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Assessment of limitations in rheumatology. Tools most used in practice☆

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ABSTRACT

Introduction: Rheumatic diseases are high prevalence, high impact and repercussion pathologies characterized by pain and functional limitation. To assess the limitation, the starting point is the clinical history, together with the specific tests required according to the type of condition. The use of complementary clinimetric tools is recommended.
Objective: To compare some tools or questionnaires used in the most prevalent rheumatic diseases, and a review of the literature to highlight their contributions and usefulness in medical practice by the clinician or expert.
Method: A review is made of the basic characteristics of the questionnaires and the most used tools in osteoarthritis, rheumatoid arthritis and psoriatic arthritis, ankylosing spondylitis and systemic lupus erythematosus. The experience of the authors is reviewed in Medline, with some questionnaires depending on the pathology and their various uses.
Results: The questionnaires are used mainly to assess the quality of life, disability, and clinical-therapeutic evolution of patients. There is no agreement among the authors on whether there is a priority in the use of a specific questionnaire by pathology, and there is a tendency to combine several. The most commonly used generic questionnaires are SF-36, NHP and EQ-5D. For diseases: in rheumatoid arthritis, the HAQ and DAS28; in osteoarthritis, WOMAC and Knoos; in lupus, SLEDAI and BICLA; and in spondylitis, BASDAI and ASDAS.
Conclusions: In rheumatology, questionnaires are commonly used, and are useful as a complement to the clinical history and specific tests. The choice by the medical professional is based on their experience and on the adaptation to the objective sought.

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Valoración de limitaciones en reumatología. Herramientas más utilizadas en la práctica

Palabras clave:
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Limitaciones

RESUMEN

Introducción: Las enfermedades reumáticas son patologías de alta prevalencia, impacto y repercusión, caracterizadas por dolor y limitación funcional. Para valorar la limitación, la historia clínica es el punto de partida, junto con las pruebas específicas necesarias, según el tipo de padecimiento. De forma complementaria, se recomienda el uso de herramientas clinimétricas.

Objetivo: Comparar algunas herramientas o cuestionarios usados en las enfermedades reumáticas más prevalentes, revisando la bibliografía para destacar sus aportes y su utilidad en la labor del médico con finalidad clínica o pericial.

Método: Se revisan las características básicas de los cuestionarios y herramientas más usadas en: osteoartritis, artritis reumatoide y artritis psoriásica, espondilitis anquilosante y lupus eritematoso sistémico. Se revisa en Medline la experiencia de los autores con algunos cuestionarios en función de la patología y de sus diversos usos.

Resultados: Los cuestionarios se utilizan en su mayoría para la valoración de la calidad de vida, la discapacidad y la evolución clínico-terapéutica de los pacientes. No hay acuerdo entre los autores sobre si existe prioridad en el uso de algún cuestionario concreto por patología y se tiende a combinar varios. Los cuestionarios genéricos más utilizados son SF-36, NHP y EQ-5D. Por enfermedades: en artritis reumatoide, HAQ y DAS28; en osteoartritis, WOMAC y Knoos; en Lupus, SLEDAI y BICLA, y en espondilitis, BASDAI y ASDAS.

Conclusiones: En reumatología los cuestionarios son de uso habitual y resultan de utilidad de forma complementaria a la historia clínica y a las pruebas específicas. La elección por el profesional médico se basa en su experiencia y en la adecuación al objetivo buscado.

Introduction

Rheumatic diseases constitute a set of ailments of the musculoskeletal system that basically affect joints, tendons, muscles and ligaments. The metabolic bone diseases and the so-called connective tissue diseases or collagenosis are part of them.[1]

In all countries of the world they constitute a group of diseases of high socio-sanitary impact and show increasing incidence and prevalence. In Spain, an example of this is the EPISER study (1998–1999), of the Spanish Society of Rheumatology, whose results show that all of them negatively affect the scores of the questionnaires of function and quality of life, with significant differences compared to other chronic diseases. Those associated with a worse quality of life due to physical limitation are rheumatoid arthritis (RA), arthrosis of the knee and low back pain. 20.6% of the Spanish population consumes nonsteroidal anti-inflammatory drugs (NSAIDs) regularly and 33% consults a physician annually for osteomuscular problems. Osteomuscular diseases are related with 50.7% or work incapacities.[2]

