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ORIGINAL ARTICLE

Evidence of the contribution of pharmaceutical care in the study and management of chronic pain

Evidência da contribuição do cuidado farmacêutico no estudo e manejo da dor crônica

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ABSTRACT

BACKGROUND AND OBJECTIVES: Chronic pain (CP) affects about 30% of the global population and constitutes one of the greatest challenges for healthcare systems, generating significant physical, psychological, social, and economic impacts. From this perspective, it is imagined that pharmaceutical care, when integrated into multiprofessional teams, can reduce the intensity of pain, improve treatment adherence, and rationalize pharmacotherapy in patients with CP. The present study aimed to evaluate the effectiveness of pharmaceutical care in the management of chronic pain in patients seen at the EDUCADOR Extension Program of the Federal University of Alfenas.

METHODS: This is an observational, descriptive, quantitative, and prospective study conducted with 22 patients diagnosed with CP. The follow-up adhered to recognized clinical protocols, such as the Subjective, Objective, Plan and Assessment (SOAP) method for recording consultations, the American Society of Hospital Pharmacists (ASHP) method for reviewing pharmacotherapy, and Resolution CM. RES (2020)3 as a quality guideline. For the measurement of clinical outcomes, validated instruments were used: Brief Pain Inventory (BPI) for pain intensity and interference, Medication Regimen Complexity Index (MRCI) for prescription evaluation, ARMS Scale for drug adherence, and CPM-ES-ES for pain management perception.

RESULTS: The results demonstrated a significant reduction in pain intensity (initial median from 10.0 to 2.5 after intervention, $p<0.001$), as well as a decrease in the number of drugs per patient (median from 4.0 to 3.0, $p<0.001$). Furthermore, there was a significant improvement in adherence indicators (81%) and access to healthcare services (95%), with a substantial reduction in visits due to pain (86%).

CONCLUSION: It is concluded that pharmaceutical care, combined with multidisciplinary follow-up, significantly contributed to clinical improvement and the rationalization of pharmacotherapy, reinforcing its importance as an essential and cost-effective practice in the management of CP.

KEYWORDS: Clinical pharmacy services, Chronic pain, Medication adherence, Pain management, Pharmaceutical care.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor crônica (DC) afeta cerca de 30% da população mundial e constitui um dos maiores desafios para os sistemas de saúde, gerando impactos físicos, psicológicos, sociais e econômicos significativos. Nessa perspectiva, imagina-se que o cuidado farmacêutico, quando integrado a equipes multiprofissionais, seja capaz de reduzir a intensidade da dor, melhorar a adesão ao tratamento e racionalizar a farmacoterapia em pacientes com DC. O objetivo deste estudo foi avaliar a efetividade do cuidado farmacêutico no manejo da DC em pacientes atendidos pelo Programa de Extensão EDUCADOR da Universidade Federal de Alfenas.

MÉTODOS: Trata-se de um estudo observacional, descritivo, quantitativo e prospectivo, realizado com 22 pacientes diagnosticados com DC. O acompanhamento seguiu protocolos clínicos reconhecidos, como o método de dados Subjetivos, Objetivos, Avaliação e Plano de Cuidado (SOAP) para registro das consultas, o método da *American Society of Hospital Pharmacists* (ASHP) para revisão da farmacoterapia e a Resolução CM. RES (2020)3 como diretriz de qualidade. Para mensuração dos desfechos clínicos, foram utilizados instrumentos validados: *Brief Pain Inventory* (BPI) para intensidade e interferência da dor, Índice de Complexidade da Farmacoterapia (ICFT) para avaliação da prescrição, Escala ARMS para adesão farmacológica e CPM-ES-ES para percepção do manejo da dor.

RESULTADOS: Os resultados demonstraram redução significativa na intensidade da dor (mediana inicial de 10,0 para 2,5 após intervenção, $p<0,001$), bem como diminuição no número de fármacos por paciente (mediana de 4,0 para 3,0, $p<0,001$). Além disso, houve melhora relevante nos indicadores de adesão (81%) e no acesso aos serviços de saúde (95%), com redução expressiva das visitas devido à dor (86%).

