

Approach to the evaluation methods in fibromyalgia and chronic pain applied to information technology: literature review in journals, between 1998 and 2008

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ABSTRACT

The objective of the present study was to perform a literature review, in an exploratory and analytical way, to determine the research approach in fibromyalgia and chronic pain descriptors related to the matter of information technology. In order to achieve this goal, a bibliographic survey in the electronic databases SciELO, LILACS and PUBMED was carried out. The search for articles was made exclusively in journals found in these databases, and only those published from 1998 to 2008 were considered for the study. The results showed a great variety of assessment questionnaires for fibromyalgia syndrome, among which the following questionnaires stood out in number of citations in articles: Fibromyalgia Impact Questionnaire (FIQ), Quality of Life Assessment – SF-36 Questionnaire, Beck Depression Inventory, Visual Analog Pain Scale (VAS), American College of Rheumatology Criteria (ACR), State-Trait Anxiety Inventory (STAI), and McGill Pain Questionnaire. The Fibromyalgia Impact Questionnaire (FIQ) was the most cited in both fibromyalgia (57%) and chronic pain (56.3%) descriptors. The association of fibromyalgia and chronic pain descriptors with the subject of information technology resulted in 26 articles, representing 9.7% of all articles found in the search. There was also a considerable increase in the number of research carried through during the years 1998-2007, with an annual growth rate of 26%.

Keywords: fibromyalgia, chronic pain, information technology, health informatics.

INTRODUCTION

Fibromyalgia is a painful syndrome characterized by diffuse muscular pain that is associated with the painful hypersensitivity of muscle areas at digital palpation.¹ This syndrome affects predominantly woman between the ages of 40 and 55, and is associated with generalized fatigue, sleep disorders, morning stiffness, dispnea, anxiety, and depression among other symptoms.²

In 1990, the American College of Rheumatology (ACR)³ established diagnostic criteria for the fibromyalgia syndrome,

which is still currently used. These criteria are characterized by pain with duration greater than three months, on both sides of the body, above and below the waist line. Pain upon palpation should be present in at least 11 of the 18 points established by the ACR (*tender points*). Because this syndrome involves many factors, the evaluation instruments are represented by multiple questionnaires that differ in certain aspects. Therefore, it can be difficult to access and interpret the tabulated data.

Among these evaluation questionnaires, the ACR Criteria for Fibromyalgia, Fibromyalgia Impact Questionnaire (FIQ), Medical Outcomes Study 36 – Item Short-Form Health Survey

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(SF-36), Beck Depression Inventory (BDI), Visual Analog Pain Scale (VAS), State-Trait Inventory of Anxiety, and the McGill Pain Questionnaire, among others, are highlighted.

The use of these questionnaires allows the evaluation of subjective symptoms, assessing the variations among groups and time, in a more objective way.⁴ The health information system facilitates the elaboration of an efficient medical treatment by acquiring, keeping and processing data.⁵

This study has the main objective of identifying the most commonly used evaluation questionnaire for fibromyalgia and chronic pain between the years of 1998 and 2008, as well as the frequency of its publication in this period. Another important objective is the recognition of an existing system of information related to fibromyalgia and chronic pain, the investigation of studies with these keywords in the last years, and if these studies awakened an interest in researchers.

MATERIAL AND METHODS

A bibliographic investigation was performed using the database in the virtual library SciELO (<http://www.scielo.br>), LILACS (<http://www.bireme.com.br>), and the database PubMed (<http://www.pubmed.com.br>). In these databases, only indexed journals were identified.

The criteria of inclusion for the search done in the PubMed database was the period of publication between the years of 1998 and 2008, with the descriptors fibromyalgia and questionnaire, as described below. An advanced search of abstracts was done, including not only the terms *fibromialgia* and fibromyalgia in the field “subject”, but also the terms: Fibromyalgia Impact Questionnaire (FIQ), Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36), Beck Depression Inventory (BDI), State-Trait Anxiety Inventory (STAI), Visual Analog Pain Scale (VAS), McGill Pain Questionnaire, and Post Sleep Inventory. The Portuguese versions of these surveys were also searched: *Questionário de Impacto da Fibromialgia (QIF)*, *Questionário de Qualidade de Vida SF-36*, *Inventário de Depressão de Beck (DBI)*, *Inventário de Ansiedade Traço-Estado (STAI)*, *Escala Visual Analógica da Dor*, *Questionário de Dor de McGill* e *Inventário do Sono*. These terms were used as search criteria because they were found in published books of this field. A similar process was used with the descriptors “*dor crônica*” and “chronic pain”, in conjunction with the previously mentioned surveys in both languages, English and Portuguese. It should be noted that, of the articles with the term “chronic pain”, only those that stated the term *fibromialgia* or fibromyalgia were considered.