The epidemiology of these diseases is very variable. Taking as a reference the EPISER study, radiological osteoarthritis would affect more than 70% of population over 50 years, with a somewhat higher percentage in women and differences according to the body zone: in the hands, the prevalence of symptomatic osteoarthritis would be 6.2%, more frequent in women with a 2:1 ratio, or higher; in the knee, of 10.2%, affecting both sexes equally; in the hip, in people over 40 years, it would be below 5%, without clear differences by sex, although it tends to be more frequent in men, and disk degeneration associated with spondyloarthrosis (at least in one disk) shows figures close to 80% in men and to 75% in women over 50 years of age. The figures of hyperuricemia found in EPISER are around 10%, a relevant data taking into account that approximately 10% of individuals with hyperuricemia develop gout, more frequently in men. The percentage of individuals with RA is estimated at 0.5%, with differences according to sex, being 0.6% in women and 0.2% in men. In spondyloarthritis (SpA), the prevalence of low back pain with inflammatory characteristics is 1.8%, being also higher in men. For psoriatic arthritis (PsA) the prevalence found is 1.5%, also more frequent in men. In the case of lupus, the prevalence is 91 cases per 100,000 inhabitants. Polymyalgia rheumatica in people over 50 years in Spain stands at 18.7 cases per 100,000 inhabitants, with a significantly higher incidence in women; finally, primary Sjögren's syndrome shows a prevalence of 3%.

The sociodemographic and lifestyle changes in the last 16 years years justify an upgrade, for this reason, the EPISER 2016 study, which will allow comparisons with studies from other countries and with the EPISER 2000, is underway.[3]

Most of all these rheumatic processes are characterized by pain and functional limitation caused or aggravated by mechanical or degenerative processes, in relation to overloads, repeated movements, aging, and by inflammatory phenomena related to autoimmune processes. In any case,

the majority of the diseases tend to a progressive evolution that leads the patient to reduce his mobility, the capacity of displacement and the social interaction, affecting the most elementary daily activities.

In some countries, such as Germany, comparative estimates of the direct and indirect costs of: RA, ankylosing spondylitis (AS), PsA and systemic lupus erythematosus (SLE) have been made based on different aspects, among which the functional status stands out. The authors conclude that the costs for these diseases are high, increase with their duration and are strongly dependent on the functional status, the greater disability they cause, the higher are the costs.[4] This assessment coincides with the work of other researchers that include both direct costs (of consultation, pharmacological, hospitalization, rehabilitation) and indirect costs (work absenteeism) with important costs for these diseases without observing big differences between them.[5]

Labor costs stand out among the indirect costs, and some countries, like Portugal, have assessed the impact of interventions to avoid or mitigate anticipated retirement in patients with rheumatic diseases, highlighting the weight of research as a fundamental tool.[6] In other works is also highlighted the role of the rehabilitation activity in diseases such as RA, SpA, osteoarthritis of the hip and the knee and its importance to improve the health of the individuals and reduce their disability and their impact on the workplace, which would have an associated effect on the quality of life of them and their families.[7] Together, pain, functional limitations and the few opportunities for adaptation to work are associated with the higher presence of sick leave.[8]

The measure of the impact of a disease requires a comprehensive assessment that covers different aspects: quality of life, personal repercussion, associated comorbidities and assessment of this repercussion of the limitations on the work environment. While the starting point is the medical history, together with the support of the specific complementary tests required according to the particular pathology, the use of tools/questionnaires oriented to the patient or the physician is recommended to complete the assessment. Given their variety, it is important, on the one hand, to know the available questionnaires and, on the other hand, the contributions of each to effectively meet the objectives sought.[9]

Therefore, it is the objective of this work to review in the medical literature some of the tools or questionnaires most used in the evaluation of the most prevalent rheumatic diseases and highlight the contributions of each to facilitate the work of the physician not accustomed to their use and who must assess the limitations for clinical or expert purposes.