CONCLUSÃO: O cuidado farmacêutico, aliado ao acompanhamento multiprofissional, contribuiu de forma significativa para a melhora clínica e a racionalização da farmacoterapia, reforçando sua importância como prática essencial e custo-efetiva no manejo da DC.

DESCRITORES: Adesão à medicação, Cuidado farmacêutico, Dor crônica, Manejo da dor, Serviços de farmácia clínica.

HIGHLIGHTS

- Implementation of strategies to improve therapy adherence and symptom control
- Continuous monitoring and review to promote the appropriate use of drugs
- Acting to integrate users into health services and expand access
- Collaborative care to prevent complications and improve quality of life
- Continuous monitoring to ensure the safety and effectiveness of pharmacotherapy

INTRODUCTION

Pharmaceutical care consists of a professional practice in which the pharmacist establishes a bond with the patient and the multiprofessional team, with the aim of aligning short- and long-term therapeutic goals and incorporating technologies and innovative strategies to enhance health outcomes[1]. This practice has proven to be highly relevant, as it contributes to the rationalization of pharmacotherapy, the detection and resolution of Drug-Related Problems (DRPs), the promotion of health education, and the coordination of multiprofessional care in pain management[2,3].

Pharmaceutical care programs have shown positive results in pain management, increased therapeutic adherence, and reduced inappropriate use of drugs, especially in primary care services and multidisciplinary teams[4]. From this perspective, the hypothesis is considered that structured pharmaceutical intervention, associated with multidisciplinary follow-up, may contribute to reducing pain intensity, promoting treatment adherence, and optimizing pharmacotherapy in individuals with chronic pain (CP).

Pain is an unpleasant sensory and emotional experience, associated with or similar to that associated with actual or potential tissue damage. CP is defined by its persistence for more than three to six months or by extending beyond the normally expected time for tissue healing[5]. It is a multifactorial condition that can result from neurological, musculoskeletal, inflammatory, or psychosocial causes[6,7]. Studies estimate that approximately 30% of the global population suffers from CP, negatively affecting the quality of life and psychological well-being of individuals[7]. In Brazil, the prevalence reaches 37%, being more common in the elderly and women[8]. This condition is associated with substantial economic costs, resulting from loss of productivity, absenteeism, early retirement, and frequent use of healthcare services[9-11].

Moreover, CP is often associated with the continuous use of analgesics, anti-inflammatory drugs, opioids, and adjuvant drugs, which can result in adverse effects, pharmacological interactions, the development of chemical dependence, and an increased risk of hospitalisations[10].

With the aim of ensuring methodological standardisation and precise measurement of outcomes, validated instruments and clinical protocols were applied. The Individual Functional Capacity Index (IFCI)[12] was used to assess functionality and the ability to perform daily activities, enabling an understanding of the impact of pain on the patient's autonomy and performance. The Brief Pain Inventory (BPI) allowed for measuring both the intensity of the pain and its interference in different aspects of life, such as mood, sleep, daily activities, and work. For this assessment, a scale from 0 to 10 was used, which classifies pain as mild, moderate, or severe[13].

In addition, the Spanish Pain Management Perception Questionnaire (CPM-ES-ES), validated for Portuguese[14], was used to assess patients' perception of pain control and the effectiveness of therapeutic strategies[15,16]. The ARMS Scale (Adherence to Refills and Medications Scale), in turn, made it possible to measure treatment adherence, providing essential information for the analysis of pharmacotherapy effectiveness[17].

In the regulatory field, the Resolution on the implementation of pharmaceutical care for the benefit of patients and health services (CM/Res-2020/3) by the Council of Europe was used as a reference for quality and safety in clinical pharmaceutical services, which reinforce evidence-based practice and multiprofessional integration[17].

