

## Sleep may stop chronic pain sufferers from becoming zombies

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This is a photo of Dr. Nicole Tang, University of Warwick. Credit: University of Warwick

Chronic pain sufferers could be kept physically active by improving the quality of their sleep, new research suggests.

The study by the University of Warwick's Department of Psychology, published in *PLoS One*, found that sleep was a worthy target for treating



chronic pain and not only as an answer to pain-related insomnia.

"Engaging in <u>physical activity</u> is a key treatment process in pain management. Very often, clinicians would prescribe exercise classes, physiotherapy, walking and cycling programmes as part of the treatment, but who would like to engage in these activities when they feel like a zombie?", argues study lead-author Dr Nicole Tang.

Dr Tang and study co-author Dr Adam Sanborn examined the day-to-day association between night-time sleep and daytime physical activity in <u>chronic pain patients</u>. "Many of the patients struggled to stay <u>physically</u> <u>active</u> after the onset of pain and we found that chronic pain patients spontaneously engaged in more physical activity following a better night of sleep".

"The research points to sleep as not only an answer to pain-related insomnia but also as a novel method to keep sufferers physically active, opening a new avenue for improving the quality of life of <u>chronic pain</u> <u>sufferers</u>" says Dr Tang.

The study saw <u>chronic pain</u> patients wear an accelerometer that measured motor activity to monitor their physical activity round the clock for a week in their usual sleeping and living environment. Additionally, they gave ratings of their <u>sleep quality</u>, <u>pain intensity</u> and mood using a mobile electronic diary every morning on waking.

Researchers used the time-specific data to determine, for individual patients, whether the quality of their sleep had an impact on how physically active they were the following day. Multilevel models for each of the predictors were fit, and the only reliable predictor of physical activity was sleep quality.

A comparison between multilevel models demonstrated that sleep was a



better predictor of physical activity than morning ratings of pain intensity or mood.

Considering the implications of the study Dr Tang said that "the prospect of promoting physical activity by regulating sleep may offer a novel solution to an old problem".

"The current study identified sleep quality, rather than pain and low mood, as a key driver of physical activity the next day. The finding challenges the conventional target of treatment being primarily focused on changing what patients do during the day. Sleep has a naturally recuperative power that is often overlooked in <u>pain management</u>. A greater treatment emphasis on sleep may help patients improve their daytime functioning and hence their quality of life" argued Dr Tang.

Provided by University of Warwick

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