Method

A review of the questionnaires and computerized evaluation tools is conducted in the 4 blocks of most relevant rheumatic pathologies: osteoarthritis, RA and PsA, SpA and SLE. The experience of different authors with these questionnaires according to each pathology and in their various uses for evaluation is reviewed in Medline.

Table 1 – Main generic questionnaires used in rheumatology and specific characteristics.

Short-Form 36 (SF-36)[a,36]	Self-applied questionnaire, of 36 questions grouped into 8 scales, valued in a range of 0–100 There are abbreviated versions, of 12 items (SF-12)[37] and 8 items (SF-8)[38] It assesses the health-related quality of life in rheumatic diseases and allows to establish comparisons between different diseases and with the general population Available in Spanish
Short-Form Late-Life Function and Disability Instrument (SF-LLDFI)	Questionnaire with 3 subscales, one or function and 2 of disability. It scores from 5 to 1 in each scale. The final overall score ranges between 31 and 155 It assesses disability, especially in older people Available in Spanish
Nottingam Health Profile (NHP)[39]	Questionnaire in 2 parts; only the first is commonly used, and it consists of 38 questions grouped into 6 subscales and is assessed in the range of 0–100 The questions are of binary response (yes/no) and it has significant weighting problems and floor and ceiling effect It has less use than the SF-36 in rheumatic diseases
EuroQoL 5D[40]	Questionnaire of simple use; includes 5 questions, each with 3 levels of response, referring to its 5 dimensions Very used in cost-utility analyses

[a] It has a computerized tool (SF 36 calculator: http://www.ugr.es/~abfr/sf36/).

Results

Table 1 shows the most used multidimensional questionnaires, especially for the overall assessment of the quality of life and the differentiating aspects in each of them: the SF-36, the NHP and the EQ-5D.

Table 2 shows the main questionnaires used in rheumatology according to each pathology. For RA: *Health Assessment Questionnaire Disability Index* (HAQ-DI), DAS28, SDAI and CDAI, RAPID 3, AIMS/AIMS2; for PsA: CPDAI, PsAQoL, VITACORA, PsAJAI, DAPSA, AMDF; for osteoarthritis: WOMAC, KOOS, AUSCAN, MHAQ; for AS: IFD, BASFI, HAQ-S, BASMI, BASDAI, ASDAS, ASQoL, PGI, MEI, MASES, ASAS 20%, ASAS 40%, mSASSS, SASSS, BASRI, SPARCC, ASspiMRI-a, Berlin Method for MRI; for SLE: SLEDAI, ECLAM, SF-36, BILAG, SLAM, LAI, SDI (SLICC).

Discussion

Rheumatic diseases pose a public health problem, and due to their evolution toward chronicity they have health, economic, social, personal and labor repercussions. Although the general criterion in all countries coincides with the need to increase research in this field, in most of them, including Spain, there is traditionally an insufficient contribution in publications and studies to the international rheumatological literature,

Table 2 – Main questionnaires used in rheumatology and usefulness for assessment.