To standardize clinical care, internationally recognized protocols were adopted. The SOAP method (Subjective, Objective, Assessment, and Plan) structured the record of consultations, organizing subjective and objective information, assessment, and care plan, which facilitated the analysis of pharmacotherapy, the identification of DRPs, and the planning of therapeutic interventions[18]. Complementarily, the method of the American Society of Health-System Pharmacists (ASHP) guided the review of pharmacotherapy, covering everything from the detection of DRPs to the proposal of appropriate interventions[16,17].

In this way, the combination of validated questionnaires, structured clinical protocols, and international guidelines allowed for a systematic and safe monitoring of patients, favoring both pain assessment and the analysis of pharmacotherapy and treatment adherence. This methodological approach reinforces the scientific robustness of the study and highlights the importance of standardisation and integration of pharmaceutical care in the management of CP.

The participants were selected among the patients attended by the EDUCADOR Project, conducted at the Pain Outpatient Clinic of the Federal University of Alfenas. The project was coordinated by a professor of Physiotherapy, a doctor in Pain Pharmacology, in partnership with a neurologist specializing in pain and a professor of Pharmacy, a doctor in Pharmacology, with experience in pharmacological vigilance and pharmaceutical care. The team also includes scholarship and volunteer students from the Medicine, Physiotherapy, and Pharmacy courses, who provided care under the supervision of the coordinating professors, forming an integrated multiprofessional team.

METHODS

This study has an observational, descriptive, and prospective design, with a quantitative approach. It was conducted from March 2023 to March 2024, involving patients attended by the "EDUCADOR" Extension Program of the Federal University of Alfenas (UNIFAL-MG), located in Alfenas, Minas Gerais.

Participants

The study involved individuals diagnosed with CP followed by the EDUCADOR Program. Those patients treated during the research period who consented to participate in pharmaceutical follow-up were included.

Inclusion and exclusion criteria

Inclusion: Adult patients with a diagnosis of CP with a persistent complaint for 3 months, over 18 years old, and who remained in care during the 5 months of the pharmacist's presence in the program.

Exclusion: Patients with a diagnosis of acute pain, under 18 years of age, or who discontinued pharmaceutical follow-up.

Sample

For this study, convenience sampling was adopted, as there was no probabilistic selection or randomization of participants. This type of sampling involves including individuals who are most accessible to the researcher and is commonly used in clinical and observational studies, especially in contexts of university extension and health services, where the recruitment of volunteers follows the natural flow of care. A total of 45 patients were identified, of which 22 met the inclusion criteria and were effectively included in the study.

Pharmaceutical care approach

Pharmaceutical care was provided by a pharmacy student under the supervision of faculty pharmacists. The care followed the process outlined in Resolution (CM/Res)3[17] on the implementation of pharmaceutical care, a guideline based on the ASHP method[16]. The following were collected: name, address, age, occupation, prescriptions, symptoms, vital signs, medical history, laboratory information, allergies, concerns about treatment, daily activities, diet, ethnic background, and financial situation. The data were divided into Subjective; Objective; Patient Assessment and Health Condition Evaluation; and Care Plan (SOAP), which includes the interventions of the team and the pharmacist, focusing on the identification of DRPs[18].

Drug-related Problems (DRPs)

The Pharmaceutical Care Network Europe Association (PCNE) is a scientific entity that brings together researchers and clinical pharmacy professionals with the aim of promoting and standardizing the practice of pharmaceutical care. Among its contributions, the standardisation of DRPs stands out, defined as events or circumstances that affect, or have the potential to affect, the expected outcomes of pharmacotherapy. These problems can compromise the effectiveness, necessity, safety, or adherence to treatment, encompassing situations such as adverse clinical effects, toxic reactions, inappropriate selection of the drug, dosage form, dose, or duration of therapy, as well as failures in understanding the prescription, dispensing the drug, or factors related to the patient's characteristics and behaviour[18].

