

Occupational therapy and chronic pain - the didactic experience at academic pain league at the University of São Paulo medical school

Abstract

Occupational Therapy interventions for people with chronic pain focus on promoting independence/autonomy and rescuing meaningful activities (interrupted after the limitations brought about by illness). Various strategies can be used, such as: guidance on energy conservation and joint protection techniques, prescription and/or manufacture of positioning devices, prescription and/or manufacture of assistive technology equipment, development of creative and expressive activities, training activities of daily living, environmental assessment, guidance for family members and caregivers. This article aims to present the implementation of the Occupational Therapy Service at the FMUSP Pain League, developed since 2023. The work focused on implementing Occupational Therapy as one of the professions that make up the FMUSP Pain League, on a permanent and continuous basis; and, in addition, allow undergraduates teaching opportunities (theoretical and practical) related to the multidisciplinary care of people with chronic pain, as well as promoting research actions in the area of Occupational Therapy and Chronic Pain. In OT, a student and the supervising teacher work, together with the multidisciplinary team. Activities are weekly and take place at night. Remote and in-service supervision is carried out. The implementation took place in 3 stages. In the first stage, we sought to understand the dynamics of the league, as well as characterize the patients and their specific demands, through participant observation. The second stage was structured around the specific OT intervention; evaluations of league users were carried out, with the application of evaluation and recording instruments. The third stage focused on monitoring patients and families, with new assessments carried out when necessary. Interventions follows through individual plan care, family guidance, development of educational material, prescription and/or production of assistive technology devices. The service uses a specific evolution form and the data feeds into a service database. We consider that the results obtained are satisfactory, as theoretical and practical learning was possible for the participating student. Currently, Occupational Therapy is already part of the League's routine activities, with participation in the Introductory Course, in the Board of Directors and in planning activities for 2024.

Keywords: chronic pain, occupational therapy, university extension project, hospital care

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Abbreviations: OT, occupational therapy; USP, university of São Paulo; FMUSP, medicine school of São Paulo university

Introduction

Studies show that the global prevalence of chronic pain is between 11% and 40%¹. The research by Zimmer et al,² also indicates an average prevalence of pain in 27.5% of the population, with quite significant variations (9.9% to 50.3%); Moreover, the authors point out that women, the elderly and people living in rural areas are more likely to report pain. The collective impact generated by chronic pain and the resulting disabilities can be measured by the findings of the Global Burden of Diseases, Injuries, and Risk Factors Study 2017,³ which uses the parameter “years lived with disability” (YLDs) to assess the burden of non-fatal diseases on health systems. The figure below shows the health condition with the highest rate of YLDs by region, combined between the sexes, in 2017.³

In Brazil, the prevalence of chronic pain in the total population is approximately 45.59%⁴ (while in the Southeast this figure is 40%⁵ and, in the city of São Paulo, 28.1%.⁶ Regarding the profile of people affected by chronic pain, the latest Brazilian research has shown relationships between gender, age and level of education and the development of pain. Ferreira et al,⁶ concluded that women between

34 and 64 years of age and with less than 15 years of schooling are the people most affected by the condition. In addition, the authors also pointed out that the presence of comorbidities, such as musculoskeletal diseases, rheumatological diseases and mental disorders, increases the chance of developing chronic pain twice.⁶

For people with chronic pain, the disease has an impact on various areas of life. Kanematsu et al.⁷ in a survey of 379 users with chronic pain at a Basic Health Unit in the city of Araçatuba, found well-established relationships between the intensity of pain and negative changes in 6 domains: quality of life, ability to concentrate, locomotion, performance of daily activities, ability to work and negative feelings. They found that the greater the intensity of pain reported, the worse the indicators of personal satisfaction in the domains studied. In addition, the authors also point to the possibility of pain influencing the domains of sleep, mood, appetite and mental health.⁷ Pharmacological therapies are based on the analgesic ladder developed by the World Health Organization, initially aimed at managing cancer pain, according to which drugs should be administered in increasing order of dose and analgesic potential, until pain relief is achieved.⁸ The most common drugs are: anti-inflammatories, non-opioid analgesics, weak opioids, strong opioids and adjuvants such as antidepressants, anxiolytics, muscle relaxants and anticonvulsants, for example.⁸

