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# Emotional dysregulation in insomnia: a possible mediating factor in the relationship between insomnia and depression

Chiara Baglioni<sup>\*†1</sup>, Kai Spiegelhalder<sup>1</sup>, W. Regen<sup>1</sup>, Bernd Feige<sup>1</sup>, Christoph Nissen<sup>1</sup>,  
and Dieter Riemann<sup>1</sup>

<sup>1</sup>Department of Psychiatry Psychotherapy, University of Freiburg Medical Center, Freiburg – Germany

## Abstract

In many patients with depression, symptoms of insomnia herald the onset of the disorder and may persist into remission or recovery, even after treatment. A meta-analysis of recent data has shown that people with insomnia have a two-fold risk of developing depression, compared to good sleepers. However, the psychophysiological mechanisms underlying this causal relationship are still not well understood. Heightened emotionality has been proposed to be a possible mediating factor; however there is a surprising lack of studies using physiological indices. The present study aimed to evaluate brain reactivity to emotional stimuli in people with primary insomnia and in good sleepers. Patients with primary insomnia (n=22) and healthy controls (n=40) were presented with different blocks of neutral, negative, and sleep-related negative pictures during an fMRI task. Neutral and negative pictures were taken from the International Affective Picture System (IAPS), while sleep-related negative pictures were previously validated. All participants previously underwent two consecutive nights of polysomnographic recordings in order to exclude those with other sleep disorders. Preliminary results are consistent with the hypothesis that people with insomnia present altered emotional responses in the amygdala and other limbic areas to negative stimuli related and non-related to sleep as compared to good sleepers. Clinical implications of the present findings, which need confirmation by further investigation, suggest that adding an emotional regulation component to standard therapy for insomnia might be effective to ameliorate sleep and to prevent the development of depression as a public health priority.

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\*Speaker

†Corresponding author: chiara.baglioni@uniklinik-freiburg.de