



# *The benefits of psychoeducation for improving sleep quality*

Article

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# THE BENEFITS OF PSYCHOEDUCATION FOR IMPROVING SLEEP QUALITY



With large numbers of students reporting difficulties with sleep, **Claire Gregor, Luci Wiggs and Aileen Ho** set out to explore whether psychoeducational input on sleep hygiene might help them. Their research produced some interesting results



Research suggests that university students have higher than average poor quality sleep, with one study reporting nearly a quarter of students have difficulties in dropping off to sleep.<sup>1</sup> Although over five years old now, the most recently published National Union of Students (NUS) survey into student mental health in the UK identified that almost 50 per cent of students reported difficulties with sleeping.<sup>2</sup> Reports from North American universities suggest a similar picture, with one study finding 51 per cent of students having fewer than seven hours of sleep a night, which is at the lower end of the recommended number of hours for young adults.

Whilst this picture may sound familiar to many non-students (a recent survey found 30 per cent of the general population reporting a poor night's sleep<sup>3</sup>), talking about poor sleep can often form part of a student counselling intervention. Poor sleep and late waking times can lead to poorer academic performance, reduced executive cognitive function and increased symptoms of depression.<sup>4-9</sup> Awareness of sleep-facilitating behaviours appears limited amongst university students suggesting a need for ongoing health-promotion work with this population.<sup>10,11</sup> But with increasing pressure on university counselling and wellbeing appointments, alternative, practical ways to meet students' need for support with sleep should be explored.

Research on psychological interventions to improve sleep quality with student populations is not widespread, and, to date, only one UK study has been published. Freeman et al conducted a multi-site large-scale study of the sleep quality of over 3,500 UK students who met the inclusion threshold of a diagnosis of clinical insomnia.<sup>12</sup> Insomnia, like poor sleep, can be understood as a subjective complaint, often reliant on self-report, and an individual's perception of their ability to manage the subsequent day. Typical difficulties include struggling to fall asleep (sleep onset latency), frequent awakening during the night, tossing and turning, and waking early in the morning. Insomnia can be diagnosed when these

symptoms of poor sleep significantly impact activities of daily living, and have persisted for more than three days a week for a prolonged period of time. Based on the current NICE guidance that recommends cognitive behavioural therapy for insomnia (CBT-i),<sup>13</sup> the study evaluated online CBT-i delivered to students. Interestingly, despite the poor take-up of the full six sessions, an improvement in sleep was found for the group who participated in the CBT-i compared to the control group which did not alter their behaviour. However, most students do not receive a diagnosis of insomnia and therefore would not necessarily be eligible for CBT-i via the NHS.

Thus, we believed, a single psychoeducational session might be appropriate for this population. In other words, attending a one-off talk may be a more practicable way of meeting the needs of student poor sleepers because it can be delivered multiple times to a large audience who may not traditionally avail themselves of therapeutic input, or see their poor sleep as being something that can be improved.

The need to educate students, irrespective of academic discipline, about good sleep hygiene and practice, was recognised five years ago at the University of Reading. A well-attended psychoeducational talk entitled '*How to get a good night's sleep*' had been regularly delivered as part of student wellbeing provision. Whilst qualitative feedback had been positive, it was not sufficient to indicate whether there had actually been any longer-term measurable impact on participants' sleep quality. Mindful of the institutional drive for cost-effective, outcome-based interventions within the Counselling and Wellbeing Service, we therefore sought to evaluate whether there was a measurable improvement in sleep quality for students attending the talk, and set about devising a research project to test our hypothesis that there would be.

### Methodology

The experimental stage of this research project was carried out between March and June 2018. Both

undergraduate and postgraduate students were recruited from the University of Reading, where the first author was a member of staff in the Counselling and Wellbeing Service. Thirty-two students elected to participate in this research project, although numbers attending the actual talks were four times that number. Students chose to attend a talk about sleep or a control talk, with content unrelated to sleep, as described below. All students participating in the project gave consent for their data and responses to be used in any subsequent publication.

Students were asked to complete the same two standardised quantitative questionnaires: the Sleep Hygiene Awareness and Practice Scale (SHAPS), and the Pittsburgh Sleep Quality Index (PSQI).<sup>14,15</sup> They are both user-friendly and have previously been used with students by other researchers.<sup>16,17</sup> SHAPS is a measure of sleep hygiene knowledge and habits developed by Lacks and Rotert and is often used in psychological studies relating to difficulties with sleep. Thirty-two questions were used to assess knowledge about different behaviours that might affect sleep. The scale also asks the frequency (per week) of certain activities such as drinking alcohol or taking naps. The PSQI is a widely used self-report questionnaire about sleep quality that can be used for both clinical and research purposes. The latter questionnaire consists of 19 items and takes approximately 10 minutes to complete. Participants are asked about their sleep and what has affected their sleep over the previous month. Questions include *'How often have you had trouble sleeping because you feel too hot?'* and *'During the past month have you taken medicine to help you sleep?'*

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were completed irrespective of the talk that the student had chosen to attend. A 50-minute psychoeducational talk was then delivered. This was either specifically addressing good sleep hygiene practice in the form of a talk entitled *'How to get a good night's sleep'*, or a control talk addressing typical

student issues such as *'improving concentration'*, *'mindfulness'* or *'stress reduction'*.