On the subject information technology, an advanced search was done in the PubMed, LILACS and SciELO database, adopting as criteria for inclusion articles in the period of 1998 to 2008, as well as the keywords *fibromialgia* and fibromyalgia in the field “subjects”, and terms like database, electronic medical record, computerized medical records and medical record systems, and their Portuguese versions, “*prontuário eletrônico de paciente*”, “*prontuário eletrônico*”, “*sistemas computadorizados de registros médicos*”, “*registro eletrônico de pacientes*”, “*banco de dados*”, “*base de dados*”. With the definition of the research material, an exploratory analysis of the articles through the reading of abstracts was done, with respect to their most frequently used scales for the assessment of fibromyalgia and chronic pain, disregarding the scales with a frequency rate below 10%. Furthermore, the year of publication of these articles was studied in the three databases, between the years of 1998 and 2008. After the organization of the scales and the year of publication, charts and tables were made to analyze and present the results, in order to be discussed in a posterior moment.

RESULTS

Two hundred and twenty-five articles were found in PubMed, 33 in LILACS and 10 in SciELO, in the research done for the terms fibromyalgia and *fibromialgia*. For the terms “chronic pain” and *dor crônica*, 30 articles were found in PubMed, none was found in LILACS, and 2 were found in SciELO.

A total of 267 articles were found in the three databases (PubMed, LILACS, and SciELO) with the keyword fibromyalgia and the Portuguese term *fibromialgia*, associated with the scales defined in the methodology. After the organization of the articles, as represented in Table 1, the evaluation instruments most used were the FIQ, with 57%, followed by Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36) with 35.20%, BDI with 25.09%, the Visual Analog Pain Scale (VAS) with 21.34%, the ACR criteria for Fibromyalgia with 17.97%, STAI with 13.10%, and the McGill Pain Questionnaire with 10.50% of the results.

The articles found in the PubMed, LILACS, and SciELO databases with the keywords “chronic pain” and in Portuguese “*dor crônica*”, associated with the advanced search of the questionnaires defined in the methodology, add up to 32 articles. After repetitive analysis, as stated in Table 2, the FIQ represented 56.25% of the articles published, followed by Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36) with 50%, Beck Depression Inventory with 20.62%, the McGill Pain Questionnaire with 31.25%, and the ACR

criteria with 15.62%. The Anxiety Inventory and the Spielberg State, Health-Related Quality of Life – HRQOL, Visual Analog Pain Scale, Brief Pain Inventory, and Pittsburgh Sleep Quality Index attained 12.50% each.

Associating the results of “fibromyalgia” and “chronic pain” with the advanced search of the questionnaires defined in the methodology, the articles found in databases totaled 299. With this association, as stated in Table 3, the Fibromyalgia Impact Questionnaire represented 56.85% of the published articles, followed by Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36) with 36.79%, Beck Depression Inventory with 26.42%, Visual Analog Pain Scale with 20.40%, ACR criteria with 17.34%, Anxiety Inventory- Spielberg State

with 13.05%, and finally the McGill Pain Questionnaire with 12.70%. Although the ACR criteria for Fibromyalgia includes the evaluation of the *tender points*, 62 articles were excluded from the study because they only reported as “evaluation of tender points” and not as “evaluation according to the American College of Rheumatology Criteria”.

Regarding the “information technology”, twenty articles were found for the terms fibromyalgia and *fibromialgia*, and six articles for the terms “chronic pain” and “*dor crônica*” only in PubMed, where the term “database” attained 90% and the term “medical records system” 10% (Table 4). The terms “electronic medical records” and “computerized medical records” were not found in the three databases searched.

