Quality of life in spondyloarthritis: analysis of a large Brazilian cohort


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ABSTRACT

Objective: To analyze quality of life and demographic and clinical variables associated to its impairment in a large Brazilian cohort of patients with spondyloarthritis (SpA).

Methods: A common protocol of investigation was applied to 1465 Brazilian patients classified as SpA according to the European Spondyloarthropaties Study Group (ESSG) criteria, attended at 29 reference centers for Rheumatology in Brazil. Clinical and demographic variables were recorded. Quality of life was analyzed through the Ankylosing Spondylitis Quality of Life (ASQoL) questionnaire.

Results: The mean ASQoL score was 7.74 (+5.39). When analyzing the specific diseases in the SpA group, the ASQoL scores did not present statistical significance. Demographic data showed worse scores of ASQoL associated with female gender (p = 0.014) and African-Brazilian ethnicity (p < 0.001). The analysis of the clinical symptoms showed that buttock pain (p = 0.032), cervical pain (p < 0.001) and hip pain (p = 0.001) were statistically associated with worse scores of ASQoL. Continuous use of nonsteroidal anti-inflammatory drugs (p < 0.001) and biologic agents (p = 0.044) were associated with higher scores of ASQoL, while the other medications did not interfere with the ASQoL scores.

Conclusion: In this large series of patients with SpA, female gender and African-Brazilian ethnicity, as well as predominant axial symptoms, were associated with impaired quality of life.

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Qualidade de vida nas espondiloartrites: análise de uma grande coorte brasileira

RESUMEN

Objetivo: Analizar la calidad de vida y las variables demográficas y clínicas asociadas a la disminución de la capacidad en una gran cohorte brasileña de pacientes con espondiloartritis (EspA).

Métodos: Se aplicó un protocolo de pesquisa único a 1465 pacientes brasileiros clasificados como EspA de acuerdo con los criterios de European Spondyloarthropaties Study Group (ESSG), atendidos en 29 centros de referencia en Reumatología del Brasil. Foran registradas las variables clínicas y demográficas. La calidad de vida fue analizada por medio del cuestionario Ankylosing Spondylitis Quality of Life (ASQoL).

Resultados: La puntuación media del ASQoL fue de 7,74 (+5,39). Al analizar enfermedades específicas en el grupo de EspA, las puntuaciones del ASQoL no presentaron diferencia estadísticamente significativa. Los datos demográficos mostraron peores escores de ASQoL asociados al género femenino (p < 0,014) y a la etnia afro-brasileña (p < 0,001). Quanto a los síntomas clínicos, a la dor en la región glútea (p = 0,032), a la dor cervical (p < 0,001) y a la dor no quadril (p = 0,001), bem como a la presencia de articulaciones periféricas inflamadas (p = 0,022), estuvieron estadísticamente asociadas a peores escores no ASQoL. El uso continuo de fármacos anti-inflamatorios no esteroides (p < 0,001) y agentes biológicos (p = 0,044) estuvieron asociados a escores mais elevados de ASQoL, enquanto outros medicamentos não interferiram nos escores do ASQoL.
Introduction

The spondyloarthritides (SpA) comprise a group of interrelated chronic inflammatory diseases, i.e. ankylosing spondylitis (AS), psoriatic arthritis (PsA), SpA associated with inflammatory bowel diseases (IBD), reactive arthritis (ReA), juvenile onset SpA, and undifferentiated SpA. These diseases share several clinical features such as inflammation of the axial joints, asymmetric oligoarthritis (especially of the lower limbs), and enthesitis. AS is a chronic inflammatory disease that affects predominantly the spine and usually starts in the young adult age, contributing to significant physical disability and decreased quality of life (QoL) in a significant number of patients.\(^1\) With the advent of new and effective agents for the treatment of AS in the last decade, it became necessary to develop methods that could reflect the real improvement in the QoL of these patients.

In general, QoL can be measured by two groups of instruments: generic instruments, applicable to patients with various conditions, and disease specific instruments for use in specific diseases.\(^2\) The generic instrument most commonly used to evaluate QoL in patients with SpA is the Medical Outcome Short-Form 36 Health Survey (SF-36),\(^2\) that measures health-related QoL through 8 domains (“physical functioning”, “physical role”, “body pain”, “general health”, “vitality”, “social functioning”, “emotional role” and “mental health”). In 2003, the Ankylosing Spondylitis Quality of Life (ASQoL),\(^3\) a specific instrument to analyze QoL in AS patients, was proposed; it comprises 18 questions, and the poor QoL is associated with the higher scores. ASQoL was developed in collaboration with AS patients, is feasible and sensitive to change over time.\(^3\) ASQoL has been validated in many countries.\(^4-6\) And as we do not have specific questionnaires related to QoL in other diseases in the SpA group, ASQoL can be used for the evaluation of these SpA patients.

