



# Primary care physicians' knowledge of screening and detection of axial spondyloarthritis

Conocimiento de los médicos de atención primaria sobre el tamizaje y detección de la espondiloartritis axial

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## Abstract

**Introduction:** Axial spondyloarthritis is an inflammatory disease characterized by chronic back pain. Patients often consult with primary care providers.

**Purpose:** To evaluate physician feedback for implementing screening for AAS in primary care.

**Methods:** A qualitative study was conducted by recruiting 18 primary care physicians.

**Results:** No internists and 2 of 8 family medicine physicians reported feeling “extremely confident” in distinguishing inflammatory back pain from mechanical back pain.

**Conclusions:** Primary care physicians preferred a screening tool that recommends additional testing rather than one that directs referral to a rheumatologist

**Keywords:** axial spondyloarthritis, back pain, rheumatology, primary care, general practitioners source: DeCS

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15

## Resumen

**Introducción:** La espondiloartritis axial es una enfermedad inflamatoria caracterizada por dolor de espalda crónico. Los pacientes a menudo consultan con los proveedores de atención primaria.

**Objetivo:** Evaluar los comentarios de los médicos para implementar la detección de EAA en la atención primaria.

**Método:** Se realizó un estudio cualitativo mediante el reclutamiento de 18 médicos de atención primaria

**Resultados:** Ningún internista y 2 de 8 médicos de medicina familiar informaron sentirse “extremadamente seguros” al distinguir el dolor de espalda inflamatorio del dolor de espalda mecánico.

**Conclusiones:** Los médicos de atención primaria prefirieron una herramienta de detección que



recomiende pruebas adicionales, en lugar de una que dirija la derivación a un reumatólogo

**Palabras clave:** espondiloartritis axial, dolor de espalda, reumatología, atención primaria, médicos generales

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### Introduction

Axial spondyloarthritis (AS) is an inflammatory disease characterized by chronic back pain. Prevalence estimates vary widely. The diagnostic journey experienced by patients with AAS is often long, lasting more than 14 years, and delay in diagnosis can result in greater functional impairment, higher health care costs, and poorer quality of life<sup>(1)</sup>. Early treatment initiation can reduce symptoms, delay disease progression, and prevent disability<sup>(2)</sup>.

Primary care providers have described reasons for delayed diagnosis of OAE, including disease characteristics (e.g., back pain is common, whereas OAE is relatively uncommon); patient perception (e.g., shared back pain at the end of the appointment); provider unfamiliarity (e.g., lack of knowledge about OAE); and healthcare system issues (e.g., the brevity of primary care appointments)<sup>(3)</sup>. Although rheumatologists play a pivotal role in the care of patients with OAEs, most patients often consult with primary care providers (e.g., primary care physicians or internists) seeking symptom relief when they initially have symptoms (i.e., back pain or spine pain) and are diagnosed by primary care providers other than rheumatologists. There are several sets of classification criteria for OAEs, including the modified New York criteria<sup>(4)</sup>, the Berlin criteria<sup>(5)</sup>, and the International Spondyloarthritis Society Assessment of Criteria (ASAS)<sup>(6)</sup>. However, it is unknown whether health care providers other than rheumatology providers are familiar with these criteria.

Several approaches have been explored to help identify patients with ALE in primary care settings. These include screening questionnaires, early referral tools that combine clinical criteria, laboratory and imaging test results, and automated referral algorithms using electronic medical record (EMR) data. However, few studies have engaged primary care providers to gather their

opinions on screening tools for ALE in clinical practice<sup>(7)</sup>.

As part of a larger qualitative research study, this study's primary objective was to assess primary care physicians' perspectives and views on the use of a screening tool for OAEs.

### Method

A qualitative study was conducted by recruiting 18 primary care physicians in Ambato to achieve saturation, with gender (8 women) and specialty (8 Family Medicine and 10 Internal Medicine) balance from January to May 2021. Physicians were ineligible if 1) unable to participate in a discussion lasting no more than 60 minutes; 2) unwilling to be audio-recorded; and 3) unable to consent. 34 potential participants were identified and completed 18 60-minute audiotaped interviews (3 in person, 15 by telephone). No repeat interviews were conducted. This study was approved by the Universidad Regional Autónoma de Los Andes (UNIANDES).

