

Referrals Prevalence of the musculoskeletal diseases according to the international statistical classification of diseases (ICD-10): reflections for education in musculoskeletal physiotherapy

Prevalência de encaminhamentos às doenças musculoesqueléticas segundo a classificação estatística internacional de doenças (CID-10): reflexões para formação do fisioterapeuta na área de musculoesquelética

Prevalencia de las remisiones a las enfermedades musculo esqueléticas según la Clasificación Estadística Internacional de Enfermedades (CIE-10): reflexiones a la formación del fisioterapeuta en el área de musculo esquelético

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ABSTRACT | Musculoskeletal pain can be characterized as acute or chronic and is the most prevalent symptom in the population. It might be assumed that pain will be present in the lives of all adults. Its incidence has greatly increased in recent years due to changes in lifestyle, environment as well as stress and the increasing demands of the corporate world. Expenses with this injury are increasing and their physical, psychological and social consequences are evident. Although with significant impact on the lives of people with musculoskeletal pain, there are few reflections that relate teaching, service demands and musculoskeletal diseases. This is a descriptive quantitative epidemiological study type survey, which aimed to describe the profile of referrals for physical therapy procedures and related services to International Statistical Classification of Diseases, ICD-10, in the city of Ribeirão Preto and provide reflections for professional training in Brazil. The results showed a higher frequency of referrals of female patients (70.52%), low back pain represented the most frequent ICD-10 (12.14%) and Physical Therapists, Physiatrists and Clinical Doctors were responsible for most of the referrals, with 48.57% of cases. Most referrals were for outpatient services (57.55%). It is aimed to provide to health service managers and those responsible for health training with

the results of this research some elements to organize the demand for care users, server training and support research initiatives, monitoring, preventing these events and updating the teaching strategies.

Keywords | Physical Therapy Modalities; Musculoskeletal; Teaching.

RESUMO | A dor musculoesquelética pode ser caracterizada como aguda ou crônica e é o sintoma mais prevalente na população mundial. É possível afirmar que estará presente na vida de todos os adultos. A incidência tem aumentado muito nos últimos anos em função das mudanças nos hábitos de vida, meio ambiente, além do estresse e aumento das cobranças no mundo corporativo. Os gastos com esse agravo são cada vez maiores e suas consequências físicas, psicológicas e sociais são evidentes. Embora com significativo impacto na vida das pessoas com dor musculoesquelética, poucas são as reflexões que relacionam ensino, demandas de serviços e as doenças musculoesqueléticas. Trata-se de um estudo epidemiológico quantitativo descritivo, tipo levantamento, que teve como objetivo descrever o perfil dos encaminhamentos aos serviços de Fisioterapia e procedimentos relacionados a Classificação Estatística Internacional de Doenças, CID-10, na cidade de

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Ribeirão Preto e fornecer reflexões para a formação profissional no Brasil. Os resultados apontaram uma maior frequência de encaminhamentos do sexo feminino (70,52%), a dor lombar baixa representou a CID-10 mais frequente (12,14%) e os profissionais Fisioterapeutas, Fisiatras e Médicos Clínicos foram os que mais encaminharam, com 48,57% dos casos. A maioria dos encaminhamentos foi para serviços ambulatoriais (57,55%). Com os resultados, almejou-se fornecer aos gestores dos serviços de saúde e aos responsáveis pela formação em saúde elementos para organizar a demanda de cuidado aos usuários, capacitação de servidores e fundamentar iniciativas de pesquisa, acompanhamento, prevenção desse agravo, além de atualizar as estratégias de ensino.

Descritores | Modalidades de Fisioterapia; Musculo Esquelético; Ensino.

RESUMEN | El dolor musculo esquelético puede caracterizarse como agudo o crónico y es el síntoma más frecuente en la población mundial. Es posible afirmar que estará presente en la vida de todos los adultos. Su incidencia como aguda o crónica ha aumentado mucho en los últimos años en función de cambios en el estilo de vida, del medioambiente, además del estrés y aumento de los cobros en el mundo laboral. Se gasta mucho con este problema y sus consecuencias físicas, psicologías y sociales

