

WARWICK SLEEP & PAIN LAB NEWSLETTER

January, 2018

Thank you to our participants & collaborators

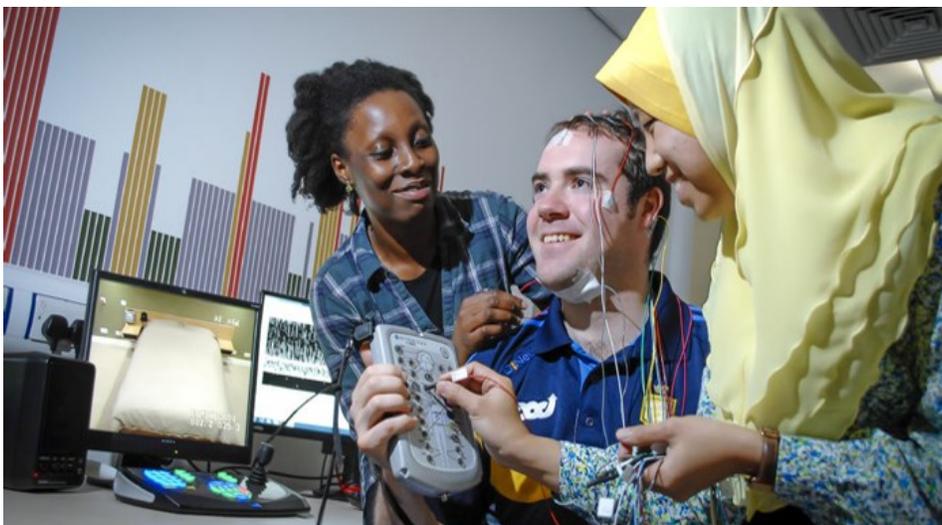
First and foremost, the Warwick Sleep and Pain Lab team would like to take this opportunity to **thank you** all for showing continued interest in our research. Without your help and participation we would not be able to conduct the research that answers some of the complex questions about sleep & pain. Most importantly, we have been able to advance the understanding of the relationship between these phenomena & their impact on the experience of chronic pain conditions.

We also want to use this opportunity to thank the **Pain Clinic team (Dr Balasubramanian, Dr Correa, Dr Chakka and Dr Krishnamoorthy)** and the **Rheumatology Clinic team (Dr Chaudhuri and Dr Dubey)** at **University Hospitals, Coventry & Warwickshire** for their invaluable support in terms of patient recruitment thus far.

How have you helped us?

You have helped us to further understand the relationship between sleep disturbance and the experience of pain in patients with fibromyalgia and chronic back pain. You have also helped us to understand how sleep quality impacts on chronic pain patients' day-to-day physical activity.

Through continued, high-quality research our lab's main aims are to address the scientific and clinical aspects of sleep and pain, as well as the general association between sleep and health.



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Completed Studies

With your help we have been able to complete two substantial research projects gathering meaningful information which will help inform future studies, and effective self-management.

Sleep Disturbance and the Experience of Pain in Patients with Fibromyalgia & Chronic Back Pain compared with Pain-Free Controls (Dr Esther Afolalu)

Poor sleep is a common complaint among those with chronic pain conditions. However, it is often unclear why this is the case. A study using questionnaires, actigraphy & overnight sleep assessment at our lab was used to explore the relationship between sleep and pain characteristics in participants with fibromyalgia and chronic back pain. The study also compared levels of inflammation across groups, assessed psychological factors associated with pain and examined conditioned pain modulation response ("pain inhibiting pain").

Twenty-six people (9 fibromyalgia patients, 8 chronic back pain patients & 9 healthy people) took part in the study. Study findings provided some insight into differences between fibromyalgia and chronic back pain. The findings suggest that when compared with pain-free participants, those with chronic back pain and fibromyalgia showed greater self-reported sleep disturbances and tend to have slightly raised levels of inflammation, less efficient pain responses, poorer mood and greater fatigue. Poorer sleep may be associated with these factors, leading to greater pain experience, but further studies in larger samples are needed to confirm these findings. Overall, these findings suggest sleep as an important factor in helping people manage their chronic pain more effectively.

Daily Process Study on the Association Between Sleep & Physical Activity in Patients with Chronic Pain (Dr Fatanah Ramlee)

Low levels of physical activity are often a consequence of chronic pain that has been shown to significantly affect patients' quality of life. Poor sleep has been associated with overall reduced levels of physical activity, but how sleep impacts day-to-day levels of physical activity is less understood. A daily process study (i.e., a study designed with specific time monitoring points of sleep, physical activity, pain & psychological variables over a period of time) investigated the effect of sleep on daytime physical activity the next day as well as how levels of physical activity impact subsequent sleep. Fifty-one people with chronic pain conditions participated over a period of 14 days, in which they monitored their sleep and daily activity using actigraphs and physical activity monitoring sensors. Participants also kept a diary to record their estimates of sleep, pain, fatigue, energy levels and motivation to accomplish tasks amongst other factors.