Regarding the articles found with terms related to the subject “information technology” and “chronic pain” in the three databases, a total of six articles was found, as shown in Table 5. In this table, the term database corresponds to 84.4% and medical records system to 16.60%. Therefore the term *database* showed a number of citations equal to 4, followed by the term *medical record system*, with 2 citations. The terms *electronic medical record* and *computerized medical record* were not cited in the articles found.

The articles were also ordered according to the year of publication related to the three databases, PubMed, LILACS, and SciELO. Graph 1 shows that in 1998 three published articles were found with the terms fibromyalgia and chronic pain, and the terms in Portuguese *fibromialgia* and *dor crônica*, associated with the evaluation surveys, as described beforehand in the methodology. Seven articles were found in 1999; 23 articles in 2000; 16 articles in 2001, 2002, and 2003; 33 articles in 2004; 29 articles in 2005; 36 articles in 2006;

Table 1

List of questionnaires used in articles found with the term fibromyalgia in the abstract

Scales	LILACS	PubMed	SciELO	Total	%
FIQ	12	139	1	152	57%
SF-36	7	85	2	94	35.2%
Beck Depression	7	59	1	67	25.09%
Analogic Pain Scale	9	47	1	57	21.34%
American College Rheumatology	7	36	5	48	17.97%
STAI	5	29	1	35	13.1%
McGill Questionnaire	0	28	0	28	10.5%
Total:				267	

Table 2

List of questionnaires used in the articles with the term “chronic pain” in the abstract

Scales	LILACS	PubMed	SciELO	Total	%
FIQ	18	0	0	18	56.25%
SF-36	16	0	0	16	50%
Beck Depression	12	1	0	13	40.62%
McGill Questionnaire	10	0	0	10	31.25%
American College Rheumatology	5	0	0	5	15.62%
STAI	4	0	0	4	12.5%
HRQQL	4	0	0	4	12.5%
Analogic Pain Scale	4	0	0	4	12.5%
Brief Pain Inventory	4	0	0	4	12.5%
Pittsburg Sleep Quality Index (PSQI)	4	0	0	4	12.5%
Total:				32	

Table 3

List of questionnaires used in the articles found with the terms fibromyalgia or chronic pain in the abstract (total sum)

Scales	LILACS	PubMed	SciELO	Total	%
FIQ	157	12	1	170	56.85%
SF-36	101	7	2	110	36.79%
Beck Depression	71	7	1	79	26.42%
Analogic Pain Scale	51	9	1	61	20.4%
ACR	41	7	5	53	17.73%
McGill Questionnaire	38	0	0	38	12.7%
STAI	33	5	1	39	13.05%
Total:				299	

Table 4

List of terms found in databases with the subject fibromyalgia and technology of information

Fibromyalgia	PubMed	SciELO	LILACS	TOTAL
Database	18	0	0	90%
Medical Records Systems	2	0	0	10%
Electronic Medical Record	0	0	0	0
Computerized Medical Record	0	0	0	0
Total	20	0	0	100%

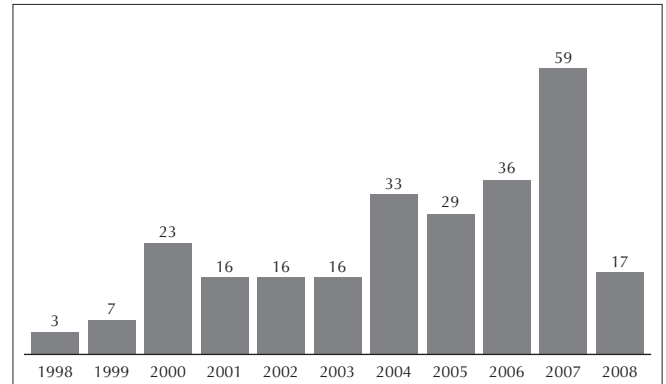
Table 5

List of terms related to the subject chronic pain and technology of information found in the databases