Non-pharmacological therapies involve the participation of various professionals, such as psychologists, physiotherapists, occupational therapists and nurses, among others. The authors relate the importance of the multidisciplinary team to the neuromatrix theory, which proposes that, in the absence of tissue damage, psychological factors are fundamental to the experience of pain. These, in turn, are surrounded by the sociocultural context in which the subject is inserted.⁸ Occupational Therapy (OT) intervention promotes independence and autonomy for people with disabilities, functional limitations or social exclusion.⁹ According to American Occupational Therapy Association (AOTA), the OT uses everyday life activities (occupations) to promote health, well-being, and your ability to participate in the important activities in your life.¹⁰ Two main themes were identified as relevant to people with chronic pain: desire for independence and control, and adaptation to life with chronic pain. The need to adapt the home environment, decreased social participation, changes in family and social roles, and isolation were some of the specific themes brought up by the elderly in the survey.¹¹

There are still few published studies on the effectiveness of occupational therapy treatment for people with pain, but from the results of this research, it is possible to infer its importance and relevance. Müllersdorf¹² recommends that OT interventions to reduce pain and improve quality of life should focus on improving limitations in daily activities, work and/or leisure, further corroborating the importance of this professional in this field. In this context, it is essential that the subject of pain is part of undergraduate health courses, both as part of the curriculum and through extension and/or research activities. Since 2023, the students of OT have participated in FMUSP Academic Pain League, along with other graduation students (Medicine, Nursing and Psychology). The aim of this article is to report the implementation process of OT service and the results obtained so far.

Occupational therapy and pain

In the study carried out by,¹² the complaints and demands for occupational therapy reported by patients with pain were: imbalance of time (91.1%), great effort to carry out activities (89.8%), tension/stress due to pain (89%), support to resume activities (34.5%), need for changes in the home or work environment (40.4%). These results suggest that pain doesn't just interfere with occupational performance, but also with how people manage to organize their routine and divide their time between daily tasks. The author also points out that, as well as affecting occupational performance, pain (and the disruptions experienced in daily life as a result) can interfere with the emotional and affective state. The manual published by HOPE¹³ mentions the specific objectives of the occupational therapist in the treatment of people with pain:

- Improve the individual's control over pain;
- Maximize independence;
- Promote emotional well-being and adaptive capacity;
- Maintain the individual's activities and occupational roles;
- Offer support and guidance to family members and caregivers;
- Facilitate the patient's bond with the entire multi-professional team.

Tirado, Barreto and Leite¹⁴ list some actions and strategies to be developed by the occupational therapist:

- Education for care and self-care;
- Drawing up routine activities to make it easier to perform tasks,

prevent or reduce contractures, conserve energy and protect joints;

- Environmental planning and adaptation, whether at home, in hospital or in a long-term care facility. It should be emphasized that priority should be given to the environments most used by the elderly person and the activities they need and want to carry out;
- Guidance, training and support for family members and caregivers;
- Encouraging participation in socialization and leisure activities, respecting the elderly person's occupational history and helping to identify new interests and skills.

OT interventions with people with chronic pain also focus on restoring meaningful daily activities that were interrupted after the limitations brought on by the illness. To this end, various strategies can be used, such as: guidance on energy conservation and joint protection techniques, prescription and/or manufacture of positioning devices and orthoses, prescription and/or manufacture of assistive technology equipment, development of creative and expressive activities (individual or group), training in activities of daily living, environmental assessment, guidance for family members and caregivers, among others.¹⁵

