Exploring Joint Hypermobility Syndrome, Developmental Coordination Disorder and Pain.

Abstract (maximum of 500 words)

INTRODUCTION
Floppy, clumsy, hypermobile children are increasingly referred to occupational and physical therapy under the label of dyspraxia. Motor impairments associated with the umbrella diagnosis of developmental coordination disorder (DCD) have been reported as persisting into adolescence and adulthood and subsequently affecting functional abilities (Cousins and Smyth 2003). Within this heterogeneous condition the underlying mechanisms causing the motor difficulties remains unclear. Ayers (1985) hypothesised that some individuals might have somatosensory processing issues contributing to their poor motor planning and coordination difficulties.

Similarities in functional difficulties have been noted in children with a diagnosis of DCD and joint hypermobility syndrome (JHS) (Kirby and Davies 2006). There is limited understanding of the relationship between the two conditions. JHS is a multisystemic inherited connective tissue disorder, in which hypermobile joints, pain, clumsiness, poor proprioception and dislocations are familiar features (Grahame and Hakim 2006; Adib et al 2005). It has been suggested that adults with JHS show poor movement patterns which contribute to biomechanical dysfunction and continuing pain (Clark et al 2009). Pain and disability reported in adults with JHS often leads to anxiety, depression, work incapacity and social isolation (Grahame and Hakim 2006).

The purpose of this study was to explore the association between adults with JHS and DCD and long term pain.

METHODOLOGY/ METHODS
A mixed methods design influenced by a pragmatic paradigm was utilised. Subjects: 90 patients with JHS (18-65 years) recruited from a hypermobility clinic were compared, using a questionnaire, with 113 healthy volunteers (18-65 years) with no pain recruited from a university. Analysis: Quantitative data were described and examined by regression, odds ratios were calculated. Qualitative data was analysed thematically.
FINDINGS
The percentage of subjects who reported DCD in patients with JHS and healthy volunteers were 56% and 19% respectively. A significant association between patients with JHS and DCD was noted, chi square = 30.11, p < .001. Patients with JHS were 6 times [95% CI 2.9 – 10.3] more likely to report DCD than healthy volunteers. Pain was a significant feature with an average of 9.8 pain sites reported (out of a total of 17). Open ended questions revealed many patients recalling pain starting in early childhood and adolescence.

DISCUSSION
These results suggest a significant association between patients with JHS and DCD and the reporting of long term pain. Early recognition and understanding of the needs of children with DCD who present with somatosensory impairment, pain modulation and JHS is therefore essential. Sensory integration therapy as part of a comprehensive early intervention program has the potential to mitigate long term problems. A multidisciplinary approach which involves health professionals and teachers is also recommended.

CONCLUSION
This research may be considered an early step in the identification of an association of DCD and JHS. Further studies are required to explore somatosensory processing issues experienced by those with DCD and JHS as this might be an important underlying mechanism.

References (maximum of 6)


Learning Outcomes: (maximum of 3 goals, maximum of 35 words in total)
Discuss the complex relationship between DCD and JHS
Start to identify children with JHS in the DCD population
Recognise the potential of early sensory integration interventions for children with DCD and JHS.
Preferred Presentation Format:  (just choose one)
X paper presentation 15min
| seminar 45min
| round table 45min
| workshop 90min
| poster presentation – if not accepted for paper presentation, poster presentation would be possible alternative

Description of Session Format
Not required for paper/ poster presentations

Author(s)
Carol J Clark
Professor Eloise CJ Carr
Professor Alan C Breen

Short Biography of Author(s) (maximum of 25 words)
Carol Clark is a physiotherapist with 25 years clinical experience gained nationally and internationally. Currently working as a lecturer and studying for a PhD.

Address for Publication (please provide just one address, usually of the main/ first author)
Bournemouth University
School of Health & Social Care
Royal London House, R 601
Christchurch Road
Bournemouth
Dorset, BH1 3LT
United Kingdom

E-mail: cclark@bournemouth.ac.uk