Rheumatologic disease	Questionnaire and usefulness for assessment
Rheumatoid arthritis	• HAQ-DI[a,b] *(HAQ-Disability Index)*[a,c] They assess functional capacity. Have been validated in numerous countries, including Spain, and are used routinely in most clinical trials and registries of RA. Simplified versions of 8–10 questions, called MHAQ *(Modified HAQ)*, MDHAQ *(Multidimensional HAQ)* and HAQ-II have been made, the latter with better clinimetric properties than the HAQ, but with greater ceiling and floor effect • DAS28[a,d]. DAS *(Disease Activity Score)* Assesses activity with extensive joint indices and there is a version reduced to 28 joints (DAS28); It allows to classify clinical activity in different stages (remission, low activity, moderate activity or high activity) • SDAI and CDAI For global assessment of activity/clinical activity. The number of painful and swollen joints is added by the physician and the patient. They are widely validated and have clinimetric properties equal to or better than DAS28, but are much easier to use in daily practice • RAPID 3 *(Routine Assessment of Patient Index Data)* For daily clinical assessment (functional, pain, health). It is available in Spanish, correlates with DAS28 and CDAI and is as informative as these indices. It is appropriate for the daily clinical assessment of the patient • AIMS *(Arthritis Impact Measurement Scale)*/AIMS2 They are specific questionnaires for assessment of mobility, physical activity, dexterity, social role, social activity, activities of daily living, pain, depression and anxiety. Despite being valid and sensitive to change tools, their use has been relegated to research due to their complex scoring system and the time consumption involved
Psoriatic arthritis	• CPDAI *(Composite Psoriatic Disease Activity Index)* For global assessment, is the most recommended for the evaluation of all aspects of PsA, since it includes assessment of the skin, dactylitis, enthesitis and of the spine • PsAQoL *(Psoriatic Arthritis Quality of Life)* It is the most used to assess quality of life in this pathology. It consists of 20 questions and is validated in English • VITACORA questionnaire For overall assessment and specific for PsA with 35 questions of 5 levels of response. It has been validated in Spain • PsAJAI *(Psoriatic Arthritis Joint Activity Index)* For assessment of activity, validated index very similar to those shown below (DAPSA, AMDF) • DAPSA *(Disease Activity Index for Psoriatic Arthritis)* For assessment of activity, comparable to the previous • AMDF *(Average Magnitude Difference Function)* For assessment of activity, also validated and comparable to the previous
Systemic lupus erythematosus	• SLEDAI[a,e] and its modifications It is a numerical global multidimensional index, validated, brief, reliable and easy to apply, even by non-experts • ECLAM *(European Consensus Lupus Activity Measurement)* It evaluates the disease activity. Very simple to calculate and with proven validity • SF-36 It is the generic questionnaire most widely used for the assessment of quality of life with different versions and validated in Spanish • BILAG *(British Lupus Isles Assessment Group Index)* Assesses the severity of the disease with good interobserver consistency • SLAM *(Systemic Lupus Activity Measure)* Simple and valid global index • LAI *(Lupus Activity Index)* Very easy to manage and requires short time (1 min) • SDI (SLICC *[Systemic Lupus International Collaborating Clinics]/ACR Damage Index*) Especially indicated to assess chronic damage
Osteoarthritis/arthrosis	• WOMAC Of quality of life, the Spanish version is a valid, reliable and receptive instrument in patients with hip and knee arthrosis • KOOS *(Knee injury and Osteoarthritis Outcome Score)* For assessment of the knee and validated in Spanish. Significantly improves the results of other scales in the areas of physical function and pain • AUSCAN and m-SACRAH For assessment of the hand, validated in Spanish, they are useful to assess the involvement of the hands in rheumatic diseases, with good discriminatory capacity. The AUSCAN is better accepted by patients

– Table 2 (*Continued*)