Pain assessment

The intensity of the pain was measured using the Brief Pain Inventory (BPI), a validated instrument widely used in clinical assessment and research. The BPI allows for the quantification of both the intensity of pain and its interference in different aspects of daily life, such as general activities, mood, work capacity, and sleep. The intensity scale is based on the Numeric Pain Scale (NPS), where the patient assigns a value from 0 to 10: 0 represents no pain and 10 the worst imaginable pain. The pain classification follows conventional criteria: mild (1–3), moderate (4–6), and severe (7–10). This approach provides a comprehensive view of the impact of pain on the patient and allows for the evaluation of the effectiveness of the proposed interventions[13].

Drug adherence verification questionnaires

Adherence to treatment was evaluated using a questionnaire and a scale, the Spanish Pain Management Perception Questionnaire (CPM-ES-ES), which investigates the patient's perception of pain management and the effectiveness of therapeutic strategies. The pharmaceutical interventions were implemented and it was verified whether the suggestions were accepted by the patients, a factor that directly influences adherence, and the Adherence to Refills and Medications Scale (ARMS) assesses the patient's adherence to pharmacotherapy, investigating the frequency with which they correctly follow the medication regimen, omit doses, or alter the dosage, as well as delays in prescription renewals or acquisition of drugs.

The questionnaire was administered at the first consultation, at the end of the five-month follow-up period. The possible responses were: never (1), sometimes (2), frequently (3), and always (4), generating a total score ranging from 12 (optimal adherence) to 48 (very low adherence). In this way, adherence was evaluated considering the interventional therapy, the clinical evolution of the patient, and the increased understanding of their health condition[16].

Medication Regimen Complexity Index (MRCI)

The complexity of patients' pharmacotherapy was assessed using the Medication Regimen Complexity Index (MRCI), which quantifies the complexity of the therapeutic regimen considering pharmaceutical forms, administration frequency, and special instructions. The objective is to identify patients who may benefit from regimen simplification, education on drug use, or prescription review[12].

Study approved by the Research Ethics Committee of the Federal University of Alfenas (CLAEE 46727215.7.0000.5142).

Statistics

The data were analysed using the Bioestat 5.0 software. To evaluate the statistical significance of the reduction in pain score and the number of drugs, the Wilcoxon test for paired samples was used, due to the non-parametric nature of the data. Adherence to treatment and other binary outcomes were analysed using the McNemar test. The significance level adopted was $p < 0.05$.

RESULTS

The study includes 22 patients with CP, mostly female (72.7%), with an average age of 57.05 years (SD=11.85), ranging

from 38 to 74 years. The average duration of pain was 67 years (SD= 4.3). The most frequent diagnoses were fibromyalgia (27.7%), osteoarthritis/degenerative joint pain (13.6%), and demographic and clinical pan characteristics of the sample. (Tables 1, 2 and 3)

Impact on pain and pharmacotherapy

The pharmaceutical intervention resulted in a highly significant reduction in both pain intensity and the number of drugs used.

Table 1. Demographic and clinical characteristics of the sample (n=22).

Variables	Average/Value	Standard deviation	Minimum	Maximum
Age (years)	57.05	11.85	38	74
Female gender (%)	72.7	-	-	-
Duration of pain (years)	6.7	4.3	-	-
Number of consultations	6.91	5.47	3	20

Table 2. American Society of Hospital Pharmacists method for pharmaceutical care in 22 patients with chronic pain.

ASHP stage	Indicator/Result
1. Initial assessment	22 patients; fibromyalgia (27.7%), osteoarthritis (13.6%); mean pain scale 10; median 4
2. DRPs Identification	Polypharmacy: 7.85 drugs/patient; adverse effects: 59%; reactions: dipyrone (4), amitriptyline (3)
3. Monitoring	Mean final pain score 2.5 (median 3); drugs: 7.85→3.64 (-53.6%); pain improvement 91%; access 95%; adherence 81%
4. Implementation	Pharmacological and non-pharmacological adjustments; Guidance; dosage simplification; regular monitoring
5. Care plan	Pharmacotherapy optimization; polypharmacy reduction; health education; multidisciplinary referrals
6. Overall results	Significant reduction in pain and polypharmacy; improves adherence, access, and pain management

Table 3. Total Pharmaceutical Care Index (TPCI).