son evidentes. Aunque con significativo impacto en la vida de los sujetos con dolor musculo esquelético, las reflexiones que relacionan enseñanza, demanda por servicios a las enfermedades musculo esqueléticas son pocas. Se trata de un estudio epidemiológico cuantitativo descriptivo, de tipo encuesta, que tuvo por objetivo describir el perfil de las remisiones a los servicios de fisioterapia y los procedimientos relacionados a la Clasificación Estadística Internacional de Enfermedades, CIE-10, en la ciudad de Ribeirão Preto, SP, con el fin de producir reflexiones a la formación profesional en el Brasil. Los resultados muestran una mayor frecuencia de remisiones del género femenino (70,52%), el dolor lumbar baja representó la CIE-10 más frecuente (12,14%) y los profesionales fisioterapeutas, fisiatras y médicos clínicos fueron los que más encaminaron la gente, con el 48,57% de los casos. La mayoría de las remisiones fueron para servicios de ambulatorio (57,55%). Con los resultados, se anheló proporcionar a los gestores de salud y a los responsables por la formación en salud elementos para organizar la demanda de cuidado a los sujetos, capacitación de los empleados públicos y fundamentación de iniciativas de investigación, supervisión, prevención del problema, además de actualización de estrategias de enseñanza.

Palabras clave | Modalidades de Fisioterapia; Musculo Esquelético; Enseñanza.

INTRODUCTION

It is not possible to deny the globally increasing demand for health services that result from chronic non-communicable diseases which arise, directly or indirectly, from the demographic, nutritional and epidemiological transition^{1,2}, and as such is highlighted as a problem for global health and human development³.

A study published in The Lancet journal showed that the burden of musculoskeletal disease in Brazil has reached the same level as types of cancer, at 6%, when the Disability-Adjusted Life Years (DALYs – adjusted years of life lost by disability) is applied³⁻⁵. Musculoskeletal pain is defined as an unpleasant sensory experience that affects the joints, bones, cartilage, ligaments, tendons, tendon sheaths and bursae and muscles⁴.

Individuals with musculoskeletal disorders primary complaint is pain, and it is this type of pain that is most prevalent in the world population⁶⁻⁸. Despite being considered a frequent health problem, that often results in many personal and economic losses, little is known

regarding this condition's epidemiology in Brazil^{3,9,10}. The largest amount of information that exists in Brazil are results provided by health services, which show prevalences of between 40% and 60%^{5,8-10}.

In spite of the fact that the treatment of most musculoskeletal disorders may involve physiotherapeutic care being demanded spontaneously or by doctor's reference, these data are not available in the literature. In this case, the role of physiotherapy is to promoting quality of life, preventing and alerting as to possible risks and rehabilitating¹².

The Brazilian city of Ribeirão Preto is ranked 21st best among the country's 442 municipalities in terms of their Human Development Index (HDI)^{13,14}, it also has good access to health and social indicators, with this being considered a point of reference in health¹⁴. Access to health care can be measured through the use of services and is characterized as a positive expression because it can have an impact on the populations' health¹⁵. It is also understood that professional training should be guided through the epidemiology of the population's main health problems^{3,15}. Indicators, such as referrals

to physiotherapy consultation, can collaborate with the planning of theoretical and practical teaching program contents.

Thus, the objective of this study was to describe the profile of referrals to physiotherapy consultation and procedures related to chapter XIII of the International Statistical Classification of Diseases and Related Health Problems, ICD-10, as well as reflect on physiotherapist training in the musculoskeletal field in Brazil.

METHODOLOGY

This is a quantitative and descriptive epidemiological study that used information from 2011 and 2012, taken from the computerized database at the Department of Computer Science, Statistics, Control and Evaluation (DIECA) of the Ribeirão Preto Municipal Health Secretariat – SMS/SP. The city has an internal computerized system that generates consultation schedules – Scheduling System for Specialized Consultations (SACE) – which includes the regulation of its own public services and physiotherapy health plan. The regulatory policy for the Health service (SUS) indicates the Regulator Complex (CR) as a strategy which is capable of promoting transformations in social assistance practices as well as in the assessment and management model¹⁶.

This study used the per the International Statistical Classification of Diseases and Related Health Problems (ICD-10) as a diagnostic tool, conceptualized so as to standardize and catalog diseases and problems related to health, using the International Classification of Diseases established by the WHO as a reference. It is set out in 21 specific chapters represented as I to XXI¹⁷.

In accordance with the study's purpose, the collections and analyses were chosen to be discussed in chapter XIII – Diseases of the Musculoskeletal System and Connective Tissue (M00-M99) from the ICD-10. Thus, two databases were created: Database 1, with raw data containing all referrals to physiotherapy services, with all chapters from the ICD-10, representing 100% of referrals per consultation; and Database II, where only referrals from Chapter XIII were included.

The results were tabulated and described using proportion frequencies, standard deviation, means and medians as shown in the tables (EXCEL 2013/STATA – version 9.0). Based on these results, the analyses were

described in terms of their sociodemographic characteristics and the referrals' characteristics.

