnaire, such as knowledge, assessment practices of management, or recommendations for improvement, the Fisher's Exact tests was used. P values were deemed statistically significant if they were less than or equal to 0.05.

Ethical considerations

This study is a component of the DJO KRON project (Enhancing Chronic Non-Oncology Pain Assessment and Management in Primary Healthcare), which is being funded by NASRI and the UMT and approved by Decision No. 6, dated 10.06.2024, by the Management Board of NASRI, 'For the Approval of Funding for Winning Projects of the National Research and Development Program (PKKZH) for the period 2024-2025. The project took approval from the Ethics Council at the University of Medicine,

Tirana, Albania. Every participant gave their informed consent after receiving assurance of confidentiality and anonymity. In accordance with ethical standards for research involving human subjects, data were utilized strictly for research purposes.

RESULTS

In the final analysis a total of 117 primary healthcare personnel were included. Most were nurses (36.8%) or other professionals like psychologists and physiotherapists (48.7%). The majority were female (86.3%) and worked in urban centers (84.6%), mainly in the Tirana region (57.3%). Over half had less than 5 years of experience, and the average age was about 33 years, Table 1.

Table 1. Sociodemographic data of participants (primary healthcare personnel), n = 117

Category Group	Category Description	Frequency	Percent
Profession	Primary healthcare service nurse	43	36.8
	Family Doctor/ General Practitioner	17	14.5
	Other (Psychologist, **Physiotherapist)**	57	48.7
Gender	Female	101	86.3
	Male	16	13.7
Work experience (years)	0–5	66	56.4
	6–10	13	11.1
	11–20	18	15.4
	20+	20	17.1
Location of Primary Healthcare Centre	Rural	18	15.4
	Urban	99	84.6
Region of Primary Healthcare Centre	Tiranë	67	57.3
	Vlorë	10	8.5
	Vlore/Fier	6	5.1
	Vlore/Fier/Tepelene/Sarande	34	29.1
Age (years)	Mean	Std. Deviation	
	32.95	11.79	

Table 2 shows the most common non-oncological chronic pains reported, with back/neck pain, joint pain, and headaches being the most frequent. Muscle and neuropathic pain are also common, while fibromyalgia and jaw pain occur less often, often alongside other pains. Many patients report multiple pain types.

Table 3 summarizes the findings from the following sections of the survey: (a) strategies for the treatment and management of non-oncological chronic pain; (b) challenges and opportunities for treatment; (c) knowledge about pain assessment tools; (d) patients' perspectives as seen by healthcare professionals; and (e) recommendations for practice improvement. There is strong evidence of statistically significant associations between gender, profession, and both the frequency of multidisciplinary care use and the methods used to evaluate chronic pain treatment effectiveness. These associations reflect both gendered occupational roles (nurses vs. doctors) and their differing practices or perceptions in multidisciplinary care and treatment evaluation. The significant chi-square and Fisher's Exact tests (with p-values mostly < 0.001) suggest these patterns are unlikely due to chance.

Table 2. Summary of the types and causes of non-oncological chronic pain (primary healthcare personnel, n = 117)

Type of Pain	Common Causes	Frequency	Percent (%)
Headache / Migraine	Trauma, Chronic diseases (e.g., arthritis, diabetes), Unknown/idiopathic, Lifestyle/economic factors	~44*	~37.6*
Chronic Muscular Pain	Trauma, Chronic diseases, Aging, Lifestyle/economic factors, Unknown causes	~38*	~32.5*
Chronic Joint Pain (shoulder, knee, hand)	Arthritis, Trauma, Aging, Chronic diseases, Lifestyle/economic factors, Unknown causes	~53*	~45.3*
Chronic Back/Neck Pain	Trauma, Chronic diseases, Aging, Lifestyle/economic factors, Unknown causes	~68*	~58.1*
Neuropathic Pain	Diabetic neuropathy, Trauma, Chronic diseases, Unknown causes	~23*	~19.7*
Fibromyalgia	Unknown causes, Possibly linked to trauma or chronic stress	~16	~13.7
Chronic Jaw Pain	Trauma, Unknown causes, Possibly related to musculoskeletal disorders	~11*	~9.4*
Other (Specified)	Various, including combinations of above	3	2.6

* Multiple options could be selected per respondent (multiple answers allowed)

Table 3. Assessment, management of non-oncological chronic pain and suggested recommendations (primary healthcare personnel, n = 117)

