

Validation of “Red flags” index for early referral of children with features suggestive of juvenile idiopathic arthritis

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Objective

To develop and validate a simple index (Red flags index) to help non-pediatric rheumatologists to identify children with symptoms suggestive of arthritis and facilitate their referral to pediatric rheumatology clinics.

Methods

This is a multicenter, cross sectional study. Initially 35 pediatric rheumatologists participated in an online survey that composed of 15 questions and identified five red flags. Those include morning stiffness, joint swelling lasting >30days, joint pain lasting >30 days, limping and fever lasting >30days with unknown origin. Then the 5-item questionnaire was prospectively administered to juvenile idiopathic arthritis (JIA) group and Non- JIA group [healthy patients and patients with musculoskeletal (MSK) pain]. Patients were recruited from seven pediatric rheumatology clinics from different regions of Saudi Arabia. Parents and patients with JIA and MSK pain were asked to recall the signs or symptoms that their children had experienced during the six months prior to the date of visit to pediatric rheumatology clinic.

Results

The validation analysis was performed on 154 patients. 57 healthy patients, 40 patients with MSK pain, and 57 were with recently diagnosed JIA. Of those, 52 % were males, and the median age was 7.5 years. The median age at the onset of the symptoms was five years. Before the diagnosis of JIA was made, patients had visited several physicians. Most of the patients were referred by pediatricians (63.1%). The median time to suspect the diagnosis of JIA was four months. All the five red flags were found statistically significant in JIA group with P value <0.0001.

Conclusion

Red flag index seems to be a useful and easy tool to identify children with symptoms suggestive of JIA and facilitate early referral and prompt right management.