

POS1321

MENTAL HEALTH SCREENING IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS

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Background: Mental disorders often begin in the vulnerable phase of adolescence and young adulthood. Young people with chronic diseases are particularly at risk. Early recognition of mental health problems is necessary in order to be able to support those affected in a timely and adequate manner. By implementing a web-based generic screening tool for mental health in routine care, patients with juvenile idiopathic arthritis (JIA) and mental health conditions can be identified and provided with targeted treatment.

Objectives: To investigate the prevalence of mental health conditions in young people with JIA in routine rheumatology care.

Methods: Mental health screening is implemented as an add-on module to the National Paediatric Rheumatology Database (NPRD). The current data was gathered over a period of 24 months. Patients complete the screening tool which includes the Patient Health Questionnaire¹ (PHQ-9, score 0-27) and the Generalized Anxiety Disorder scale² (GAD-7, score 0-21) via a web-based questionnaire. The cut-off for critical values in PHQ-9 and GAD-7 were defined as values ≥ 10 . Simultaneously, other data, such as sociodemographic data, disease activity (cJADAS10, score 0-30), functional status (CHAQ, score 0-3) were collected as well.

Results: The analysis included 245 patients (75% female) with a mean age of 15.7 years and a mean disease duration of 8.8 years. 38.8% of the patients had oligoarthritis (18.0% OA, persistent/20.8% OA, extended) and 23.3% RF negative polyarthritis. At the time of documentation 49 patients (30.6%) had an inactive disease (cJADAS10 ≤ 1) and 120 (49.4%) no functional limitations (CHAQ = 0). In total, 53 patients (21.6%) had screening values in either GAD-7 or PHQ-9 ≥ 10 . Patients with critical mental health screening values showed higher disease activity and more frequent functional limitations than inconspicuous patients (cJADAS10 (mean \pm SD): 9.3 \pm 6 vs. 4.9 \pm 4.9; CHAQ: 0.66 \pm 0.6 vs. 0.21 \pm 0.42). When compared to males, females were significantly more likely to report either depression or anxiety symptoms (11.7% vs. 24.9%, $p = 0.031$).

17.6% of all patients with valid items for these data reported to receive psychological support, meaning psychotherapeutic support (14.5%) and/or drug therapy (8.6%). Among those with a critical mental health screening score, 38.7% received psychological support (psychotherapeutic support (35.5%) and/or drug therapy (16.1%).

Conclusion: Every fifth young person with JIA reported mental health problems, however, not even every second of them stated to receive psychological support. The results show that screening for mental health problems during routine adolescent rheumatology care is necessary to provide appropriate and targeted support services to young people with a high burden of illness.

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- [3] The screening data were collected as part of COACH (Conditions in Adolescents: Implementation and Evaluation of Patient-centred Collaborative Healthcare), a project supported by the Federal Ministry of Education and Research (FKZ: 01GL1740F).

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POS1322

A DATA SCIENCE EVALUATION OF THE JUVENILE ARTHRITIS MULTIDIMENSIONAL ASSESSMENT REPORT (JAMAR) QUESTIONNAIRE FOR IMPROVING MANAGEMENT OF JIA PATIENTS

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Background: The Juvenile Arthritis Multidimensional Assessment Report (JAMAR) is a questionnaire developed to comprehensively assess Juvenile Idiopathic Arthritis (JIA) patients. Despite being translated into 54 languages, there is still limited literature about it. The length of the questionnaire could have been influencing its clinical practicality.

Objectives: The purpose of this study is to answer the following questions:

- a) "Which are the most informative questions?"
- b) "How well do the collected data correlate with other clinical variables?"
- c) "Are there discrepancies between the perceptions of patients and parents?"

Methods: We included 71 children with JIA according to ILAR criteria, all of them receiving treatment and we followed them up for a year. JAMAR questionnaires were answered by both children and parents at baseline, 6 and 12 months. Also, a thorough clinical examination was performed in every visit: all the joints were clinically assessed for swelling, tenderness, and limited range of motion, and Juvenile Arthritis Disease Activity Score (JADAS), disease activity state, parents and patients assessment through Visual Analogue Scale (VAS), physician's VAS, Erythrocyte Sedimentation Rate (ESR) and C-reactive protein (CRP) were recorded. We applied state of the art machine learning methods in order to find the most relevant questions in JAMAR. Additionally, we utilized tensor decomposition to identify relevant patient clusters. Furthermore, we correlated these critical questions with clinical and biological parameters recorded. We have compared the discordance rate between patients vs parents responses in 5 of JAMAR parameters as previously reported [1]. We explored the relation between discordance and demographic and clinical variables.

Results: A total of 374 JAMAR questionnaires are analyzed with our Machine Learning algorithms. First, we identify a small group of questions as the most relevant for patients and parents. The identified questions exhibit better correlations with the JADAS scores than the non-relevant ones. Second, 96% of the pairs (child-parent) are discordant for at least one item, but the differences are small and VAS well being is the only score with a statistically significant difference ($P < 0.0001$). We observe a higher rate of activity in the patients exhibiting discordant evaluations with their parents. In addition, the observation patient-parent agreement in Juvenile Arthritis Functionality Scale (JAFS) is better than Pediatric Rheumatology Quality of Life Scale (PRQL).

Conclusion: In this study, we revisited the JAMAR questionnaire by applying modern data mining techniques in a longitudinal dataset. Our results suggest that a small number of questions in the JAMAR questionnaire provide significant information and correlate well with the JADAS scores. We argue that this reduced set of questions could make the data collection easier by trading off the number of questions for frequency and ease of self-reported data collection.

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POS1323

SACROILIAC JOINT MRI ABNORMALITIES IN JUVENILE SPONDYLOARTHRITIS: AN UPDATE OF DEFINITIONS AND SCORING OF THE OMERACT JUVENILE IDIOPATHIC ARTHRITIS MRI SCORE

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