Patients	Initial Pain	Final Pain	Initial Drugs	Final Drugs	DRPs	Adherence (ARMS)	TPCI (0–10)
1	10	3	7	3	Reduced	Improved	9
2	10	3	8	4	Reduced	Improved	9
3	10	4	9	4	Maintained	Improved slightly	7
4	10	2	8	4	Reduced	Improved	9
5	10	3	6	1	Reduced	Improved	9
6	10	2	10	6	Reduced	Improved	8
7	10	1	9	3	Reduced	Highly improved	10
8	10	4	8	2	Partial	Improved slightly	7
9	10	2	12	10	Maintained	Improved	7
10	10	1	13	13	Did not reduce	Improved adherence	6
11	10	2	5	2	Reduced	Improved	9
12	10	1	9	5	Reduced	Improved	9
13	10	4	10	1	Partial	Improved slightly	7
14	10	2	7	3	Reduced	Improved	9
15	10	2	12	5	Reduced	Improved	9
16	10	4	11	4	Partial	Improved slightly	7
17	10	3	8	3	Reduced	Improved	9
18	10	4	11	5	Partial	Improved slightly	7
19	10	3	7	3	Reduced	Improved	9
20	10	2	8	4	Reduced	Improved	9
21	10	2	6	3	Reduced	Improved	9
22	10	2	7	1	Reduced	Improved	9

ARMS: *Adherence to Refills and Medications Scale*.

The pain scale, initially with a maximum median (10.0), reduced to 2.5 after the intervention ($p < 0.001$). Similarly, the number of drugs showed a significant reduction, decreasing from a median of 4.0 to 3.0 ($p < 0.001$). (Tables 4, 5 and 6).

Effectiveness of the intervention and outcome indicators

The effectiveness indicators demonstrated excellent post-intervention results (Table 3). The improvement in pain management (91%) and access to healthcare services (95%), the reduction in visits to the health center (86%), and the improvement in drug adherence (81%) of the patients stand out. (Tables 5, 6 and 7).

Adverse effects of inappropriate drugs

Of the 22 patients, 13 (59%) reported adverse drug reactions. Dipyrone was the drug with the highest frequency of reports (n=4), followed by tramadol and amitriptyline (n=3 each). The average number of drugs per patient showed a progressive reduction, decreasing from 7.85 at the beginning to 3.64 after 5 months of intervention, representing a total reduction of 53.6% (Table 8).

Analysis of identified DRPs

The most frequent DRP was treatment ineffectiveness (P1.2), identified in 20 patients (91%). Next, adverse events (P2.1) were observed in 13 patients (59%) and unnecessary therapy, including polypharmacy (P3.1), was present in 12 patients (54%). Other recorded DRPs included the use of inappropriate drugs (C1.2) in 5 patients (23%), a dose higher than necessary (C2.1) in 3 patients (14%), insufficient adherence (C3.2) in 5 patients (23%), and a lack of knowledge about the drug (C4.1) in 7 patients (32%) (Table 9).

These results demonstrate that the majority of DRPs were associated with unsatisfactory therapeutic efficacy, followed by adverse reactions and the use of therapies without indication, highlighting the need to prioritize pharmaceutical interventions aimed at managing CP.

Table 4. Results of the Wilcoxon test for paired samples.

Variables	Before (Median)	After (Median)	W Statistics	p-value
Pain Scale (0–10)	10.0	2.5	0.0	< 0.001***
Number of drugs	4.0	3.0	27.0	< 0.001***

***Level of statistical significance.

Table 5. Classification of pain intensity according to the BPI.