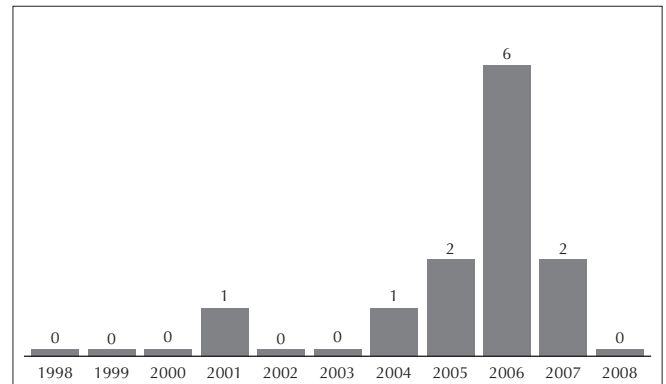
Dor crônica	PubMed	SciELO	LILACS	TOTAL
Database	4	0	0	83.4%
Medical Records Systems	2	0	0	16.6%
Electronic Medical Record	0	0	0	0
Computerized Medical Record	0	0	0	0
Total	6	0	0	100%

59 articles in 2007; and 17 articles in 2008. Graph 2 shows the results related to the SciELO database, where a total of 12 articles were found and organized by year of publication, between the years previously stated. In the LILACS database, a total of 32 articles were found with the terms *fibromialgia* and *dor crônica*, and the English terms fibromyalgia and chronic pain, associated with the evaluation surveys. Graph 3 shows a total of 32 articles sorted by the year of publication in the LILACS database, with the terms *fibromialgia* and *dor crônica*, and the English terms fibromyalgia and chronic pain, and the evaluation questionnaires defined in the methodology. In 1998, a total of five published articles were found, while in 1999 and 2000 no publications were found. In 2001, 2002, 2003, and 2005, four articles were found for each respective year; in 2004 six articles were found; in 2006 a sum of two articles were found; and finally in 2007 there were three articles published.

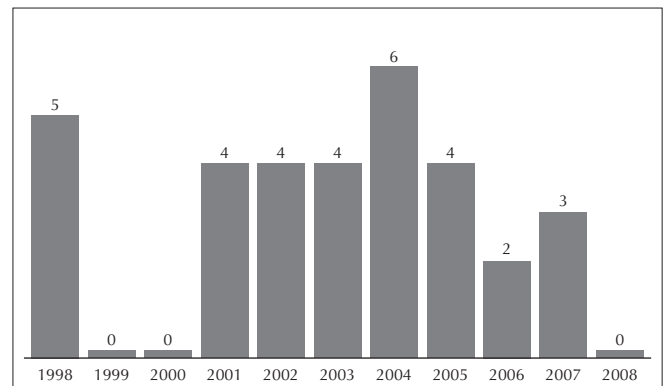
The terms fibromyalgia and *fibromialgia* were found in the international journals *The Journal of Rheumatology*, *Arthritis and Rheumatism* and *Rheumatology International*, as well as in the national ones, such as *Revista Brasileira de Reumatologia*, *Acta Fisiátrica*, and *Revista Paulista de Pediatria*. The most cited international magazines were *Arthritis and Rheumatism*, *European Journal of Pain*, and *Current Medical Research and Opinion*; and the national one was *Revista de Psiquiatria Clínica*.



Graph 1. Articles published between the years of 1998 and 2008 in the PubMed database related to the presence of fibromyalgia and chronic pain.



Graph 2. Articles published between the years of 1998 and 2008 in the SciELO database related to the presence of fibromyalgia and chronic pain.



Graph 3. Articles published between the years of 1998 and 2008 in the LILACS database related to the presence of fibromyalgia and chronic pain.

The most cited international journals related to information technology associated with the terms *fibromialgia* and fibromyalgia were *Annals of Behavioral Medicine*, *Arthritis and Rheumatism*, and *Family Practice*. With the terms chronic pain or *dor crônica* the journals most cited were *Annals of Behavioral Medicine*, *Anesthesia and Analgesia*, and *Pain Medicine*.

DISCUSSION

This study was mainly focused on fibromyalgia, chronic pain, and information technology, in order to investigate the main evaluation questionnaires of these disorders, and if they are correlated with the subject technology, through a systematic review.