A multidisciplinary team developed the interview protocol guided by the Consolidated Criteria for Reporting Qualitative Research (COREQ)<sup>(8)</sup> and informed by a review of the literature and the research team's expertise. We collected qualitative data through in-depth interviews using a semi-structured interview schedule. Each interview was conducted individually, with an observer from the research team taking notes. The interview began with physicians' initial practices on the typical treatment of patients with OAS. Then, feedback was received during a question-by-question review of the Assessment of Inflammatory Back Pain: ASAS Expert Criteria to understand their perspectives on those questions for evaluating patients with OAB. The interviews were then supplemented with questions about implementing OAS screening tools in primary care settings. Finally, a structured questionnaire was administered at the end of the interviews to understand the characteristics of the physicians participating in the study. It included items on sociodemographics, practice characteristics, knowledge of the characteristics of inflammatory back pain according to several different sets of classification criteria (i.e., Calin<sup>(9)</sup>, Berlin<sup>(5)</sup> and ASAS<sup>(10)</sup> and "any other criteria" (open-ended), and the following



question, “How confident are you in distinguishing inflammatory back pain from mechanical back pain?” (extremely, very, somewhat or not at all confident).

We recorded each in-depth interview and discussion with participants. We used a content analysis approach to transcribe and code the data collected fully. Transcription was done word-for-word. We did not ask participants to review their interview transcripts for comments or corrections. We developed a hierarchical coding structure and manual based on the review of the first transcripts and expanded it throughout the data analysis.

The database and statistical processing of the data were performed and analyzed in the statistical program SPSS 26 (SPSS Inc., Chicago,

IL, USA). Descriptive statistics were used for the results collection, presentation and interpretation.

**Results**

On average, study participants had been practicing in the field for a mean of 15.7 (standard deviation (SD) ±13.0) years (Table 1). No family physicians and only 30% of the internal medicine physicians had heard of the ASAS classification criteria. No internists and 2 of 8 family medicine physicians reported feeling “extremely confident,” and 3 of 8 family medicine physicians and 3 of 10 of the internists reported feeling “very confident” in distinguishing inflammatory back pain from mechanical back pain.

**Table 1.** Characteristics of participating physicians by specialty.

	Family Medicine (n = 8)	Internal Medicine (n = 10)
Age (years), mean (SD)	52,9 (10,3)	42,0 (12,7)
Women, %	50.0	40,0
Women, %		
Women, %		
Women, %		
Years in practice, mean (SD)	20,1 (13,4)	12,6 (12,3)
Characteristics of practice: (check all that apply), %, %, %, %, %, %, %, %, %, %, %, %, %, %, %, %, %.		
Individual	0	0
≤ 5 physicians	25,0	30.0
≥6 physicians	62.5	50.0
Hospital practice	25,0	50.0
Academic affiliation	62.5	70.0
Confidence in distinguishing inflammatory versus mechanical back pain, %.		
With distrust	12.5	20.0
Somewhat confident	25,0	50.0
Very confident	37.5	30.0
Extremely confident	25,0	0.0
Knowledge of the classification criteria for inflammatory back pain, %.		
Calin Criteria	0	0
Evaluation of the International Spondyloarthritis Society criteria.	0	30.0
Berlin Criteria	0	0

Source: statistical analysis, p ≤ 0.05, SD = Standard deviation; percentages may exceed 100% due to rounding. For questions where respondents could select more than one answer option, percentages may exceed 100%.



When asked about the typical initial workup of patients with OAE, physicians noted several clinical observations potentially pointing to OAE, including 1) young individuals presenting with back symptoms without any history of injury; 2) the presence of comorbid autoimmune conditions; 3) peripheral joint involvement and other systemic manifestations (e.g., iritis). In discussing the role of clinical examinations and tests, most physicians emphasized that a complete medical history would be essential to diagnose EAA. Some also expressed concern about having dissatisfied patients when expensive tests are performed that may not yield definitive results.