Rheumatologic disease	Questionnaire and usefulness for assessment
	• MHAQ For global functional assessment, is self-administered by the patient. The reduced modification of the HAQ (from 20 to 8 DVA) includes questions on patient's perceived satisfaction regarding the DVAs and perceived change in the degree of difficulty
Ankylosing spondylitis	• DFI (*Dougados Functional Index*) For functional capacity. It has good clinimetric properties, although a discriminative capacity and a sensitivity somewhat lower than the BASFI • BASFI *(Bath Ankylosing Spondylitis Functional Index)* For functional capacity for the assessment of physical function available for Spanish-speakers • HAQ-S *(HAQ for Spondyloarthropaties)* For functional capacity, it has greater capacity to capture functional limitations and plays an important role to measure the rotation of the neck in clinical management and follow-up of spondylitis • BASMI *(Ankylosing Spondylitis Metrology Index)* For metrology-mobility assessment. It is one of the main factors associated with physical functioning • BASDAI For disease activity and available in Spanish. It is useful in clinical research and to evaluate the course of disease activity in patients • ASDAS *(Ankylosing Spondylitis Disease Activity Score)*[a,f] It shows adequate performance for disease activity; however, its psychometric properties do not present advantages over BASDAI in terms of criterion validity, sensitivity to change or discriminatory capacity • ASQoL *(Ankylosing Spondylitis Quality of Life)* For the assessment of quality of life, the Spanish version is valid, reliable and feasible to apply in our environment to measure the quality of life of patients • PGI *(Patient Generated Index)* Complex in its management, with acceptable clinimetric properties, sufficient reproducibility, moderate sensitivity and correlation with other measures • MEI *(Mander Enthesitis Index)* For assessment of peripheral arthritis, evaluates 66 entheses, establishing a graduation of the pressure-induced pain, which makes it complicated when it is applied in clinical practice • MASES *(Maastricht Ankylosing Spondylitis Enthesitis)* For assessment of enthesitis/pain, evaluates the presence or absence of pain in 13 entheses • ASAS response criteria (ASAS 20) They assess the therapeutic response and are defined as an improvement of at least 20% and an absolute improvement of at least 10 units in a scale of 0–100 in at least 3 of the following domains: global evaluation of the patient, evaluation of pain, function (BASFI) and inflammation (last 2 questions of BASDAI) • ASAS 40, 50 and 70 are defined as the above with improvements of at least 40, 50 and 70%, respectively • mSASSS Assesse structural damage. It shows good intraobserver correlation in the cervical and lumbar spine, and good sensitivity to the change in the time of follow-up of the patient (about one year) • SASSS *(Stoke Ankylosing Spondylitis Spine Score)* It is used for radiological evaluation, uses lateral lumbar spine radiography and is associated with the clinical features. It has the ability to change over time. Low radiological exposure and useful in the longitudinal evaluation of patients with this pathology • BASRI *(Bath Ankylosing Spondylitis Radiology Index)* It is a reliable method to rate radiographic changes in patients with this disease, for which it is specific, sensitive to change, valid, simple and quick to perform. • SPARCC *(Spondyloarthritis Research Consortium of Canada)* Assesses the MRI. It shows good intra- and interobserver concordance • ASspiMRI-a *(Ankylosing Spondylitis spine MRI score for activity)* Assesses the MRI and uses gadolinium as standard, it shows good intra- and interobserver concordance • Berlin method for MRI It is based on the ASSpiMRI-a eliminating the use of gadolinium. It does not include erosions as part of the final score of each vertebral unit, it scores all the vertebrae from C2 to S1

Reference: Spanish Society of Radiology (SER). Available in: https://www.ser.es/profesionales/que-hacemos/investigacion/herramientas/catalina; Jose Pedro Martínez. Escalas y medidas de uso en reumatología. Available in: http://articulos.sld.cu/reumatologia/archives/4394.

[a] It has a computerized tool:
[b] http://www.4s-dawn.com/HAQ/HAQ-DI.html.
[c] https://www.rheumakit.com/en/calculators/haq_di.
[d] https://www.das-score.nl/das28/DAScalculators/dasculators.html.
[e] https://qxmd.com/calculate/calculator_335/sledai-2k.
[f] http://www.asas-group.org/clinical-instruments/asdas_calculator/asdas.html.

and the existing ones are mainly descriptive.[10] This need for research is maintained especially by the complexity of autoimmune diseases, in which, despite the therapeutic advances obtained, there are still many questions open for the future that will help better clinical and therapeutic management, as well as of their implications and impact.[11]

One of the points of greater complexity is that of the functional assessment of the limitations associated with the disease and their multidimensional impact, where the questionnaires become especially important as a complementary support to the medical history and specific complementary tests, even more if it is considered that multimorbidity can considerably alter the functioning and the quality of daily life, and that the fact of having a rheumatic disease worsens these outcomes,[12] added to the fact that the rheumatic diseases are associated with an increase of risk factors for other diseases or adverse events.[13]

The dynamic clinical course of the rheumatic conditions makes necessary a regular compilation of information on the health status of the patient to control the disease activity and the functional status. For this reason, in some works stands out the role of the outcome measures reported by the patient as a key piece for the evaluation of the symptoms, to assess the functioning and the health, crucial for the initiation and evolutionary control of the treatment in some diseases such as SpA.[14]