Patients	Initial Pain	Final Pain	BPI Classification
1	10	3	Light
2	10	3	Light
3	10	4	Moderate
4	10	2	Light
5	10	3	Light
6	10	2	Light
7	10	1	Light
8	10	4	Moderate
9	10	2	Light
10	10	1	Light
11	10	2	Light
12	10	1	Light
13	10	4	Moderate
14	10	2	Light
15	10	2	Light
16	10	4	Moderate
17	10	3	Light
18	10	4	Moderate
19	10	3	Light
20	10	2	Light
21	10	2	Light
22	10	2	Light

Table 6. Comparison of pain classification between BPI and END.

Patients	Initial pain	Final pain	BPI Classification	END Classification
1	10	3	Light	Light
2	10	3	Light	Light
3	10	4	Moderate	Moderate
4	10	2	Light	Light
5	10	3	Light	Light
6	10	2	Light	Light
7	10	1	Light	Light
8	10	4	Moderate	Moderate
9	10	2	Light	Light
10	10	1	Light	Light
11	10	2	Light	Light
12	10	1	Light	Light
13	10	4	Moderate	Moderate
14	10	2	Light	Light
15	10	2	Light	Light
16	10	4	Moderate	Moderate
17	10	3	Light	Light
18	10	4	Moderate	Moderate
19	10	3	Light	Light
20	10	2	Light	Light
21	10	2	Light	Light
22	10	2	Light	Light

Table 7. Individual results in the CPM-ES-ES and ARMS (initial and after 5 months, n=22).

Patients	Initial CPM-ES-ES	Final CPM-ES-ES	Initial ARMS	Final ARMS
1	4	18	30	15
2	40	15	28	14
3	38	20	27	16
4	44	19	29	17
5	41	16	30	15
6	39	17	27	15
7	43	14	31	13
8	40	22	28	17
9	42	18	29	14
10	45	15	32	15
11	39	17	27	15
12	41	14	29	13
13	38	22	28	18
14	40	16	27	14
15	44	15	31	14
16	43	23	29	18
17	41	19	30	16
18	42	21	29	17
19	40	16	28	14
20	43	18	31	15
21	39	17	27	14
22	41	15	29	13

ARMS: *Adherence to Refills and Medications Scale*.

Table 8. Evolution of the average number of drugs per patient.

Intervention period	Average number of drugs
Initial	7.85
After initial consultations	5.5
After 5 months	3.64

Table 9. Drug-Related Problems (DRPs) according to the Pharmaceutical Care Network Europe Association (PCNE) v9.1 classification (n=22).

Patients	DRPs (PCNE)
1	P1.2 Insufficient effect; P3.1 Unnecessary therapy
2	P1.2 Insufficient effect; P2.1 Adverse effect (dipyrone)
3	P1.2 Insufficient effect; C3.2 Insufficient adherence
4	P1.2 Insufficient effect; P2.1 Adverse effect (amitriptyline)
5	P1.2 Insufficient effect; C1.2 Inappropriate drug
6	P1.2 Insufficient effect; P3.1 Unnecessary therapy
7	P1.2 Insufficient effect; P2.1 Adverse effect (dipyrone)
8	P1.2 Insufficient effect; C4.1 Lack of knowledge
9	P1.2 Insufficient effect; P3.1 Unnecessary therapy
10	P1.2 Insufficient effect; P2.1 Adverse effect (amitriptyline)
11	P1.2 Insufficient effect; C2.1 Dose higher than necessary
12	P1.2 Insufficient effect; P3.1 Unnecessary therapy
13	P1.2 Insufficient effect; P2.1 Adverse effect (dipyrone)
14	P1.2 Insufficient effect; C3.2 Insufficient adherence
15	P1.2 Insufficient effect; P2.1 Adverse effect (amitriptyline)
16	P1.2 Insufficient effect; P3.1 Unnecessary therapy
17	P1.2 Insufficient effect; C4.1 Lack of knowledge
18	P1.2 Insufficient effect; P2.1 Adverse effect (other)
19	P1.2 Insufficient effect; C1.2 Inappropriate drug
20	P1.2 Insufficient effect; C2.1 Dose higher than necessary
21	P1.2 Insufficient effect; P3.1 Unnecessary therapy
22	P1.2 Insufficient effect; C4.1 Lack of knowledge; C3.2 Insufficient adherence

Note: The complete table with all 22 patients is available as supplementary material.