The sleep talk was loosely based on part one of Espie's book *Self-help for insomnia*.<sup>18</sup> Information was provided about aspects of normal sleep (including circadian rhythms and the production and release of melatonin). A significant proportion of the talk covered good sleep hygiene practice such as limiting usage of electronic devices, alcohol and caffeine pre-bedtime. Participants also took part in a brief guided progressive muscle relaxation exercise. The control group talks were presented by a counselling psychologist and covered material such as breathing techniques, ways to manage anxiety and learning how to avoid procrastination.

Thirty-two students completed the baseline SHAPS and PSQI questionnaires, and of this initial group, due to some attrition, 15 went on to complete the same questionnaire administered six weeks after the talk they had attended.

## Our Findings

### Baseline sleep quality

Our cohort of 32 students reported poor quality sleep at baseline with median (average) Global PSQI scores of nine (sleep group) and eight (control group). The maximum an individual can score for the Global PSQI is 21; however, a score of more than five is considered to be indicative of sleep difficulties and this is typically used by both clinicians and researchers to evidence poor sleep. Areas in which the students in our group reported the most difficulties were daytime dysfunction, and struggling to drop off to sleep, so-called 'extended sleep onset latency'. The range of sleep latency varied, from just 10 to over 270 minutes. Prior to participating in the research, all of the participants in this study, irrespective of which talk they elected to attend, were getting a minimum of six to seven hours of sleep a night.

Before attending the talks, students' awareness and knowledge of good sleep hygiene were relatively poor. This was also reflected in their reported sleep hygiene practice suggesting poor bed-time habits. Although it is worth emphasising that the numbers involved in this project were small, there were noticeable differences between the groups in how students approached their night-time routine. Students who chose to attend the sleep talk scored most highly on items such as not having a comfortable night-time temperature in their bedroom, worrying about their ability to get to sleep,

being thirsty during the night, and drinking caffeine before bedtime. In the control group, students also struggled with night-time temperature, but interestingly were more likely to take a nap during the day, go to bed thirsty and hungry, and

drink more than three alcoholic beverages in the evening than the sleep group.

### Six-week post-talk

As stated earlier, students were invited

to complete the same two questionnaires six weeks after attending one of the talks. This generated a second data set against which we could analyse any change in sleep hygiene knowledge and behaviours, and sleep quality. Fifteen students completed these questionnaires, with 10 from the sleep group and five from the control group.

For the sleep talk group the global PSQI scores had reduced to a median score of five for the sample of students who completed both questionnaires, and six of the 10 students in the sleep talk group reduced their score to less than, or equal to five suggesting a clinically significant positive benefit in attending. Sleep onset latency and day-time dysfunction scores had also both improved for the sleep talk group. Both groups showed an improvement in their sleep hygiene knowledge scores after attending the talks, even though the content of the control talks did not specifically include sleep hygiene education. However, for both groups some aspects of their sleep hygiene practice deteriorated after the talks; for example, scores for day-time napping increased.

Interestingly, statistical analysis showed no significant difference between the sleep and control groups in terms of their change in sleep quality six weeks after attending a talk, whether it was specifically on sleep, or another wellbeing topic. The students who formed the control group notably also reported improvements in their sleep, post-talk.

Two participants from the sleep group also provided unsolicited feedback via email. Their positive feedback suggested that the knowledge gained about good sleep hygiene practices was beneficial to them even if not necessarily reflected in their post-talk questionnaire scores.

### Conclusion

In keeping with other international research, and clinical anecdote, the cohort of students studied at Reading were not unusual in experiencing poor

quality sleep at the beginning of the project. With the majority of the participating students scoring in excess of the clinically significant cut-off score for the PSQI, our research confirmed that we were correct to target students' sleep as a wellbeing intervention.