Among the valid generic questionnaires used for the assessment of rheumatic diseases stands out the SF-36, validated in Spanish, of great use and with proven experience in research studies,[15] of which short versions with 12 and 8 items are available, and also the SF-LLFDI, of which there is a validated version in Spanish and is one of the few questionnaires that assess disability and function, although its use is focused on the elderly or geriatric population, and with a specific focus on disability assessment.[16]

The recommendation for the use of the different questionnaires by the authors is based on their experience in application. Thus, in some works is affirmed the adequacy of the use of the HAQ, of which there is a translated and validated version in Spanish, for the digital evaluation and the graphic feedback of the outcome measures reported by the patients; so it would result a method that could increase the empowerment and participation of the patients in their own process of care, supported by the use of mobile devices integrated in the hospital infrastructure.[17]

Different versions of the HAQ are commonly used to measure physical functioning in multiple rheumatic diseases, but there has not been a clear demonstration that a version of HAQ is actually generic. Thus, the HAQ-II, of which there is a validated version in Spanish in Argentina, can be used in different rheumatic pathologies, and the scores can be interpreted similarly in patients with different diseases.[18] The HAQ-DI is translated for Spanish-speaking populations and retains the characteristics of the original index, so it can be used to assess the outcome in Spanish-speaking patients with RA.[19]

The MDHAQ/RAPID3 is a questionnaire validated in Spanish for Spanish-speaking population for multidimensional health assessment/routine evaluation of the data of the patient index and was developed based on the HAQ. It includes scales that are not found in the HAQ which register complex activities: sleep quality, anxiety, depression, self-reported joint count, fatigue, list of symptoms, morning stiffness, exercise status, recent medical history, social history and demographic data. It offers the patient a secure, administered and password-protected website, to store the medical history completed in the MDHAQ, instead of different admission questionnaires in diverse medical settings.[20] In correlational studies conducted with the RAPID-3 a high correlation is obtained with the tools regularly used for the evaluation of the activity of RA in patients, but its ease of application favors its routine use, since it does not require laboratory results or joint counts.[21]

The deterioration associated with rheumatic diseases such as RA requires the use of questionnaires for its measurement. The DAS28 is a validated questionnaire and one of the most widely used in practice, although it should be considered that there is an interrelation between the assessments by the physician and the levels of deterioration reported by the patients with RA, without discarding the weight of environmental factors.[22] Some studies have used several of the questionnaires in a complementary or comparative way, for example in RA, assessing the disease activity (DAS28). The *timed up-and-go* [TUG]) test has a good inter- and intraobserver reliability, adequate construct validity when related with the gait speed test or the Barthel index, and it can predict the risk of falling with a sensitivity and specificity higher than 80%. The evaluation of the shoulder function (*Constant Shoulder Function Assessment* [SFA]), the visual analog pain scale (VAS), the HAQ, the questionnaire of global evaluation of the activity by the patient (*Patient Global Assessment* [PGA]) and the *McMaster Toronto Arthritis Patient Preference Questionnaire* [MACTAR]) are used as methods that help to identify the disabilities and set individualized goals in rehabilitation, promoting the adherence of the patient.[23]

In the case of AS, the comparison made by some authors states that BASDAI—which in its Spanish version has proven to be reliable and correlates with the disease activity— is useful to assess the current back pain, that the *Ankylosing Spondylitis Disease Activity Score* (ASDAS-CRP and ASDAS-ESR) has shown a good correlation with the disease activity and in the current back pain and dactylitis, and that the CRP is the only variable that successfully discriminates the patients with SpA with and without inflammation of the axial joint, although it has poor accuracy and, therefore, they recommend the use of these traditional tools, together with magnetic resonance imaging, to complement those cases in which is necessary a more accurate evaluation of the disease.[24] Other previous studies had already done similar comparisons, showing that the discriminatory capacity of ASDAS-CRP/ASDAS-ESR and BASDAI was similar in patients with non-radiographic SpA and AS, and that the ASDAS-CRP works similarly in non-radiographic SpA and AS. The performance of ASDAS to discriminate the low and high disease activity and the cut-off values is quite similar in patients with both pathologies.[25] Validations of Mexican versions in Spanish of BASDAI, BASFI and DFI have been done, which have shown adequate reliability, validity and responsiveness to changes

which make them advisable for the clinical assessment of Spanish-speaking patients with AS.[26]