The results consistently demonstrate that the integration of pharmaceutical care within a multidisciplinary team has led to significant improvements in pain management, the rationalization of pharmacotherapy, and the quality of life for patients with CP.

DISCUSSION

The findings of this study demonstrate that pharmaceutical intervention in patients with CP was able to promote relevant clinical benefits, including a significant reduction in pain intensity, the rationalization of pharmacotherapy, and improved treatment adherence. The sample was predominantly composed of women, with an average age of 57 years, a profile consistent with the literature, which indicates a higher prevalence of CP in females and in intermediate and advanced age groups. Conditions such as fibromyalgia and osteoarthritis, diagnosed more frequently, reinforce the known relationship between these diseases, polypharmacy, and impact on quality of life[19].

The intervention resulted in a significant reduction in pain (initial median 10.0 to 2.5; $p<0.001$) and the number of drugs (initial median 4.0 to 3.0; $p<0.001$), indicating therapeutic optimization and greater safety in drug use. These findings corroborate international studies that describe the role of the pharmacist, associated with pharmacotherapy review, health education, and continuous follow-up, as an effective strategy to reduce pain scores in musculoskeletal and non-musculoskeletal conditions[20,21].

The effectiveness of the intervention was also reflected in positive indicators, such as the improvement in pain management (91%) and access to healthcare services (95%), as well as the reduction in visits to the health center (86%) and drug adherence (81%). Such results are in line with research that demonstrates the impact of the pharmacist not only on pain management but also on improving therapeutic adherence, quality of life, and the early detection of adverse drug events [22,23].

The identified DRPs — with a predominance of therapeutic ineffectiveness (91%), followed by adverse events (59%) and unnecessary therapies (54%) — reinforce the importance of systematic clinical review. Moreover, the reduction in the average number of drugs per patient (from 7.85 to 3.64 in five months, a reduction of 53.6%) demonstrates the contribution of pharmaceutical care in mitigating polypharmacy and preventing complications. Evidence suggests that, especially in the context of primary care, pharmaceutical follow-up can enhance the patient's knowledge about their condition and reduce pain scores in the medium term, reinforcing its importance in multiprofessional care[20,24].

Therefore, the results of this study, aligned with the existing literature, reinforce that the integration of clinical pharmacists into multiprofessional teams constitutes an essential strategy in the management of CP. In addition to favoring symptomatic control, this practice contributes to the rationalization of pharmacotherapy, the prevention of DRPs, and the improvement of adherence, consolidating the pharmacist as a central actor in the multidisciplinary care aimed at this population.

Limitations

The study presents significant limitations. The reduced participation (n=22) and convenience sampling may restrict the generalization of the results. The five-month follow-up may not reflect long-term effects, and the absence of a control group prevents direct comparisons. Moreover, the reliance on self-reports in the BPI and CPM-ES-ES may introduce biases. Future studies with larger samples, controlled designs, and prolonged follow-up are recommended.

CONCLUSION

The study demonstrated that pharmaceutical care integrated into the multidisciplinary team of the EDUCADOR Program significantly contributed to the management of CP. Relevant clinical improvement was observed, with a reduction in pain intensity, rationalization of pharmacotherapy, increased treatment adherence, and a decrease in the occurrence of adverse events. These results demonstrate that the inclusion of clinical pharmacists in pain management services provides direct benefits to patients and strengthens the safety and effectiveness of pharmacotherapy.

Therefore, pharmaceutical care should be recognized as an essential component in CP management strategies, both in healthcare services and in university extension programs, constituting an innovative and cost-effective practice.

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