

EIN ROME

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BOOK OF ABSTRACTS



SYMPOSIA

S.01

Inducing and relieving insomnia: Interfering or mediating factors?

Chairs: Ellemarije Altena, Célyne Bastien

This symposium will focus on the latest insights on both inducing and relieving insomnia, and discuss interfering or mediating factors on both. Jason Ellis will discuss the results of a novel and more representative paradigm to elicit an acute insomnia response in healthy adults. Célyne Bastien will present the mediating role of hyperarousal on sleep difficulties in the context of playing on-line poker. Ellemarije Altena will discuss how objective sleep parameters can be predictive of the ability to cope with daytime vestibular stimuli, not explained by varying stress levels. Michael Grandner will present how systematic sleep time extension (SSTE) can leverage existing titration strategies to increase sleep duration in those with short sleep duration, within and outside of the context of insomnia. Together these latest insights shed more light on what factors play a role in insomnia onset and how to better prevent and treat insomnia.

- Presentation 1. **Playing online: Contribution of Tilt and Hyperarousal to Insomnia**
Author: Celyne Bastien (Laval, Quebec)
- Presentation 2. **Daytime functioning in insomnia: a focus on coping with vestibular challenges**
Author: Ellemarije Altena (Bordeaux, France)
- Presentation 3. **Lived experiences of insomnia: A qualitative exploration of sleep disturbance onset and maintenance.**
Author: Maria Gardani (Edinburgh, UK)
- Presentation 4. **Insomnia with short sleep duration: Benefits of systematic sleep time extension (SSTE)**
Author: Michael Grandner (Arizona, US)

S.02

Adapting Cognitive Behavioural Therapy

For Insomnia In The Context Of Somatic And Psychiatric Comorbidities – Why, When and How?

Chairs: Kerstin Blom, Kai Spiegelhalter, Nicole K.Y. Tang,

This symposium aims to present and discuss new research-based developments and adaptations of Cognitive Behavioural Therapy for Insomnia (CBT-I) for patients with somatic and psychiatric comorbid conditions. CBT-I is established as the first-line treatment for insomnia disorder. The diagnostic manual DSM-5 (2013) clearly points out that insomnia should no longer be viewed as primary or secondary, but can be comorbid with other conditions. This implicates that when insomnia is comorbid with other disorders, the insomnia should be treated with evidence-based methods and not merely be expected to subside when the comorbid condition is treated. Although CBT-I in its original form is shown to be effective in treating comorbid insomnia, there is an emerging research field looking into ways of adapting CBT-I to suit different patient groups. In this symposium, researchers at the forefront of their fields from four institutes across three countries will present state-of-the-art research of the most common comorbidities with insomnia – chronic pain (Nicole Tang, University of Warwick, Coventry, England), somatic disorders (Bjørn Bjorvatn, University of Bergen, Norway) and psychiatric disorders in regular care (Joel Stenfolk, Karolinska Institutet, Stockholm, Sweden) and acute/inpatient settings (Håvard Kallestad, St. Olavs University Hospital // NTNU, Norway)– and discuss if and how CBT-I should and could be adapted. The panel has a balance of gender and professional backgrounds, aspiring to represent and connect experiences in different roles and career stages.

- Presentation 1. **Is it possible to sleep well with pain? Tailoring CBT-I for people with chronic pain using a hybrid approach.**
Author: Nicole K.Y. Tang (Warwick, UK)
- Presentation 2. **Adapting CBT-I for patients with somatic disorders.**
Author: Bjørn Bjorvatn (Bergen, Norway)
- Presentation 3. **Insomnia in psychiatry – randomised controlled trials of CBT-I adapted to psychiatric comorbidities in regular care.**
Author: Joel Stenfolk (Stockholm, Sweden)
- Presentation 4. **What should we do for acute psychiatric inpatients when CBT-I**

is not an option?

Author: Håvard Kallestad (Trondheim, Norway)

S.03

Where Insomnia Happens: Insights from Immediate vs. Retrospective Perception of Sleep