Consequently, we observed that the FIQ, the Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36), and the BDI had a high percentage rate when correlated to fibromyalgia and chronic pain. The Fibromyalgia Impact Questionnaire has the objective to access the quality of life in patients with fibromyalgia, in addition to the functional capacity, professional situation, psychological disorder, and physical symptoms. This questionnaire was validated to the Portuguese language in 2006.⁴ It is a useful instrument that measures quality of life in patients with fibromyalgia, allowing the identification of factors that determine the impact, and facilitating the implementation of more effective therapeutic techniques.⁶ The Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36) is generic, and assess the quality of life of patients with any type of disease.^{1,7} It is composed of 36 items that contain eight scales, including functional capacity, physical aspects, pain, overall health, as well as vitality, social aspects, emotional and mental health.⁷ Individuals with fibromyalgia refer a significant impact in their lifestyle, generally influenced by their mental health state, when compared with other conditions.⁸ A study in patients with fibromyalgia and rheumatoid arthritis, which evaluated the quality of life of patients through the Fibromyalgia Impact Questionnaire and the Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36), showed that patients with fibromyalgia present negative impact on the quality of life, and mental component was highly effected when compared with patients with rheumatoid arthritis.⁹

It was identified that the FIQ is more specific to measure the quality of life in patients with fibromyalgia, because it discriminates better the test group of the control group in the subject of “quality of life” when compared to the Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36).² Other studies done to evaluate the quality of life in patients with fibromyalgia by the Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36) revealed that the group test (with fibromyalgia) had worse results in physical and emotional aspects, and body pain.¹ Thus, fibromyalgia affects the patients' quality of life, when assessed by the Medical Outcomes Study 36 – Item Short-Form Health Survey SF-36.

The BDI is an instrument that evaluates depression in patients with chronic disease. Depression can be a normal affective state or a symptom, a syndrome or a disease.¹⁰ As a syndrome, depression includes humor alterations associated with others alterations like cognitive, psychomotor and vegetative.¹⁰ In 1952, the American Psychiatric Association published the Diagnostic and Statistical Manual of Mental disorders (DSMI), currently, DSM IV. This manual has a multiaxial classification system, grouping 16 distinct diagnostic classes, with specific numeric codes in five axes, as well as main features to describe mental disorders, precise diagnostic guidelines, and a theoretical model for the description of pathologies, among others.¹¹

Individuals with chronic pain have a high incidence of depression, and their evaluation has become important for treatment success in this population.¹² Past studies have shown that both men and women with chronic pain have more depressive symptoms; among them, 70% express similarity in moderate and severe depressive symptoms.¹² One should consider that, in general population, women have more depressive symptoms than men.¹² In past studies, specifically in patients with fibromyalgia, depression was considered a secondary symptom, in which the Beck Depression Inventory was the least discriminative among the test and control groups, when compared to the Fibromyalgia Impact Questionnaire, and the Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36).²

In this investigation, the McGill Pain Questionnaire came in fourth place in the search of reference for the term chronic pain (Graph 2, Table 2) and in eighth place in the search of the term fibromyalgia. This questionnaire was done by Melzack and Torgerson, published in 1971, and is used until today in the clinical practice and in scientific research to access the complexity of pain.¹³ Studies done in the investigation of pain by the McGill Pain Questionnaire compared patients with fibromyalgia, osteoarthritis, and back pain. Patients with fibromyalgia exhibited high frequency in the selection of pain descriptors in affective and sensorial categories, including psychological component in correlation to other diseases.¹⁴ Moreover, the pain in patients with fibromyalgia has unknown etiology; possible origins consist of a variety of central and peripheral mechanisms, where tissue damage is absent, but pain is present, which explains its complexity.¹⁵ Study using computerized cuff pressure algometry to evaluate the sensitivity of tissue in patients with fibromyalgia syndrome compared to control group identified that the limit of pain-pressure was significantly low in individuals with fibromyalgia, indicating the presence of muscular hyperalgesia.¹⁶