The objective of this study is to analyze the importance of demographic and clinical variables in the QoL in a large Brazilian cohort of patients with spondyloarthritis (SpA).

Methods

This is a prospective, observational, and multicentric cohort of 1465 consecutive patients with SpA recruited from 29 referral centers participating in the Brazilian Registry of Spondyloarthritides (RBE – Registro Brasileiro de Espondiloartrites). All patients, from all the 5 major geographic areas in Brazil, were classified according to the European Spondylarthropathy Study Group criteria,\(^7\) with data collected from June 2006 to December 2009. The RBE is part of the RESPONDIA group comprising 9 Latin American countries (Argentina, Brazil, Costa Rica, Chile, Ecuador, Mexico, Peru, Uruguay, and Venezuela) and the 2 Iberian Peninsula countries (Spain and Portugal).

A common protocol of investigation was applied to 1465 SpA patients. The diagnosis of AS was considered if the patients fulfilled the New York modified criteria,\(^8\) and as psoriatic arthritis (PsA) in case they fulfilled the Moll and Wright criteria;\(^9\) reactive arthritis (ReA) was considered when asymmetric inflammatory oligoarthritis of lower limbs was present, associated with enthesopathy and/or inflammatory low back pain following enteric or urogenital infections;\(^10\) and enteropathic arthritis when the patient presented inflammatory axial and/or peripheral joint involvement associated with confirmed inflammatory bowel disease (IBD; Crohn’s disease or ulcerative colitis).

Demographic and clinical data were collected, including time of disease duration, spinal pain, peripheral joint pain or swelling, tender and swollen joint count, visual analog scale for pain according to the patient (VAS for pain) and disease activity according to patient and physician (patient and physician VAS for disease activity). Peripheral articular involvement was assessed by the 66 tender/swollen joint count. Other clinical variables as dactylitis, uveitis, HLA-B27 were also evaluated, as well as drug use.

Quality of life was evaluated using the ASQoL questionnaire,\(^11\) that comprises 18 questions, each with a dichotomous “yes/no” response, scored “1” and “0”, respectively. Total score ranges from 0 to 18, with the higher scores indicating poor quality of life. ASQoL had previously been translated, cross-translated, validated, and culturally adapted to the Brazilian Portuguese language.\(^11\)

Statistical analysis

Categorical variables were compared by \(\chi^2\) and Fisher’s exact test, and continuous variables were compared by ANOVA test. A value of \(p < 0.05\) was considered significant, and \(0.05 > p > 0.10\) was considered a statistical trend.

Results

A total of 1465 patients were evaluated, comprising 1059 men and 406 women. AS was the most frequent disease in the group (67.6%), followed by PsA (18.8%), USpA (6.8%), ReA (3.4%), and enteropathic arthritis (3.4%). The mean score of ASQoL was \(7.74 \pm 5.39\). There was no statistical significance comparing the ASQoL mean scores among the different diseases in the SpA group, as shown in Table 1.

The ASQoL mean scores were higher in the female gender (\(p = 0.014\), African-Brazilian ethnicity (\(p < 0.001\)) and in those who practiced no exercises (\(p < 0.001\)), HLA-B27 and family history did not influence the ASQoL scores (Table 2).
The ASQoL scores were significantly associated with buttocck pain (p = 0.032), cervical pain (p < 0.001) and hip pain (p = 0.001) (Table 3). Clinical variables as inflammatory low back pain, enthesitis, dactylitis, upper limb arthritis, lower limb arthritis, uveitis, inflammatory bowel disease, psoriasis, and urethritis did not influence the ASQoL score (Table 2).

Regarding treatment, patients who took NSAID continuously presented higher ASQoL scores (p < 0.001). The other medications, like corticosteroids, methotrexate, and sulfasalazine did not influence the ASQoL scores. Biologic agents, especially adalimumab, were associated with lower scores of ASQoL (p = 0.013) (Table 4).