Regarding questions to screen patients with OAB, physicians were concerned that some questions were not specific (e.g., have you had back pain for more than 3 months?) or sensitive (e.g., did your back pain develop gradually?). They were also concerned that patients with intermittent back pain might be overlooked. The physicians suggested including questions about a decreased range of motion or stiffness, heel pain, and other symptoms of enthesitis, psoriasis, and Crohn's disease. Most did not like the suggestion to immediately refer patients with 4 or 5 "yes" answers to a rheumatologist because of concern about the shortage of rheumatologists; however, they thought it would be helpful if specific tests were suggested as the next steps in evaluating these patients.

Physicians considered OAB "uncommon" and perceived it as a barrier to implementing a screening tool. They suggested using such a tool only in specific clinics (e.g., pain clinics), if a patient presented with recurrent back pain, or before ordering "expensive" tests. All physicians discussed lack of time as a barrier and noted that there are many other common conditions they must evaluate. Some indicated that they would never use such a screening tool.

Physicians expressed concern that patients using an online screening tool might request unnecessary referrals. Suggestions included administering the screening tool in the waiting room or by phone before the visit, during the appointment when EAA is suspected, or using a clickable link on the EHR.

## Discussion

In our study, many primary care physicians were unaware of the classification criteria for OAE and most were "not very confident" in their ability to distinguish inflammatory from mechanical back pain. Many physicians interviewed emphasized the importance of taking a good medical history. Primary care physicians indicated that they would value a screening tool that guided appropriate tests to order prior to a referral rather than an immediate referral to a rheumatologist because of the difficulty in obtaining a timely rheumatology consultation appointment. Barriers believed to prevent implementation of screening for OAEs in primary care included lack of time (because other more common conditions require screening) and lack of knowledge about OAEs.

Physicians are concerned about the overuse of tests and low-value medical care since patients are dissatisfied when expensive tests are performed that may not yield definitive results<sup>(11,12)</sup>. In addition, primary care physicians have difficulty distinguishing inflammatory back pain from other types of back pain and are often unaware of other features of OAB important for differential diagnosis. Additionally, radiologic testing is sometimes a late feature of the disease and the result is diagnostic delay. As such, the primary care providers in our study thought that an AAS screening tool might be useful if it could make visit time and health care resources more efficiently. Pressure from campaigns to reduce imaging ordering, patient concerns about the high costs of laboratory tests that are not fully covered by insurance, and rheumatology workforce shortages underscore the value of using screening tools to identify patients who need appropriate additional testing and referral to evaluate OAEs<sup>(13,14)</sup>.

In our study, physicians commented that back pain tends to be a "doorknob" question, one that is left until the end of the visit when time has already run out. Short appointment times impede a physician's ability to fully explore the underlying reasons for back pain<sup>(15)</sup>. In addition, patients experiencing waxing and waning symptoms may be misidentified as patients experiencing new back pain.

Participants in our study recommended several approaches using technology to assist with AAS



screening. Incorporating AAS screening questions into EHRs has been suggested to help improve efficiency in physician offices. Such an approach has encouraged physician adherence to follow recommended screening guidelines and has been successful in some, but not all, case studies. Approaches involving non-physician support staff or automated tools improved screening in primary care settings<sup>(16,17)</sup>.

Patient-informed screening approaches (e.g., through online screening or an app) offer an alternative to EHR-based algorithms. For example, using a noninvasive algorithm to find ALE cases based on information in the EHR has been studied using a cluster randomized controlled trial design<sup>(18)</sup>. In the intervention arm, the diagnosis of OAD was eventually confirmed in 8 % of subjects, but this approach had no short-term impact on physical function, as mean disability scores were similar in both arms at 4 months<sup>(19,20)</sup>.

### Conclusions

Primary care physicians believe that the delay in diagnosing ASAS is too long. Regarding ASAS screening questions, physicians agreed that these questions need improvement and noted that some questions were not sensitive or specific. In addition, primary care physicians preferred a screening tool that recommends additional testing rather than one that directs referral to a rheumatologist.

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