In diseases such as SLE; the diverse questionnaires provide information somewhat different and always complementary: in the disease activity, the *Systemic Lupus Erythematosus Responder Index* (SRI)—which comprises criteria of 3 different indices internationally validated: *SELENA-SLE Disease Activity Index* (SELENA-SLEDAI), *Physician Global Assessment* (PGA) and *British Isles Lupus Assessment Group* (BILAG)—and the *BILAG-based Combined Lupus Assessment* (BICLA)—also a composite index that originally was derived by consensus of experts from the indices of disease activity—provide more complete information on the clinical response, since they integrate the global assessment of lupus, the systemic assessment, the physician global assessment and the failure of treatment, defined as an increase in the dose of steroid or immunosuppressant. The *Systemic Lupus Erythematosus Disease Activity Index 2000* (SLEDAI-2K), a modified version of SLEDAI, and the *Responder Index* 50 (SRI-50), derived from SLEDAI-2K and very useful for identifying clinically important improvements in active laboratory descriptors in an efficient time, may be more practical to obtain the response in clinical practice. The BILAG 2004 can give somewhat better results than the previous ones, although it is a useful tool to control the disease activity in children and adolescents. The comparison shows that the various tools available to assess disease activity and damage in lupus have particularly differentiated approaches in their use.[27]

In patients with osteoarthritis the most commonly used tool is the *Western Ontario and McMaster Universities* (WOMAC) osteoarthritis index, with a version available in Spanish, which has adequate metric properties for its use by telephone in the population with hip and knee osteoarthritis. In addition, the reduced version of the WOMAC questionnaire, with 11 items, has better metric properties than the original. It is a questionnaire widely used to assess patient's satisfaction in trauma surgery after knee[28] and hip[29] arthroplasties, as well as in interventions in athletes.[30] In this disease, some studies highlight the importance of the validation of the health outcome measures, checking whether the items exhibit a differential functioning (DIF) in the different subgroups, and thus entail biases; this is observed in the exploration of DIF in the WART WOMAC format in a population with osteoarthritis in the United Kingdom with respect to demographic, social, clinical and psychological factors. This work concludes that for the WOMAC physical function subscale it would be advisable to analyze the data taking into account the possible impact of the DIF items, as well as for the WOMAC pain subscale in individuals with hip osteoarthritis, when the age comparisons are of primary interest.[31]

Since better patient compliance and better response rates are achieved with short questionnaires, it is very useful to have a shortened version of WOMAC with the same good psychometric properties as the original version. The WOMAC short form in Spanish is valid, reliable and receptive. Due to its simplicity and ease of application, the abbreviated form is a good alternative to the original WOMAC questionnaire and would further improve its acceptability and usefulness in clinical research, clinical trials and daily practice.[32]

For the evaluation of knee osteoarthritis, the adaptation of KOOS to Spanish is a valid and useful tool to assess the quality of life, with psychometric properties similar to that of WOMAC, and it allows to discriminate the patient's condition at a particular time and also to evaluate changes over time.[33]

Finally, in the assessment of the impact of these complex diseases, where pain is a fundamental element, it is recommended to include the assessment of emotional disorders (anxiety, chronic stress, mood depression) through specific tools.[34]

In conclusion, it can be stated that the questionnaires are a very useful tool that allows us to evaluate large populations with relative ease. Despite the widespread perception that surveys are easy to conduct, to obtain meaningful results a survey needs extensive planning, time and effort.[35] The results they provide will depend on the ease of handling by the professional and the appropriate adaptation of the questionnaire to the pathology and objective sought, being necessary to use sometimes several questionnaires and always having as a starting point the medical history of the patient and the complementary information of the specific objective tests of each rheumatic disease.

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