RESULTS

From January 1st, 2011 to December 31st 2012, there were 9561 observed records of referrals to physiotherapy consultation, with 6,516 of these referrals, i.e. 67.52%, being related to Chapter XIII of the ICD-10.

The city established that only five medical specialties (Physiatry, Trauma-Orthopaedics, Neurology, Geriatrics-Gerontology and Rheumatology) would qualify as per the reference guides for Physiotherapy services. Of the 9,651 referrals, 49.09% (4,738) came through physiotherapy/Physiatry/General Practice, 40.67%, (3,925) Trauma-Orthopaedics, 5.37% (518) Neurology and Neurosurgery, 1.84% (178) Geriatrics-Gerontology and 1.48% (143) from Rheumatology. The outstanding 1.55% (149) professions were typing errors.

From the 6,516 cases (Database II), the majority of the referrals were female individuals (70.52%), where the male proportion made up the remaining 29.48%. The total difference between men and women was 41.04%. Stratified by age group, the results showed that, in all age groups, the highest frequency was female referral patients. Based on a joint analysis of the sexes, the most frequent age group was 50 to 59 years of age (25.69%). Further observation of the results showed that the highest frequencies are concentrated in the 40 to 79 age groups, which when combined make up 79.24% of the total.

Individuals referred with clinical disease diagnosis (Chapter XIII) were averagely 55 years of age (± 16 years), a median of 57 and a mode of 52, with the minimum and maximum ages found in the records being 2 and 98 years of age, respectively.

The distribution of clinical disease diagnosis or grievances was defined by the ICD-10 code and its respective description. In Database I, referring to the total of number referrals to Physiotherapy (n=9,561), 430 descriptors were found. Lower back pain was the main cause for referral to Physiotherapy, representing 17.99% of the specific records from Chapter XIII and 12.14% from all the chapters. The "Others" item represents the sum of the other cited descriptors, thereby registering 22.55% (Table I).

With regards to the referrals and the specific physiotherapy procedure, for the five most common referrals

from Chapter XIII, the most frequent requests were care procedures in terms of motor alterations with 70.86%, followed by pre- and post-operative patient care for musculoskeletal disorders, representing 24.71%.

Table 1. Distribution of the frequency of clinical diagnoses from referrals to physiotherapeutic services of the total requests (Total% n=9,561) and from Chapter XIII of the ICD-10 (n=6,516) in the city of Ribeirão Preto – SP, Brazil, in 2011 and 2012

ICD-10	Specific Name from the ICD-10	% Chapter XIII (absolute)	% Total
M545	Low back pain	17.99 (1,172)	12.14
M751	Rotator cuff syndrome	6.57 (428)	4.43
M179	Unspecified gonarthrosis	6.11 (398)	4.12
M54	Dorsodynia	4.88 (318)	3.29
M999	Unspecified biomechanical lesions	4.02 (262)	2.71
M65	Synovitis and tenosynovitis	3.65 (238)	2.47
M479	Unspecified spondylosis	3.27 (213)	2.21
M511	Disorders of lumbar intervertebral discs or other discs with radiculopathy	3.13 (204)	2.11
M544	Lumbago with sciatica	3.02 (197)	2.04
M542	Cervicalgia	2.76 (180)	1.87
M170	Bilateral primary gonarthrosis	2.72 (177)	1.83
M17	Gonarthrosis	2.44 (159)	1.65
M19	Other arthrosis	2.24 (146)	1.51
M750	Adhesive capsulitis of the shoulder	2.19 (143)	1.48
M75	Shoulder injuries	1.61 (105)	1.09
	Other*	33.39 (2,176)	22.55
	CHAPTER XIII SPECIFIC TOTAL	100.00 (6,516)	67.52

Source: Secretaria Municipal de Saúde de Ribeirão Preto (SMS/RP)

* Total of other descriptors from Chapter XIII appear at a frequency of below 1%

It was noted that in Database II requests for physiotherapy for those conditions set out in Chapter XII (n=6516) were destined: to hospital units, 57.55% (3750); to Specialist Centers/University Clinics, with 36.4% (2372); to District Health Units (UBDS), with 6.05% (394).

DISCUSSION

The results from this study demonstrated that the diagnoses, from the ICD-10 of musculoskeletal conditions, that were most referred to physiotherapeutic

care were for low back pain, rotator cuff syndrome, unspecified gonarthrosis, dorsodynia and unspecified biomechanical lesions, in both sexes. Users who were diagnosed with musculoskeletal conditions were mostly between 40 and 79 years of age. The majority of these users were women and most of the physiotherapeutic procedures were requested at secondary and tertiary level services. The initial procedure was caring for motor alterations with and without a pre- or post-operative follow-up characteristic.