The HOPE manual¹³ also includes the following as interventions by occupational therapists to control pain: anxiety management techniques, relaxation methods and fatigue control, as these symptoms contribute to worsening pain sensations. Stimulating and adopting self-care skills are strategies proposed by Agnolon et al.¹⁶ for controlling musculoskeletal pain in the elderly. The occupational therapist's main task is to guide the caregiver on stimuli and strategies to minimize pain in the elderly, training them to be facilitators of their independence and autonomy. Guidance for family members should also include: procedures to be carried out with the patient, such as training in activities of daily living, facilitating independence, other exercises, positioning in bed and in the chair; encouraging the patient to carry out pleasurable activities; comfort approaches (such as massage, touches, music, relaxation, etc.); communication strategies with the patient, especially for those with cognitive sequelae due to the disease, among others. Guidance on positioning and transfers can be provided by the therapist, in order to help the caregiver perform their activities better and provide comfort and safety for the elderly person.¹⁵ Listen the caregiver's own demands should be part of the treatment, and the therapist should be attentive to situations of overload and stress. It is also important to note that it is not uncommon for caregivers to complain of pain.¹⁵

Occupational therapy in the FMUSP academic pain league

Currently, there are four OT students and the supervising professor at FMUSP Pain League, together with the multi-professional team. Distance and in-service supervisions are carried out on an ongoing basis. The league's activities take place once a week at the Pain Outpatient Clinic in the Neurology Department of FMUSP's Hospital das Clínicas. Patients are referred to the League by the screening doctor and, in the League, they are assessed by all the disciplines, in a joint and interdisciplinary manner. The implementation of this service in the league took place in 3 stages, throughout 2023; and, the objectives of Occupational Therapy are: to establish Occupational Therapy as one of the professions that make up the Pain League on a permanent and continuous basis; to allow undergraduates didactic opportunities

(theoretical and practical) related to the multi professional care of people with chronic pain; to promote research actions in the area of Occupational Therapy and Chronic Pain.

In the first stage (February and March 2023), the aim was to get to know the dynamics of the league, as well as to characterize the patients and their specific demands, through participant observation. The activities carried out were: Observation of appointments, contact with the team, participation in the league's teaching activities, open interviews with patients and family members, preparation of an evaluation instrument in TO specific to the Pain League. The Occupational Therapy assessment form recalls some of the elements explored in the medical assessment, such as identity data, general health history and the history and specific characteristics of the main complaint, in this case pain. Next, based on the patient's account of a typical day, we try to find out the impact of the pain on their daily life, especially in the areas of sleep, fatigue, activities of daily living, work and family/social relationships. The patient is then asked about the material and immaterial resources they have access to, such as health services and a social support network, for example, and whether there are any demands in this regard. Finally, the patient is asked to report on the most important activities from their perspective, which activities have been interrupted and they would like to resume, and what their plans and wishes are for the future. Based on the information collected and the Client-Based Practice, the care plan is then drawn up.

The care plan takes into account the patient's demands, health situation and institutional context. Like most chronic health conditions, chronic pain requires long-term care, involving professionals from various areas and services at different levels of care. In this sense, considering the context of an academic league in a quaternary level hospital, which mainly treats patients in the acute stages of illness, the Occupational Therapy care plan consists of specific interventions. The care consists of listening, welcoming and validating complaints and suffering, health education, offering materials for self-management of chronic pain and referrals to local services.

The second stage, from April to June 2023, was structured around the specific intervention of OT; assessments were made of users of the league, using assessment and recording instruments. List demands in OT, based on direct and specific assessment of the profession. The third stage, from July to October 2023, focused on monitoring patients and their families, carrying out new assessments when necessary. Depending on the demands encountered, the interventions were followed up with individual care and guidance, family guidance, the development of educational material and the prescription and/or manufacture of assistive technology devices. The assistance is recorded on a progress form and the data is fed into a service database. During this period, a specific OT workshop was proposed for all the students and professionals involved in the Pain League, which helped to disseminate the profession among the league's members, as well as its specific intervention strategies.

Patients seen and patients monitored

Patients with different diagnoses, demands and behaviours were treated by Occupational Therapy, as described below. (Between 2023 and 2024, 20 users were assisted by OT).

Diagnoses: mechanical low back pain, fibromyalgia, orofacial pain, pain due to rheumatological diseases such as spondyloarthritis, musculoskeletal pain due to neurological conditions such as Wilson's syndrome and movement disorders, complex regional pain syndrome due to peripheral nerve damage.

