Treatment of children with cerebral palsy could be boosted by new research

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Children with cerebral palsy could be helped to speak more clearly following research by a University of Strathclyde academic.

Dr Anja Kuschmann will analyse the speech patterns of young people affected by the condition, in an effort to understand more about why they can have difficulties talking.

Cerebral palsy (CP) is usually caused by an injury to the brain before, during or after birth. Children with CP have difficulties in controlling muscles and movements as they grow and develop.

Discovering more about how the speech of children with CP is affected by muscular problems and brain damage could, Dr Kuschmann believes, lead to improvements in diagnosis and therapy.

She said: "Many children with CP have difficulties with speech melody, rhythm and stress. These difficulties, generally referred to as prosodic difficulties, can affect the intelligibility of a child's speech, and are therefore of great clinical importance.

"However, the development of prosody in children with CP is currently not well understood. As a result, it is not certain whether prosodic difficulties in CP are due to muscular problems during speaking or the inability to build and store the correct prosodic information in the brain.

"This research will investigate the prosodic abilities in children with CP

to determine the underlying nature of their difficulties. It will contribute to the theoretical understanding of the causes of prosodic impairment in CP, and may help to improve diagnosis and therapy of prosodic difficulties in CP."

Dr Kuschmann's project – a prestigious £219,000 British Academy Postdoctoral Fellowship – will take three years to complete, and aims to help improve the lives of the one in 400 UK children affected by CP.

While there is no cure for CP, physiotherapy and other therapies can often help people with the condition become more independent. No two people will be affected by CP in the same way, and it is important to ensure treatments and therapies are tailored to children's individual needs.

Dr Kuschmann, of Strathclyde's School of Psychological Sciences and Health, said: "CP can affect speech because you need your muscles to control your tongue and lips to allow you to pronounce sounds properly. It influences the way you articulate single sounds – and also, importantly, the melody of speech, allowing you to ask questions, make statements or convey irony.

"This research, which will involve the analysis of the speech patterns of around 40 children aged between seven and 16, will hopefully inform the assessment and interventions for children with CP. By looking at how breathing might be improved, for example, some children with CP may be able to use their speech alongside assisted technology – such as voice synthesisers – to communicate.

"This research is extremely important for children with CP because struggling to communicate has a whole host of wider implications. It can affect children's educational progress, their ability to form friendships and, generally, to fully participate in the wider community."

Provided by University of Strathclyde, Glasgow