Children with higher intelligence less likely to report chronic widespread pain in adulthood

November 29 2012

A UK-based study team has determined that there is a correlation between childhood intelligence and chronic widespread pain (CWP) in adulthood, according to a new study published in the December issue of *PAIN*. About 10-15 percent of adults report CWP, a common musculoskeletal complaint that tends to occur more frequently among women and those from disadvantaged socioeconomic backgrounds. CWP is a core symptom of fibromyalgia and is one of the most common reasons for consulting a rheumatologist.

"One psychological factor that could potentially be a risk factor for CWP in adult life is lower cognitive ability in youth," says lead researcher Dr Catharine R. Gale, MRC Lifecourse Epidemiology Unit, University of Southampton, UK, and Centre for Cognitive Ageing and Cognitive Epidemiology, Department of Psychology, University of Edinburgh, Edinburgh, UK. "Our hypotheses were that men and women who scored lower on the test of intelligence in childhood would have an increased risk of CWP in midlife and that some of this association would be mediated through socioeconomic status, mental health, or lifestyle factors in adulthood."

The investigators used data from the National Child Development Survey, an ongoing cohort study originally based on over 17,000 live births in Great Britain during one week in 1958. When cohort members were aged 11 years, they completed a test of intelligence. At the age of 45 years, 6902 cohort members took part in a biomedical survey during which they completed a questionnaire to assess the presence of chronic

widespread pain (CWP).

CWP was found among 14.4 percent of the participants. Men and women with CWP scored significantly lower on the test of intelligence at age 11. They were also more likely to have manual jobs, to be a current or ex-smoker, to have a higher body mass index, and to report higher levels of psychological distress.

The study concluded that men and women with lower intelligence at age 11 are more likely to report CWP.

Says Gale, "To our knowledge, this is the first study to investigate the prospective relation between intelligence and CWP. Our results show that individuals with higher intelligence in childhood are less likely as adults to develop this common and disabling condition. We now need to understand the mechanisms causing this association."

In a commentary accompanying the article, Eva M. Kingma and Judith G.M. Rosmalen of the Interdisciplinary Center Psychopathology and Emotion Regulation, University of Groningen, University Medical Center Groningen, The Netherlands say: "Although an association between chronic pain and cognitive ability has been shown before, the Gale et al. report is the first longitudinal study in a large general population cohort. Two important characteristics stand out in their study. First, its longitudinal design enabled the researchers to study causal direction as well as interesting explanatory mechanisms in the association between intelligence and pain. Second, the study used a population-based design, which contrasts with many previous etiological studies that compared patients to healthy controls. This approach is especially relevant because CWP is much more prevalent than clinical data on fibromyalgia suggest.

More information: "Intelligence in childhood and chronic widespread

pain in middle age: The National Child Development Survey," by Catharine R. Gale, Ian J. Deary, Cyrus Cooper, G. David Batty (DOI: 10.1016/j.pain.2012.07.027).

"The power of longitudinal population-based studies for investigating the etiology of chronic widespread pain," by E.M. Kingma and J.G.M. Rosmalen (DOI: 10.1016/j.pain.2012.09.001).

They appear in *PAIN*, Volume 153, Issue 12 (December 2012)

Provided by Elsevier