The evaluation of *tender points* can be done in two ways: by digital pressure or distal palpation, or by the “pain-o-meter”. Digital palpation is the most frequently used technique,¹⁷ in which the appropriate pressure in previously established sites generates pain stimuli. This technique was also used by the American College of Rheumatology to classify fibromyalgia.³ The pain-o-meter can also be used to identify the limit of the *tender points*, adjusting the pressure. Initially, the individual receives guidance on the procedures to be performed for the quantification of pressure on tender points. The objective of this instrument is to quantify the pressure on the chosen *tender point*, with a minimal value of 4 kgf/cm² corresponding to a positive result for fibromyalgia.¹⁷ A study was accomplished in patients with fibromyalgia to determine the stability of tender points and the myalgic score over time (7-28 days), using FIQ and VAS, and how they can reflect in the perception of these patients. It was concluded that there were no significant changes in the tender points, in the FIQ score and VAS, but there was alteration in the myalgic score during a period of time, indicating the natural fluctuation of the fibromyalgia syndrome.¹⁸ Another study had the objective of accessing pain and stress in patients with fibromyalgia, identifying, through algometry, that individuals with fibromyalgia had lower pain threshold than subjects in the control group, since this method reflected the pain sensibility in this type of patient.¹⁹

The pain in patients with fibromyalgia has different components. Among them are the biological, psychological and social. This characterizes a singularity, since the stimuli for the somatosensory system is perceived by the cortex in different areas: the bidirectional connection of the autoimmune nervous system, the sleep regulation system, and the stress regulation system, which explains the great complexity of pain in individuals with this disease.²⁰

The Visual Analog Pain Scale was frequently present in articles related to fibromyalgia, in contrast with those related to chronic pain. This can be explained by the fact that VAS quantifies pain, and is easily interpreted by a professional. But in this way, the pain is accessed only by its intensity, leaving aside the sensorial and emotional aspects.²¹ ACR criteria for the evaluation of fibromyalgia obtained the sixth place in the articles referring to the term “fibromyalgia” and fifth place in the articles referring to the term “chronic pain”. ACR Fibromyalgia Criteria came in sixth place in the articles referring to the term “fibromyalgia” and fifth place in the articles referring to the term “chronic pain”. Despite the difference in rank, the percentage related to the articles with the term “fibromyalgia” was greater than the percentage of the articles related to the

term “chronic pain”. As it was preciously stated, the ACR Criteria were consolidated in 1990,³ and are still currently used. These criteria were evaluated in the Brazilian population in the year 1999,²² in which the classification criteria for fibromyalgia was characterized by diffuse pain in 9 or more tender points of the 18 possible, as opposed to the 11 or more painful points by the ACR criteria. The authors highlighted the proximity of these values in distinct populations, allowing its use in the Brazilian population.²²

In the investigation, STAI occupied the seventh place in both articles referring to fibromyalgia and chronic pain, but the higher percentage corresponds to the reference of the term fibromyalgia, because it had a greater number of articles found. The STAI was elaborated by Speilberg and Gorsuch in 1964 in order to develop a searching tool for self-assessment that measures trait and state of normal adults.²³ This scale is used to measure anxiety by self-assessment in both clinical practice and scientific research, in which two separate components are accessed: state-anxiety and trait-anxiety.²⁴

A study on individuals with fibromyalgia had the objective of evaluating anxiety and depression in this population, with the use of the FIQ, SF-36, and STAI.²² STAI presented low ability to discriminate the “group test” from the “control group”, when compared to FIQ and SF-36. Nevertheless, it expressed that individuals with fibromyalgia had high rates of anxiety, both in trait and state scales. High levels of tension, nervousness, worry and apprehension were accessed by the A-state scale, while the greater propensity to anxiety was accessed by the A-trait scale.²⁵ Other studies revealed the importance of investigating anxiety and depression in patients with fibromyalgia, since these aspects can influence both clinical and drug treatment responses.²⁶

Clinical trials are becoming more popular, and the use of electronic questionnaires of pain is becoming more frequent. The study compared the answers from the paper questionnaires with the electronic ones, from the Short-Form McGill Pain Questionnaire (MPQ) and Pain Disability Index (PDI) versions, obtaining satisfactory results for the use of the electronic version.²⁷ In another study, the use and application of computerized software that access experience of pain in patients with chronic pain, compared to healthy patients, were investigated. Three programs were created to evaluate the intensity, nature and site of pain, and they were applied in 115 individuals with chronic pain, and in 115 healthy individuals without pain. There was no significant difference in the site, intensity or nature of pain in these groups, but the authors encouraged additional studies supporting computerized methods for a more effective evaluation of pain.²⁸