**Discussion**

Despite specific instruments to assess QoL cannot be easily applied to other diseases, ASQoL had a good performance in the evaluation of this large series of patients with SpA. Although AS patients presented higher ASQoL scores, there was no statistical significance among the ASQoL scores in the different diseases in the group; the mean ASQoL score (7.74 ± 5.39) indicated that the analyzed patients had a significant low quality of life.

Patients with the mixed (axial + peripheral and/or entheal) articular presentation had higher ASQoL scores, as expected. Interestingly, the enthesial involvement was associated with the highest ASQoL scores, indicating that enthesis can contribute to a significant decrease in the QoL of the affected patients.

While SpA is more frequent in male Caucasian patients, the ASQoL was worse in female African-Brazilian patients in the present series. These data can confirm that women usually demonstrate greater dissatisfaction with the disease than men. Some studies have analyzed the associated presence of fibromyalgia and AS, a clinical situation that can possibly confound the results related to QoL. Another study,
conducted in Brazil, evaluating 71 AS patients (45.5% males and 54.5% females), observed that fibromyalgia was more prevalent among women (3.8:1) and may have influenced the higher BASDAI, BASFI and ASQoL scores in the patients with associated fibromyalgia.14 Anxiety and depression can also be involved in the impairment of QoL in AS patients.15 Fibromyalgia, as well as specific questionnaires for anxiety and depression were not assessed in the present study.

The referred higher ASQoL scores observed in the African-Brazilians, indicating a lower QoL, can be explained by the genetic background and the influence of socio-economic factors, such as access to health services and access to specific treatments. This aspect deserves further studies addressing specifically the socio-economic profile of our patients with SpA.

The practice of exercise was associated with lower scores of ASQoL, similar to that observed in a Turkish study analyzing 942 AS patients.16 A recent British study with 612 AS patients showed that smoking has a dose-dependent relationship with increased disease activity, decreased function, and poor quality of life, independent of age, gender, deprivation level, and disease duration.17

In a group where a significant number of patients present axial and peripheral articular involvement, the ASQoL scores were significantly higher in those patients presenting buttock pain, cervical pain and hip pain. This can reflect the fact that the ASQoL was developed for patients with AS, a disease where the axial component represents its core symptoms. It is also important to mention that 18.8% of the studied patients had PsA, a disease with predominant peripheral component and that has a specific QoL instrument, the Psoriatic Arthritis Quality of Life (PsAQoL).19 However, considering that PsAQoL was not translated and validated to the Brazilian Portuguese at the time of the data collection, and the fact that 10 of the 18 questions of the ASQoL are quite similar to 10 of the 20 questions of the PsAQoL, we understood that ASQoL could be used in that heterogeneous group of SpA patients.

In general, the applicability of ASQoL uses to be very good.19 A recent study with 522 AS patients from Canada and Australia showed that contextual factors, such as helplessness and employment had an important and independent contribution to health-related QoL, explaining 47% of the ASQoL variance.20

The continuous use of NSAID was associated with higher scores of ASQoL, while NSAID use on demand did not contribute to an impairment of ASQoL. It can be associated to the increased pain and functional limitation observed in patients who generally have continuous use of NSAID, contributing to a decreased quality of life in these patients. The use of biologic agents was associated with better QoL, as shown in previous studies.21,22

Concluding, this large Brazilian series of patients with SpA showed that female gender and African-Brazilian ethnicity, as well as the mixed (axial + peripheral) clinical presentation, were associated with impaired quality of life.

### Conflicts of interest

Dr. Sampaio-Barros is a recipient of a research grant from Federico Foundation. The other authors declare no conflicts of interest.

### REFERENCES


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<tr>
<th>Table 4 – ASQoL scores, according to treatment.</th>
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<td>N (%)</td>
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<tr>
<td><strong>NSAID &gt;50%</strong></td>
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<td>Yes</td>
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<td>No</td>
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<td><strong>NSAID on demand</strong></td>
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<td>No</td>
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<tr>
<td><strong>Corticosteroids</strong></td>
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<td>No</td>
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<td><strong>Methotrexate</strong></td>
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<td><strong>Sulfasalazine</strong></td>
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<td><strong>Adalimumab</strong></td>
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ASQoL, Ankylosing Spondylitis Quality of Life; NSAID, nonsteroidal anti-inflammatory drugs.
11. Cusmanich KG, Dissertação de Mestrado Validação para a língua portuguesa dos instrumentos de avaliação de índice funcional e índice de atividade de doença em pacientes com espondilite anquilosante. Faculdade de Medicina da Universidade de São Paulo; 2006.