

An investigation of effects of dreams on physiological measures of stress

Results:

Part 1

Baseline questionnaires showed that patients in both sleep disorder groups had significantly higher levels of anxiety and sleep disturbance and lower levels of general health compared with normal sleepers; the insomnia group had significantly higher depression ratings. Absolute levels of morning salivary cortisol were higher in both sleep disordered groups than in controls. Insomnia patients and parasomnia patients on 'good' nights had higher waking cortisol levels than controls, and similar levels to controls at 30min post waking. There was a variable response on parasomnia 'bad' nights with most patients waking with higher cortisol levels and some even having a fall rather than a rise 30 minutes after waking. Cortisol levels on awakening showed higher variability in those subjects reporting anxiety dreams during the night. We demonstrated a significant relationship between cortisol levels and subjective measures of poor sleep quality. Occurrence of episodes of parasomnia was associated with awakening cortisol response unlike that of controls and insomnia patients.

Part 2

The automatic sampling system was reliable and effective in obtaining frequent blood cortisol samples without interfering with sleep. Cortisol levels fell during the first few hours of sleep and then showed a rise independent of sleep stage about halfway through the night, consistent with the literature. In addition, both awakenings and REM sleep tended to increase cortisol level. There was evidence of both circadian and sleep-stage-dependent regulation of night-time cortisol level. Awakening cortisol response was detected in both plasma and saliva samples but the size of the response was different using the 2 methods.

Published Work:

- Phillips S, Lightman SL, Nutt DJ, Wilson SJ (2008) Sleep stages and automatic overnight cortisol sampling. *J Psychopharmacol* 22(5) (Supp) A 35
- Wilson SJ, Dickens R, Jessop D, Lightman SL, Nutt DJ (2008) Morning cortisol response in patients with parasomnias and insomnia. *J Psychopharmacol* 22(5) (Supp) A 34
- Dickens RD, Jessop D, Nutt D, Wilson SJ (2007) Morning Cortisol Response in Patients with Sleep Disorders. *J Psychopharmacol* 21(7) (Supp) A 37

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