Abstract Submission – 2nd European SI Congress, May 2011

Category (min 1,max 2)	Key Words: Hypermobility, Developmental Coordination Disorder (min 1,max 4)
X Sensory Integration Research	(Sensory Integration & Occupation
(Innovative Sensory Integrative Practice	(Sensory Integration& Neuroscience
(Innovative Approaches to Sensory Integration Education	X Identifying & Classifying sensory processing and integration disorders
	X Sensory Integrative Assessment
	X Measuring Outcomes in Sensory Integration
	X Sensory Integrative Intervention
	(Client-centeredness in Sensory Integration Therapy

Abstract Title (maximum of 12 words)

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)

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Adib, N., Davies, K., Grahame, R., Woo, P. and Murray, K.J., 2005. Joint hypermobility syndrome in childhood. A not so benign multisystem disorder? Rheumatology (Oxford), 44(4):703-4

Clark, C.J., Carr, E.C.J. and Breen, A.C., 2009. Joint hypermobility syndrome and developmental coordination disorder in adults: comorbid or overlapping conditions? Dyspraxia Foundation Professional Journal 8: 2-26

Cousins, M. and Smyth, M.M., 2003. Developmental coordination impairments in adulthood. Human Movement Science 22:433-459

Grahame, R. and Hakim, A., 2006. The rheumatological heritable disorders of connective tissue. Medicine 34:10 427-430

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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|
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|Carol Clark is a physiotherapist with 25 years clinical experience gained nationally and internationally. Currently working as a lecturer and studying for a PhD.|
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