Other authors applied a computerized evaluation method to collect self registers of pain, in order to distinguish between the diagnoses of chronic pain. Innumerable evaluations of pain were done by a computer. Among them, the diagrams of pain, the emotional intensity scale, and the verbal descriptors were highlighted. It was concluded that, in clinical practice, it is possible to evaluate patients with different symptoms of pain, in which the diagrams of pain can identify pain in different locations, such as back, head and neck. There are also two verbal descriptors (clamping and stabbing), which can differentiate patients with fibromyalgia syndrome from patients with rheumatoid arthritis, and neuralgia.²⁹ Other studies accessed the applicability of a support system in primary medical care to manage individuals with chronic pain, obtaining satisfactory results, which improved the ability of clinicians to control chronic pain, and the medical visit, in addition to optimizing the specialist's practice on pain.³⁰

Investigations performed compared three electronic scales measures for pain, discriminating pain sensations caused by temperature in healthy men and women, and in women with fibromyalgia syndrome.³¹ The study found that patients with fibromyalgia graded the pain stimulated by heat much higher than healthy women, demonstrating the ability of these scales to evaluate the sensitivity to pain in different groups.³¹

The present study demonstrated that in the last 10 years, there were few works done by Brazilians that addressed fibromyalgia and chronic pain, along with terms related to information technology.

On the years of publication, the articles referring to the terms fibromyalgia and chronic pain searched in the PubMed database obtained a higher number of publications in the last 10 years. A growing number of published articles about fibromyalgia and chronic pain is evident, especially in the years 2000, 2004, and 2007. This growing number can be explained by the fact that fibromyalgia has been consolidated in the last decade, especially by the criteria established by ACR in 1990,³ as a disease characterized by diverse clinical manifestations, and by the interest in conducting research on these conditions, in order to achieve success in respective treatments. Despite the significant increase in the number of published articles, the small number of articles found in other years should be considered. As represented in Graph 2, in the years of 1998, 1999, 2000, 2002, 2003, and 2008, no articles with the terms *fibromialgia* or *dor crônica*, and the English terms *fibromyalgia* and *chronic pain* associated with the evaluation questioners were found. In the years of 2001 and 2004, one article was found per year; in the years 2005 and 2007, two articles were found per year; and in the year of 2006, six articles were found.

Nevertheless, in the LILACS database, a higher number of articles published in the last 10 years compared to the SciELO database was found, but smaller than the number found in the PubMed database. An unstable curve is found in these last databases, especially in the years of 1998, 2004, 2005, and 2007. But the difference in the number of published articles between one year and another is small, with a variation of one or two. Taking into account the 32 published articles in the last 10 years, the quantity is a relatively small, when this database is compared to the database of PubMed.

In relation to the international journals, the impact factor (IF) should be highlighted, in which the *Arthritis and Rheumatism* journal stands out with IF of 7.677, followed by *European Journal of Pain* with 3.716, the *Annals of Behavioral Medicine* with 2.929, *Anesthesia and Analgesia* with 2.214, *Family Practice* with 1.696, and *Rheumatology International* with 1.270.

CONCLUSION

With the development of a systematic analysis, it can be concluded that there is a great variety of evaluation methods of the fibromyalgia syndrome, in which the FIQ, the Medical Outcomes Study 36 – Item Short-Form Health Survey (SF-36), the Beck Depression Inventory (BDI), the evaluation of tender points, the Visual Analog Pain Scale, the ACR criteria, STAI, as well as the McGill Pain Questionnaire stand out. Furthermore, there was a significant increase in the publications of articles related to the descriptors “fibromyalgia” and “chronic pain” in the last ten years, in which the PubMed database stood out, with a great number of articles found, when compared to LILACS and SciELO databases.

In counterpoint, the terms fibromyalgia or *fibromialgia*, chronic pain or *dor crônica*, when associated with the subject information technology, presented a small citation rate, except for the PubMed database because it was the only one to find articles with these descriptors. The importance of new national research, especially related to patients with fibromyalgia is highlighted, since they are less representative, when compared to the level of the international research described so far.

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