An Exploration of Neurophysiological Symptoms in Patients with Joint Hypermobility Syndrome and their Impact on Quality of Life.

Dr. Carol Clark, Lecturer in Physiotherapy, Bournemouth University, Bournemouth, U.K;
Professor Ahmed Khattab, Professor of Medical Research and Clinical Practice, Bournemouth University, U.K;
Professor Eloise Carr, Professor of Nursing, University of Calgary, Calgary, Canada;
Professor Alan Breen, Professor Institute of Musculoskeletal Research and Clinical Implementation, Anglo European College of Chiropractic, Bournemouth, UK;
Professor Rodney Grahame, Consultant Rheumatologist, University College Hospital, London and Professor of Medicine, University College London, London. UK

Programme track: 1 Neuroscience, Neuroplasticity and Neurophysiology
Theme: Research, knowledge translation; Targeted level of learning: Multiple

Purpose: The purpose of this study was to explore the prevalence of neurophysiological symptoms in patients with Joint Hypermobility Syndrome (JHS) and their impact on quality of life.

Relevance: Clinical experience suggests that patients with JHS suffer from neurophysiological symptoms that contribute to skill and health impairments which might impact on quality of life.

Methods A sample of 90 JHS-patients (mean age 34.7 ± 9.9 years), diagnosed according to the Brighton Criteria were compared with 113 healthy volunteers (mean age 35.7 ± 12.9) with no musculoskeletal pain. Neurophysiological symptoms were collected in a self report questionnaire. The Functional Difficulties Questionnaire was used for the assessment of developmental coordination disorder (DCD). A pain chart was employed to collect data relating to musculoskeletal pain. The SF-12 medical outcomes questionnaire was used for assessing quality of life.

Analysis: Chi-square was employed to compare group proportions. Continuous numerical data comparisons were analysed using independent sample t-tests. Regression analysis was employed to analyse multiple variables.

Results: Patients with JHS were significantly more likely to report the following than healthy volunteers; autonomic symptoms (70%, 12%); gastrointestinal symptoms (71%, 9%); DCD (56%, 19%) and chronic fatigue syndrome (31%, 1%). The mean number of pain sites reported for patients with JHS were 9.83 ± 4.18. Patients with JHS reported significantly lower physical component summary scores (PCS) of the SF-12 than healthy volunteers (p < 0.001). Pain was a significant predictor of reduced PCS of the SF-12 (p < 0.001) in a model that explained 23% of the variance.

Conclusions Neurophysiological symptoms were common. Pain was a significant contributor to the health burden of patients with JHS. Further research is required to explore the implications of these symptoms in relation to the central nervous system.

Implications: There is a requirement to acknowledge and understand the multidimensional nature of JHS.

Funding acknowledgements: Unfunded.
Ethics approval: The study protocol was approved by the National Hospital for Neurosurgery and Neurology and the Joint Institute of Neurology Research Ethics Committee, UK. (ref 09/H0716/5).