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Getting a good night's sleep could help prevent chronic pain

The benefits of a good night's sleep to help manage chronic pain is the focus of new research that aims to shed light on the relationship between sleep quality and pain severity.

Dr David Klyne, a National Health and Medical Research Council (NHMRC) Emerging Leadership Fellow and former Fulbright Fellow at the School of Health and Rehabilitation Sciences at the University of Queensland is exploring how poor sleep can drive the development of chronic pain.

He will present his research project at the annual symposium of the Faculty of Pain of the Australian and New Zealand College of Anaesthetists in Brisbane today (Friday 3 May).

"Chronic pain affects at least one in five Australians with a significant majority experiencing poor sleep," Dr Klyne explains.

"Our research is currently tackling this issue by testing how sleep and physical activity (or lack of it) — two of the most prevalent and rising health issues — contribute to the development of chronic pain. This research spans mechanisms-based basic science studies, to preclinical studies, to major longitudinal human studies of more than 300 participants, backed by more than \$12 million from major Australian (NHMRC) and US (National Institutes of Health and US Department of Defense) funding bodies.

"The potential implications are wide reaching as chronic pain, poor sleep and inactivity individually affect 30-47 per cent of the population."

Dr Klyne says that contrary to conventional belief that pain interferes with sleep, emerging research suggests that poor sleep actually exacerbates pain.

"Recent studies are upending traditional perspectives, demonstrating that sleep influences pain on multiple levels. We're only just starting to understand how sleep influences pain and what this might mean from a clinically perspective.

"Changes in sleep patterns can trigger cellular pathways within the brain and body, leading to inflammation which in turn heightens pain responses. "

Dr Klyne says the issue of "not getting enough sleep" or "not sleeping well" has often been fobbed off by patients as an unlikely or minimal contributor to their pain.

"This new knowledge highlighting physiological pathways by which sleep can influence pain and drive the development of chronic pain may help to raise awareness and encourage those living with pain to change their sleep habits and/or seek sleep treatments."

Dr Klyne says that confirmation of the role of persistent poor sleep in driving the transition from acute to chronic pain would have substantial clinical implications.

“Poor sleep co-exists with chronic pain in up to ~90 per cent of cases and is often associated with pain severity. Our research aims to uncover the causal relationship between sleep and chronic pain development and severity to pave the way for interventions that can be tailored to target sleep to help prevent and alleviate this enormous and growing health problem.

“We have also shown that physical activity and healthy sleep evoke similar neuroimmune responses, lending to the idea that enhanced physical activity and improved sleep in combination could have an additive effect on lowering inflammation and, in turn, pain levels.

More than 120 specialist pain medicine physicians from Australia, New Zealand and the US are meeting in Brisbane for the FPM symposium.

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