Overall, findings indicated that better sleep quality, higher sleep efficiency but not total sleep time the previous night predicted overall level of physical activity. The findings also showed that waking up with less pain and greater sleep quality were associated with more time spent sitting during the day. Besides, the findings indicated that better mood upon waking predicted higher overall level of physical activity, which in turn led to better presleep mood. However, the results did not find significant relationships between daytime physical activity and subsequent sleep. The overall findings showed that sleep appeared to be a significant day-to-day determinant of daytime physical activity in people with chronic pain. Possibly for patients with chronic pain, sleep quality matters more than sleep duration. It may be worth to design interventions and future studies that seek to improve sleep quality which subsequently increase physical activity the following day in physically inactive patients with chronic pain.

EFIC 2017

Dr Fatanah Ramlee & Victoria Colvard presented research posters at the European Pain Federation Conference, Copenhagen, Denmark.



Fatanah (left) and Victoria (right) at the Bella Centre, Copenhagen for EFIC 2017.

BPS 50th Anniversary Annual Scientific Meeting 2017

Dr Nicole Tang (Lab Director) gave a plenary lecture at the British Pain Society's 50th anniversary Annual Scientific Meeting. Her lecture highlighted the reciprocal relationship between pain and sleep and how it's feasible to address sleep problems despite on-going chronic pain. She then went on to highlight how a hybrid CBT treatment may be an effective way to tackle pain and sleep comorbidities. This is currently being tested in an ongoing feasibility study, partnered with the Clinical Trials Unit at Warwick Medical School.



Dr Nicole Tang presenting at BPS 50th Anniversary Scientific Meeting.

Congratulations to Dr Fatanah Ramlee & Dr Esther Afolalu

It has been a busy, past few months for our lab. Both Fatanah & Esther have successfully completed their PhDs and passed their vivas. **Huge congratulations** to them!

Fatanah passed her viva on the 29th, September & Esther passed hers on the 24th, November.

Both worked extremely hard over four years, showing huge dedication to the fields of sleep and pain. Throughout their time at Warwick, their studies have been very well received & published in some of the leading academic journals. Please do look at the reference section overleaf. Even though they have finished their PhDs, they are continuing to write up other aspects of their studies as well.

Since completing their vivas, Fatanah has taken up an academic staff position in Malaysia. Esther is continuing to work with an epidemiology company based in Switzerland.

We will miss them very much, but cannot wait to see where their next steps take them in their research careers.



On-Going Studies

Victoria Collard, our current PhD researcher is exploring the effects of mental defeat in the overall experience of chronic pain. This is a relatively new psychological construct in the context of chronic pain being used to explain the vast response variation we see in patients. For example, to explain why there are patients who can lead lives without much interference from their pain & those who feel that they cannot take part in everyday activities as a result of their pain. We are investigating this via two different studies with the hope that we can use this to inform future chronic pain intervention studies.

Interview Study

We know that mental defeat is correlated with differences in treatment seeking for chronic pain, however we still do not know where these differences lie. Thus, we are looking to interview people with chronic pain conditions about how they have sought treatment for their pain.

Experimental Study

We want to explore the effects that mental defeat may have on the immediate experience of pain. Specifically, how mental defeat may affect pain threshold, conditioned pain modulation, pain anticipation and how people rate their pain. By doing so, we hope to see whether this could be used to help develop more focused, effective interventions in chronic pain.

Do you know anyone who might like to take part?

We would love to hear from you if you, or anyone you know would like to take part in any of our current or future studies.

We have an on-going database in which you can register your interest by filling out an online form on our webpage, speak to us via telephone or drop us an email. Please do feel free to pass on this newsletter and our contact details to anyone that you think might be interested in taking part.

At the moment, we are looking for people who fit the following criteria to take part in our current studies:

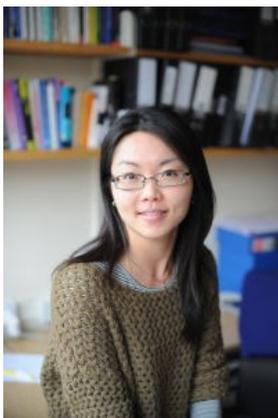
- People who currently have **back pain** for 3 months or more,
- Are aged between 18-65 years old,
- Are English-speaking

Even if you or anyone you know do not fit the above criteria, but would still like to register your interest, please do feel free to do so. There might be studies in the future that you or someone you know could help us out with.

Reference Section

Afolalu, E.F., Moore, C., Ramlee, F., Goodchild, C.E. & Tang, N.K.Y., (2016). Development of the pain-related beliefs and attitudes about sleep (PBAS) scale for the assessment and treatment of insomnia comorbid with chronic pain. *Journal of Clinical Sleep Medicine*, 12(9), 1269-1277.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4990950/>

Ramlee, F., Sanborn, A.N. & Tang, N.K.Y., (2017). What sways people's judgement of sleep quality? A quantitative choice making study with good and poor sleepers. *Sleep*, 40(7), zsx091
<https://academic.oup.com/sleep/article/40/7/zsx091/3835259>



Dr Nicole Tang



Dr Fatanah Ramlee



Dr Esther Afolalu



Miss Victoria Collard

Contact Us

Please do get in touch if you would like to be considered for ongoing or future studies, or simply just to register interest.

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