Section	Item / Category	Frequency (%)	p-value profession/gender
a. Methods for Assessing Treatment Effectiveness	Functional assessments (e.g., daily activities)	61 (52.1)	
	Diagnostic tests/imaging	55 (47.0)	< 0.001
	Pain intensity reported by patient	47 (40.2)	
	Periodic consultations	26 (22.2)	
	No assessment method	6 (5.1)	
	Other	4 (3.4)	
b. Use of Multidisciplinary Care	Occasionally	51(43.6)	
	Frequently	30 (25.6)	< 0.001
	Rarely	24 (20.5)	
	Not applicable	9 (7.7)	
	Never	3 (2.6)	
c. Approach to Prescribing Pain Medication	Refer to pain specialist	37 (31.6)	
	Use non-opioid medications	34 (29.1)	
	Do not have prescribing authority	32(27.4)	
	Prefer non-pharmacological interventions first	28 (23.9)	
	Use opioids when necessary	12 (10.3)	
	Other	4 (3.4)	
d. Needed Support to Improve Pain Management	Access to specialized pain services	66 (56.4)	≥ 0.05
	Continuing professional education/training	62 (53.0)	
	Better access to physical therapy/mental health services	55 (47.0)	
	Better communication tools with specialists	33 (28.2)	
	Other (e.g., patient education, assessment tools, protocols)	22 (18.8)	
e. Suggestions to Improve Practice (Themes)	More education/training for professionals	25 (21.7)	
	Non-pharmacological and alternative therapies	20 (17.4)	≥ 0.05
	Multidisciplinary approach and collaboration with specialists	18 (15.7)	
	Improve access to physiotherapy and psychotherapy	15 (13.0)	
	Develop standardized assessment tools/protocols	10 (8.7)	
	Patient education and emotional support	8 (7.0)	
	No suggestion / Other	19 (16.5)	

Note: Most of the responses are combined (since answers included multiple choices); therefore, the percentage totals exceed 100%.

DISCUSSION

In two Albanian cities, Vlora and Tirana, the study evaluated primary healthcare services' current methods for assessing, diagnosing, treating, and managing non-oncological chronic pain, as well as the practical skills of primary healthcare personnel in these areas. The online survey included a total of 117 healthcare professionals.

As suggested by Table 2, the most prevalent types of non-oncological chronic pain were articular pain, migraine, back pain, fibromyalgia, neuropathic pain due to diabetes, musculoskeletal pain, and chronic jaw pain. The results in our study in this regard do not differ from literature. As suggested by the scientific evidence, neuropathic pain, peripheral neuropathic pain, myofascial pain, musculoskeletal pain, and inflammatory pain are the most common non-oncological chronic types of pain that require appropriate methodology for assessment as well as pharmacological and non-pharmacological interventions for their treatment and management and collaborative interdisciplinary approaches among healthcare teams (18). However, valid and trustworthy pain evaluation is necessary for the accurate classification of chronic non-oncological pain types (19).

When it comes to the study results regarding treatment and management of different types of non-oncological chronic pain, there were different approaches identified. Most of the healthcare professionals in the study were not allowed to prescribe pharmacological treatments, such as nurses (27.4%), while the most common pharmacological treatment included non-opioid medications, such as non-steroidal anti-inflammatory drugs (NSAIDs) (29.1%). 23.9% of the healthcare professionals in the study reported the non-pharmacological approach for the treatment of chronic pain, and 31.6% referred patients to pain specialists, Table 3. Even if NSAIDs are widely used for non-oncological chronic pain management, they have a risk of adverse gastrointestinal and cardiovascular problems due to their differences in tolerability by patients. Due to these adverse events, an updated treatment algorithm for chronic pain has been proposed (20). On the other hand, as evidenced by the literature, the use of opioids in chronic pain management is associated with side effects such as dependence, addiction, and increased tolerance that could also lead to more severe complications due to their use (21). An extensive body of research indicates that, even though there are numerous treatments available for pharmacological chronic pain, their efficacy is constrained by the possibility of side effects. This has led to the development of guidelines for the nonpharmacological management of chronic pain, including physical modalities, psychological treatments, interdisciplinary rehabilitation, exercise therapies, biofeedback, mind-body interventions (such as meditation and relaxation), and complementary therapies (22). According to one study, patients' preference for other, advanced therapies, including injections or nerve blocks, may be connected to family

physicians' practice of referring patients with chronic non-oncological chronic pain to pain specialists (23). The results of our study brought to light the complicated nature of managing non-oncological chronic pain in primary healthcare services, as already highlighted by the literature. This meant that the development of an individually tailored strategy for every patient is needed. Furthermore, primary care physicians can take the lead in managing chronic non-cancer pain by incorporating patients' values and beliefs along with socioeconomic factors. While primary care physicians also require ongoing medical education on chronic pain, particularly to better evaluate the social determinants of pain (24). While nurses or other allied health professionals in Albania are not allowed to prescribe pharmacological treatments for chronic pain, it is evidenced that they can play an important role in improving non-cancer chronic pain management in primary care settings (25).

