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# The mediating role of anxiety and depression on the association between perfectionism, sleep-disturbances, and insomnia severity

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## Sleep disorders – Insomnia 1

### P440

#### Preliminary evidence for quality of life improvements after acceptance and commitment therapy in primary insomnia

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**Background:** Cognitive behavior therapy for insomnia (CBT-I) improves subjective and objective parameters of sleep in patients with primary insomnia (PI). However, the perception of poor sleep and an impaired quality of Life (QoL) often persists despite treatment. This study aimed to provide first evidence that Acceptance and Commitment Therapy (ACT), an intervention including mindfulness and value-based changes of behavior, can improve subjective sleep quality and QoL in patients with chronic PI.

**Methods:** Eleven patients with chronic PI who were non- or partial responders to CBT-I were included. Data were collected 6 weeks prior to the intervention ( $T_{-1}$ ), directly before ( $T_0$ ) and after the intervention ( $T_1$ ), and at 3-months follow-up ( $T_2$ ). The intervention consisted of six ACT sessions in an outpatient group setting. Primary outcomes were sleep-related QoL (Glasgow Sleep Impact Index), global QoL (World Health Organization Quality of Life scale) and subjective sleep quality (measured by sleep diaries).

**Results:** Ten patients completed the study, one dropped out due to scheduling problems. All measures remained stable between  $T_{-1}$  and  $T_0$ . Significant improvements after the intervention were observed for sleep-related QoL, global QoL, and subjective sleep quality (ANOVA with factor Time, post-hoc contrasts  $T_1$  and  $T_2$  vs.  $T_0$ , all  $P$ s < 0.05, large effect sizes). Subjective total sleep time, sleep onset latency and wake time after sleep onset did not significantly change across the study.

**Conclusions:** The findings provide preliminary evidence that ACT might improve subjective sleep quality and the QoL in patients with PI.

**Disclosure:** CN has received speaker honoraria from Servier. DR has received a consulting fee from Abbvie Germany. The other authors indicate no financial conflicts of interest.

### P441

#### The mediating role of anxiety and depression on the association between perfectionism, sleep-disturbances, and insomnia severity

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Individuals with sleep-disturbances, specifically insomnia, often exhibit aspects of perfectionism, and symptoms of anxiety and depression, however the investigation of these factors together has been diminutive. The present study examined the mediating role of anxiety and depression on the associations between sleep-disturbances, insomnia-severity and aspects of perfectionism.

Eighty six participants (Age:  $M = 25$ ,  $SD = 10.02$ ; 80% female) were assessed using the Pittsburgh Sleep Quality Index (PSQI) and Insomnia Severity Index (ISI). Participants also completed two Multidimensional Perfectionism Scales (F-MPS; HF-MPS), and the Hospital Anxiety and Depression Scale (HADS).

Poor-sleepers demonstrated significantly higher scores on the F-MPS subscale *doubts-about-action* compared to normal-sleepers ( $t(84) = 2.54$ ,  $P = 0.01$ ). Additionally, global PSQI scores were signif-

icantly associated with *doubts-about-action* ( $r = 0.22$ ,  $P = 0.04$ ). Insomnia-severity was significantly associated with the F-MPS subscales of *doubts-about-action* ( $r = 0.32$ ,  $P = 0.01$ ), *concern-over-mistakes* ( $r = 0.26$ ,  $P = 0.02$ ), and *parental-criticism* ( $r = 0.30$ ,  $P = 0.01$ ). Hierarchical multiple-regression analyses, separately examining the global PSQI and insomnia-severity scores, demonstrated that when anxiety and depression were controlled for, none of the previous associations remained significant.

**The results indicate that:**

1. both increased sleep-disturbance and insomnia severity appear to be associated with increased *doubts-about-action*;
2. increased insomnia-severity also appears to be associated with increased *concern-over-mistakes*, and *parental criticism*; and
3. these associations are mediated by anxiety and depression.

These results could suggest that treatments for sleep-disturbance and insomnia should address anxiety and depressive symptoms, with the prospect of alleviating aspects of perfectionism, specifically *doubts-about-action*, *concern-over-mistakes*, and *parental criticism*, that may perpetuate pre-sleep arousal, consequently disturbing sleep.

**Disclosure:** Nothing to disclose.

### P442

#### Sublingual flumazenil for the residual effects of hypnotics: zolpidem and brotizolam

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**Background:** Residual morning drowsiness is a frequent side effect of hypnotics which limits optimal treatment in Insomnia.

**Purpose:** To study the safety and efficacy of sublingual Flumazenil (GABA-A antidote) in reversing the residual hypnotic effect.

**Methods:** A double blind, placebo controlled, randomized cross over study with twenty healthy subjects who slept for 1.5 h following sleep induction (Zolpidem  $n = 10$ ; Brotizolam  $n = 10$ ). Upon awakening, they underwent neurocognitive tests including immediate word recall test (iWRT), Digit Symbol Substitution Test (DSST), and mood/performance questionnaires. They were then treated by Flumazenil or placebo ( $n = 20;20$ ) and were re-evaluated after 20 and 60 min. A week later, the same procedures were performed (Placebo/Flumazenil accordingly).

**Results:** All 20 volunteers completed the study. Flumazenil was superior to placebo by 59–93% ( $P < 0.05$ – $0.001$ ) in improving performance in the various neurocognitive tasks. Subjects reported a significant improvement in vigilance with Flumazenil, both at 20 min ( $3.0 \pm 0.6$  cm vs.  $1.3 \pm 0.6$  cm,  $P < 0.02$ ) and 60 min ( $4.7 \pm 0.6$  cm vs.  $2.8 \pm 0.7$  cm,  $P < 0.03$ ). iWRT improved with Flumazenil vs. placebo at 20 min ( $4.2 \pm 0.8$  vs.  $1.3 \pm 0.9$  words,  $P < 0.005$ ) and 60 min ( $5.4 \pm 1.1$  vs.  $1.2 \pm 1.2$  words,  $P < 0.02$ ).

**Conclusions:** Sublingual administration of Flumazenil is safe and effective in reversing the hypnotic effects of Zolpidem and Brotizolam. This may offer a comprehensive and safer treatment for insomniac patients.