Studies provide new insights into the role of sleep in chronic pain

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The results of two studies presented today at the Annual European Congress of Rheumatology (EULAR 2018) provide insight into the role of sleep in chronic pain. The first study demonstrates a predictive role of

sleep problems for chronic pain1 and the second provides insight into chronic pain and sleep in adolescents.2

"The relationship between pain and sleep is complex, as the consequences of sleep problems can affect perception to pain and, in turn, pain can interfere with sleep quality," said Professor Robert Landewé, Chairperson of the Scientific Programme Committee, EULAR. "This is why these studies are important as they help elucidate the role of sleep in chronic pain and highlight it as a potentially important modifiable risk factor for alleviating the distress in these patients."

Sleep problems predict the onset of chronic widespread pain (CWP) in 20-year prospective study

Within the study all four parameters relating to sleep—difficulties initiating sleep, maintaining sleep, early morning waking and non-restorative sleep—as well as one related to fatigue, were found to predict the onset of CWP after five years in a model adjusted for age, gender, socio-economy and mental health. In addition, all parameters except 'problems with early awakening' predicted the onset of CWP at 18 years.

"Our results demonstrate that sleep problems are an important predictor for chronic pain prognosis and highlight the importance of the assessment of sleep quality in the clinics," said Katarina Aili, Ph.D., Spenshult Research and Development Center, Halmstad, Sweden.

Additional analysis showed that reporting all four sleeping problems at baseline versus no sleep problems was significantly associated with CWP at both time points using a number of models adjusted for age, gender, socio-economy as well as mental health, number of pain regions or pain severity.

Individuals included in the study had not reported CWP at baseline or during the previous three years, 1249 entered the five-year and 791 entered the 18-year follow up analysis. Four parameters related to sleep (difficulties initiating sleep, maintaining sleep, early morning awakening and non-restorative sleep), and one parameter related to fatigue (SF-36 vitality scale) were investigated as predictors for CWP.

Sleeping problems and anxiety associated to chronic multisite musculoskeletal pain in adolescents

One in ten students in the study was suffering with chronic multisite musculoskeletal pain (CMP). Analysis showed that, compared to other students, having CMP was associated with reporting severe sleeping problems as well as probable cases of anxiety.

"Although the relationship between sleep and pain is complex, our results clearly indicate a strong association which needs to be explored further," said Julia S. Malmborg, Ph.D. student at The Rydberg Laboratory for Applied Sciences, Halmstad University, Sweden. "As both problems affect the physiological and psychological well-being of sufferers we hope that these results will be used by school health professionals to promote student health."

The study included 254 students from a Swedish school who completed questionnaires on chronic pain, sleeping problems, stress, anxiety and depression. The mean age of participants was 16.1 years (SD 0.6) and two thirds were girls. CMP was identified in 9.8% of students with no difference between boys and girls. CMP was significantly associated with reporting severe sleeping problems (OR 2.49, 95% CI 1.06-5.81, p=0.035) and also probable cases of anxiety (OR 3.06, 95% CI 1.09-8.61, p=0.034) but not possible cases of anxiety or probable/possible cases of depression.

More information: Aili K, Andersson M, Bremander A, et al. Sleep problems and fatigue as a predictor for the onset of chronic widespread pain over a 5- and 18-year perspective. A 20-year prospective study. EULAR 2018; Amsterdam: Abstract OP0072.

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