

**Annual European Congress of Rheumatology
(EULAR 2018)**

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STUDIES PROVIDE NEW INSIGHTS INTO THE ROLE OF SLEEP IN CHRONIC PAIN

Sleeping problems shown to predict the onset of chronic pain in a 20-year prospective study and linked to chronic pain in adolescents in Swedish study

Amsterdam, The Netherlands, 15 June 2018: 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 study¹

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, PhD, 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

* According to American College of Rheumatology 1990 criteria for fibromyalgia.

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 adolescents²

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. Malmberg, PhD 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.

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NOTES TO EDITORS

For further information on this study, or to request an interview with the study lead, please do not hesitate to contact the EULAR Press Office:

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About Rheumatic and Musculoskeletal Diseases

Rheumatic and musculoskeletal diseases (RMDs) are a diverse group of diseases that commonly affect the joints, but can also affect the muscles, other tissues and internal organs. There are more than 200 different RMDs, affecting both children and adults. They are usually

[†]Questionnaire used a mannequin with 18 body regions, participants with pain present in ≥ 3 regions were classified as having CMP.

[‡] Questionnaire used the Uppsala Sleep Inventory where four items were scored from 1-5, participants scoring ≥ 4 on one or more sleeping item were classified as having severe sleeping problems.

[§] Questionnaire used the Hospital Anxiety and Depression Scale, scored from 0-21, participants were classified as non-cases (0-7), possible cases (7-10), and probable cases (11-21).

caused by problems of the immune system, inflammation, infections or gradual deterioration of joints, muscle and bones. Many of these diseases are long term and worsen over time. They are typically painful and limit function. In severe cases, RMDs can result in significant disability, having a major impact on both quality of life and life expectancy.³

About 'Don't Delay, Connect Today!'

'Don't Delay, Connect Today!' is a EULAR initiative that unites the voices of its three pillars, patient (PARE) organisations, scientific member societies and health professional associations - as well as its international network - with the goal of highlighting the importance of early diagnosis and access to treatment. In the European Union alone, over 120 million people are currently living with a rheumatic disease (RMD), with many cases undetected.⁴ The 'Don't Delay, Connect Today!' campaign aims to highlight that early diagnosis of RMDs and access to treatment can prevent further damage, and also reduce the burden on individual life and society as a whole.

About EULAR

The European League against Rheumatism (EULAR) is the European umbrella organisation representing scientific societies, health professional associations and organisations for people with RMDs. EULAR aims to reduce the burden of RMDs on individuals and society and to improve the treatment, prevention and rehabilitation of RMDs. To this end, EULAR fosters excellence in education and research in the field of rheumatology. It promotes the translation of research advances into daily care and fights for the recognition of the needs of people with RMDs by the EU institutions through advocacy action.

To find out more about the activities of EULAR, visit: www.eular.org.

References

¹ 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.

² Malmberg JS, Bremander A, Olsson MC, *et al.* Sleeping problems and anxiety is associated to chronic multisite musculoskeletal pain in Swedish high school students. EULAR 2018; Amsterdam: Abstract OP0361-HPR.

³ van der Heijde D, *et al.* Common language description of the term rheumatic and musculoskeletal diseases (RMDs) for use in communication with the lay public, healthcare providers and other stakeholders endorsed by the European League Against Rheumatism (EULAR) and the American College of Rheumatology (ACR). *Annals of the Rheumatic Diseases*. 2018; doi: 10.1136/annrheumdis-2017-212565. [Epub ahead of print].

⁴ EULAR. 10 things you should know about rheumatic diseases fact sheet. Available at: <https://www.eular.org/myUploadData/files/10%20things%20on%20RD.pdf> [Last accessed April 2018].