The total number of referrals increased by 20.02% in 2012 compared to 2011. This data can reflect an increase in the search for health services and it cannot be ignored that in Brazil^{2,16,18} and the world as a whole^{5,7} the number of those affected by musculoskeletal diseases^{3,11,14} is increasing.

Despite Applied Physiotherapy to Traumatology and Orthopedics or musculoskeletal conditions being recognized as a traditional area of training, it is important to ensure that professional training is able to meet this profile both from the point of view of specialized care, and knowledge building¹⁵ directed towards permanent education and evidence-based practice.

The “evidence-based practice” (EBP) stems from Evidence-Based Medicine. Nowadays, this methodology has become a resource that is accepted worldwide, in addition to being used by various professions, and has become an indispensable resource for professional physiotherapists¹⁸.

Considering the four diagnoses from Chapter XII Diagnostics that were most referred to physiotherapy in this study, scientific evidence was sought from the Physiotherapy Evidence Database – PEDro for practical use. Using the keyword “low back pain”, 1,942 texts were found, there were 60 hits with “shoulder impingement syndrome”, 902 for “osteoarthritis”, and 21 for “dorsal pain”. The results included practical guides, systematic reviews, with and without meta-analysis, and clinical studies of differing levels of scientific quality. This situation provides reflection regarding academic training and tends to increase the demand on professionals in terms of ensuring practice that is increasingly based on scientific evidence¹⁸.

Specialized units/university clinics accounted for 36.4% of referrals; in order to assist in this discussion, the syllabuses from the disciplines related to Applied Physiotherapy, Orthopedics and Traumatology were consulted from the physiotherapy courses at the three institutions associated to the municipality. Despite

the fact that some of the most referred musculoskeletal conditions make up part of the syllabus of the subjects, it is not possible to demonstrate that adopting “evidence-based practice” is taught in them. However, the syllabuses often do not faithfully represent the course contents or are simply out of date; considering that guidelines, reviews or meta-analysis studies for Low Back Pain^{19,20}, Rotator Cuff Syndrome^{21,22}, Osteoarthritis^{23,24} and Dorsodynia^{25,26} are available, officially documenting the inclusion of such content is relevant as is utilizing a methodological approach directed at current scientific evidence.

According to the World Confederation for Physical Therapy (WCPT)²⁷ and the American Physical Therapy Association (APTA)²⁸, physiotherapy should offer solutions based on the best available scientific evidence for musculoskeletal conditions, in comparison with alternative treatments. These recommendations are present during training. The WCPT claim that the EBP is more easily absorbed in environments that promote this practice, making training an ideal time for these steps²⁷.

Women are more interested in their general well-being and use health services with more regularity^{2,5,10}. The study showed that women accounted for the largest share of referrals. This result can also be associated with women’s health care programs^{2,8,15} in addition to the fact there are undergraduate women’s health courses available¹².

Male referrals accounted for almost 30%. This study encourages reflection on human health care and the importance of education. In 2008, the National Policy of Integral Attention to Men’s Health (PNAISH) was created, recommending that health professional educational institutions should promote actions targeted at men’s health during the training process³⁰. However, this distinction is not historically observed in Physiotherapy regarding men’s health care. Including discussions in such specific disciplines in graduation courses is important, this is because there is still a lack of studies geared toward education, healthy lifestyle and health promotion for this group^{16,30}.

Finally, the use of a secondary database stood out as a limitation for this study, which in this case, in particular, meant that the information collected were manually typed by the DEICA of the reference guides. However, there are few municipal computerized databases; thus, in this respect, this article aims to assist the regulator complex in the improvement of services.

CONCLUSION

This study showed that among the medical referrals for public physiotherapeutic care in this city, the highest prevalence of musculoskeletal diagnoses included low back pain, rotator cuff syndrome and unspecified gonarthrosis.

Evaluative research tends to assist in decision-making, generating indicators and contributing to health service improvement. This aspires to be another tool directed towards more reliable indicators and to promote grants for updated training that is based on the main known musculoskeletal conditions.

Considering that the curricular guidelines must promote training that empowers prospective physiotherapists with the best scientific evidence and the best available treatment resources, it is expected that this study will contribute to the reflection and the improvement of education, while considering patient epidemiological profiles and demographics.

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