Although the literature indicates that students are getting insufficient sleep, this was not supported by this sample of UK students, where the total amount of sleep they reported was unremarkable. Other researchers, predominantly in the USA, have noted that students in particular, have difficulties in ensuring regular sleep-wake patterns, and a failure to prioritise sleep over socialising or academic work.<sup>19</sup> However, the measures used in the current research study did not capture variability in sleep-wake patterns as questions only asked for average times that students went to bed and rose. Interestingly, all student participants in this study were getting at least seven hours of sleep at the time of completing the second questionnaires. This suggests that they were possibly getting sufficient sleep, but struggling more with sleep onset latency and therefore getting up later than they wanted. For example, one student reported taking up to four hours to drop off to sleep, but actually slept on average for nine hours per night. This may explain why the participants also indicated that they had impaired daytime functioning as they may have been more tired than usual in the mornings, or struggling to attend early lectures. As Charlotte Bronte wryly wrote in her novel *The Professor*, '...a ruffled mind makes a restless pillow'.

An unanticipated outcome of the study was that students who formed the control group also reported improvements in their sleep, post-talk. This may be for a number of reasons: the control talk that they attended may have helped them to address their stress, given them tips on relaxing, or offered them mindfulness techniques that enabled them to sleep better. Indeed, a systematic review of student sleep interventions found large effect sizes in interventions that incorporated mindfulness and relaxation, as well as sleep hygiene.<sup>20</sup> Therefore, the content of the control talks may also have been beneficial for the sleep of students, and students who do not necessarily self-identify as poor sleepers may well experience improvements in their sleep quality as a result of input designed to reduce arousal in other areas of their life.

It is worth noting that because it was the summer exam period, all participants may have consciously taken steps to address poor sleep hygiene practices in order to facilitate more restful sleep to enable

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revision. Levenson et al suggest that one of the reasons for improvement in sleep quality in student participants may be due to the expectation effect.<sup>21</sup> This may also have been the case as the information sheet provided to the control group made it clear that the research was looking at sleep, and, of course, the students were asked to complete sleep questionnaires. Students may therefore have unconsciously paid more attention to their sleep hygiene in the six-week period post-intervention. This could have been stimulated by completion of the SHAPS questionnaire which poses questions asking whether certain sleep practices are good or bad for getting a good night's sleep. After completion of the first questionnaire, participants may have been prompted to seek out further information on good sleep hygiene.

Before attending the talks, the baseline SHAPS practice scores for both groups of students were relatively high suggesting that the cohort overall had poor sleep hygiene practices. By way of comparison, Kohn and Espie found 'good sleepers' in their study to have lower SHAPS practice scores than our group.<sup>22</sup> In their study of US students, Brown et al report baseline scores that were also lower than our group.<sup>23</sup> Whilst SHAPS practice scores are calculated from a maximum of 139 and this UK student cohort was not at the top end of the scale, their scores are worse than those of similar samples in the other studies cited. The group studied also indicated that they worried about their ability to get to sleep, which may be linked to the timing of the research; as it was carried out over the revision periods, participants may have been more worried than usual about getting sufficient sleep in order to enable them to succeed in their exams. Indeed, in keeping with practice wisdom, stress has been identified by other researchers as a significant predictor of poor quality sleep for students.<sup>24</sup>

### Concluding remarks

This research project sought to evaluate the sleep quality of a small cohort of UK students, and to discern whether a psychoeducational intervention could help to improve this. In keeping with other research into student populations, the student participants experienced significant difficulties with their sleep. Although only half of the participants went on to complete the second questionnaire, this small sample did demonstrate a modest improvement in their sleep quality after attending a wellbeing talk. Results from the analysis of the initial PSQI scores compared with those

gathered after six weeks suggest that participating in the research project enabled the majority of the students, in both sleep and control groups, to improve their sleep quality over the short-term.

Whilst we cannot be certain that it was the content of the sleep talk that led to the improvement in the students' sleep quality, it does appear that attending a psychoeducational talk focused on wellbeing, and completing sleep-related questionnaires facilitated a positive change for most participants. Further research in this area is warranted, but our study does suggest that raising awareness of good sleep hygiene practices may well be a cost-effective and time-efficient way for busy counselling services to improve students' sleep and overall wellbeing. ●



#### ABOUT THE AUTHORS:

**Dr Claire Gregor** is a qualified social worker and worked as a Mental Health Advisor at the University of Reading for five years following a career in adult mental health social work. She currently works as a clinical supervisor to staff within the university's Student Wellbeing Service. [claire@biricha.com](mailto:claire@biricha.com)



**Dr Luci Wiggs** is Reader in Psychology at Oxford Brookes University. Her research interests concern sleep disorders and their management and the effects of sleep disruption on daytime functioning, with an emphasis on children and young people and their families.



*Dr Aileen K Ho is Associate Professor at the School of Psychology and Clinical Language Sciences, University of Reading, and holds an honorary Consultant Clinical Psychology position with the Royal Berkshire NHS Foundation Trust. She is interested in mental well-being across the spectrum of health and disease.*



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