Main demands of each in OT: the most commonly identified demands, common to most conditions, are: fatigue management, improved sleep quality and modification of activities of daily living and work, return to work activities.

OT conducts: reorientation of sleep habits and sleep ergonomics, guidance on incorporating the practice of physical activity, locating services in the territory for the composition of care (UBS, CAPS, CRAS, sports centers, CEUs, among others), postural guidelines for performing activities and adapting the task and the environment to reduce overload and fatigue, guidance and application for benefits such as free public transport, among others.

Final considerations and next steps

The results obtained so far are satisfactory; they have enabled the OT student participants to learn and gain practical experience. Currently, OT is already part of the League's routine activities, participating in workshops, discussions, lectures and all other demands at League. Since 2024, an OT student is on the Board of Directors of Pain League. In addition, a research project is underway, carried out in collaboration with the Pain League's coordinating team, on the profile of care services for people with chronic pain in the city of São Paulo. This paper proposed to present the main process for OT service implementation, based on the didactic experience of FMUSP Academic Pain League. It's a first step, with empirical results, to shown how much OT has major relevance at chronic pain care. But, more research is needed, specifically in Brazilian context.

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Conflicts of interest

The authors declare that there are no conflicts of interest.

References

1. Cohen SP, Vase L, Hooten HM. Chronic pain: an update on burden, best practices, and new advances. *Lancet*. 2021;397:2082–2097.
2. Zimmer Z, Fraser K, Grol Prokopczuk H, et al. A global study of pain prevalence across 52 countries: examining the role of country-level contextual factors. *Pain*. 2022;163(9):1740–1750.
3. GBD 2017 Disease and injury incidence and prevalence collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet*. 2018;392:1789–1858.
4. Aguiar DP, Cleanis P, Wania J, et al. Prevalence of chronic pain in Brazil: systematic review. *BrJP Sao Paulo*. 2021;4(3):257–267.
5. Souza JB. Prevalence of Chronic pain, treatments, perception, and interference on life activities: brazilian population-based survey. *Pain Research and Management*. 2017.
6. Ferreira KASL, Telma R, Daniel C, et al. Prevalence of chronic pain in a metropolitan area of a developing country: a population-based study. *Arq Neuropsiquiatr*. 2016;74(12):990–998.
7. Kanematsu JS, Beatriz A, Beatriz F, et al. Impact of pain on the quality of life of patients with chronic pain. *Rev Med São Paulo*. 2022;101(3):192586.

8. Salum AMC, Garcia DM, Sanches M. Acute and chronic pain: a narrative review of the literature. *Acta Paul Enferm.* 2012;25:150–154.
9. Occupational therapy course. USP: Universidade de São Paulo. Brazil. 2017.
10. What is occupational therapy? AOTA: American Occupational Therapy Association. USA, 2023.
11. Holloway I, SofaerBennet B, Walker J. The stigmatisation of people with chronic back pain. *Disability and Rehabilitation.* 2007;29(18):1456–1464.
12. Mullersdorf M. Needs and problems related to occupational therapy as perceived by adult swedes with long-term pain. *Scandinavian Journal of Occupational Therapy.* 2002;9(2):79–90.
13. Hope. College of Occupational Therapists. Occupational Therapy in Cancer. London: College of Occupational Therapists. 2004. pp. 24.
14. Tirado MGA, Barreto KML, Leite VMM. Occupational Therapy, pain and palliative care in the aging process. In: De Carlo MMRP, Queiroz MEG. *Pain and palliative care - occupational therapy and interdisciplinary.* São Paulo: Roca. 2008;288–306.
15. Othero MB, Serelli LS. Non-pharmacological approach to pain: occupational therapeutic measures. In: Santos FA, Souza PMR. *Task force on pain in the elderly.* SP: Grupo Editorial Moreira Jr, 2011.
16. Agnolon MC, Santos SS, Almeida MHM. Postural guidance group for elderly people with musculoskeletal pain: establishing relationships between theory and practice. *Journal of occupational therapy of the university of são paulo.* 2006;17(2):80–86.