Our study's findings on the difficulties in managing and treating non-oncological chronic pain identified six factors that participants mentioned: the cost of long-term treatment, a lack of resources for non-oncological chronic pain management, a lack of cooperation between patients and healthcare providers, limited access to pain specialists, difficulties diagnosing and identifying the type of chronic pain, and a lack of validated pain assessment tools. Table 3. Regarding this our results do not differ from international findings. A large survey conducted in primary care in Europe also identified the same challenges in assessing non-oncological chronic pain, such as underuse of pain assessment tools, lack of confidence in the use of opioid therapy, and education needs (26). Furthermore, a study found the significance of the psychological, social, and environmental factors associated with non-oncological chronic pain constitutes another of the fundamental components of chronic pain management that is sometimes overlooked in primary healthcare settings. These elements are essential for building an evidence-based, coordinated treatment plan that is customized to the patient's individual needs (27).

Knowledge about assessment tools for non-oncological chronic pain in clinical practice, as shown by our study, was inconsistent, and 66.7% of the participants reported having no knowledge of validated instruments for assessing chronic non-oncological chronic pain. In relation to this our results are similar to other studies that had found that only a few healthcare professionals use validated instruments for pain assessment even though there are available several pain assessment scales (28). In addition, the use of validated tools for chronic pain assessment has been proven effective and with positive results to patients' outcomes (24, 26).

Regarding patient-related factors that influence adherence to effective management of non-oncological chronic pain, our results identified financial barriers to accessing the specialized centers for chronic pain, poor quality of life including overall physical and mental well-being, fear of patients becoming addicted, lack of

literacy, and mental health disorders. Similar results have been reported also by our studies conducted reveling that more informed patients were more adherent to treatment as well expressed better communication with their healthcare providers (29).

Participants in our study also gave some recommendations to improve the clinical practice of non-oncological chronic pain in primary settings. This recommendation includes the use of standardized guidelines for pain assessment, staff education and training in relation to pain management, improvement of patient engagement in treatment, collaboration between family physicians and nurses, adaptation and promotion of a multidisciplinary approach in chronic pain management, and integration in the routine care of validated tools and instruments for pain assessment. Similar suggestions such as the interdisciplinary educational needs, treatment approaches, creation of care path involving actively patients and patients empowering through education and training has been also identified by other studies (30, 31).

Limitaction of the study

This study has some limitations that should be considered. Firstly, data were collected through online questionnaires, which may have affected the accuracy of responses due to participants' potential recall bias or a tendency to provide socially desirable answers. Secondly, the small sample size may limit the representativeness of the findings. However, the questionnaire covered various aspects of non-oncological chronic pain assessment and management, and the absence of significant differences across different primary healthcare settings in the selected cities is important. This provides valuable evidence and insights from diverse primary care environments in Albania regarding current practices in managing non-oncological chronic pain. These findings lay the foundation for future research and support the potential replicability of the study at a national level.

CONCLUSIONS

This study highlights the current practices in assessing, managing, and treating non-oncological chronic pain within primary healthcare services in Albania. Chronic joint and muscular pain are the most prevalent conditions, primarily caused by injury, trauma, and chronic diseases such as osteoarthritis and diabetes. Treatment largely relies on non-steroidal anti-inflammatory drugs and paracetamol, while multidisciplinary care involving physiotherapists and pain specialists remains rare and unstructured. Assessment methods are inconsistent and lack standardization, with limited knowledge and use of validated pain assessment tools. Access to specialists and supportive therapies is limited, and many healthcare professionals lack proper training. The findings reveal that non-oncological chronic pain care is not yet fully institutionalized in primary care settings, underscoring the need for improved training, standardized protocols, and enhanced inter-professional collaboration. Effective pain

management requires a multidimensional approach that emphasizes prevention, early intervention, and access to comprehensive, evidence-based multidisciplinary care, including physical therapy and specialist services.

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