Chairs: Kristoffer Fehér, Bernd Feige

Understanding the mechanisms that shape how we perceive our sleep is essential for advancing research and clinical care on sleep complaints and insomnia. Could local wake-like activity during sleep contribute to subjective experiences of wakefulness? Could what we perceive as wakefulness be a dream? And to what extent do psychosocial factors – expectations, mood, and trait-level worry – influence retrospective judgments of sleep quality? This symposium, chaired by Kristoffer Fehér and Bernd Feige, will examine the multiple and likely co-existing determinants of sleep perception, and how they can be translated into testable hypotheses for insomnia research. Following a bio-psycho-social approach, the symposium aims to integrate factors from neuroscientific and psychological studies. Kristoffer Fehér will present recent findings from a cued-awakening study – a powerful tool to uncover neural correlates of moment-to-moment sleep experience – and discuss how sleep depth, assessed by awakening threshold, shapes our perception of sleep. Lampros Perogamvros will propose that what insomnia patients identify as nocturnal wakefulness or rumination may actually correspond to dream activity. He will discuss recent findings on neural correlates of perceptual and non-perceptual dreams and propose that misattributed dreaming could contribute to subjective overestimation of wake time in insomnia. By contrasting immediate reports upon awakening with later retrospective assessments, we can quantify the influence of psychosocial factors and identify which aspects of sleep perception reflect underlying brain activity versus downstream cognitive, emotional, and behavioral mechanisms. Carlotta Schneider will present recent findings from patients with insomnia disorder, comparing their immediate sleep perception assessed by cued awakenings with their retrospective sleep assessments. Kai Spiegelhalter will discuss how retrospective evaluation of sleep in insomnia relates to psychosocial factors. Together, these approaches offer a framework for

understanding where insomnia happens and may contribute to improving treatment pathways.

- Presentation 1: **Sleep depth and its perception.**
Author: Kristoffer Fehér (Geneva, Switzerland)
- Presentation 2: **Is our perception of wakefulness a dream?**
Author: Lampros Perogamvros (Geneva, Switzerland)
- Presentation 3: **Sleep-wake perception in patients with insomnia disorder.**
Authors: Carlotta Schneider (Geneva, Switzerland)
- Presentation 4: **How perception of sleep in insomnia relates to psychosocial factors.**
Author: Kai Spiegelhalter (Freiburg, Germany)

S.04

Experiences and issues in the training and dissemination of CBT-I

Chairs: David Gardner, Judith Davidson

Given the limited availability of the recommended treatment for insomnia, experts in many countries are working to increase access to CBT-I. This includes the development of training programs for healthcare professionals. It also involves strategies for informing the public-at-large and creating new routes of access to care. From Sweden, the UK, and Canada, the speakers will reflect on their experiences in the development and/or evaluation of CBT-I training programs and public-facing educational tools. Attendees are invited to share their experiences and perspectives on enhancing the capacity of professionals and opening access to CBT-I. Susanna Jernelöv will present experiences and key challenges related to the implementation of CBT-I in psychiatric care, based on a care development project within region-driven psychiatry at Stockholm County Health Care Services. The project involved mapping current practices and patients' access to CBT-I, and, drawing on staff input and descriptions, developing care processes and training aimed at improving access to evidence-based interventions for sleep problems among psychiatric patients. Judith Davidson will outline a CBT-I training program for Canadian healthcare professionals developed by an interdisciplinary team. In 2017, a psychologist and a pharmacist gave an insomnia workshop to a continuing professional development crowd. By 2020, there

was a full “Dream Team” with a social worker, a family physician, a sleep medicine/psychiatrist, another pharmacist and another psychologist. Soon, the workshop was taken online. Judith will describe the program, the learners, and their reported comfort in applying the techniques. Simon Kyle will speak about nurse-delivery of behavioural therapy for insomnia and related training experiences with programmes from the Sir Jules Thorn Sleep and Circadian Neuroscience Institute at the University of Oxford. Programmes include the masterclass programme and the MSc/PgDip in Sleep Medicine. David Gardner will outline efforts to increase awareness of and access to CBT-I among patients, the public, and primary care providers including community pharmacists. He will review the impact of a direct-to-patient mailed intervention and consider the efficiency and equity advantages of reaching people with insomnia through public awareness initiatives, along with the key challenges and opportunities these approaches present.

- **Presentation 1. Experiences and issues in training and implementation of CBT-I in psychiatry**
Author: Susanna Jernelöv (Stockholm, Sweden)
- **Presentation 2. The Insomnia Interventions program in Canada: experiences of an interdisciplinary team**
Author: Judith Davidson (Ontario, Canada)
- **Presentation 3. The role of practice nurses in delivering low-intensity behavioural sleep intervention**
Author: Simon Kyle (Oxford, United Kingdom)
- **Presentation 4. CBT-I awareness raising among public and primary care providers**
Author: David Gardner (Halifax, Canada)

S.05

Innovations in Multidisciplinary, Technology-Enabled Insomnia Care: Insights from Australia

Chairs: Simon D. Kyle, Amy Reynolds

Insomnia remains a significant and complex public health concern, impacting quality of life, productivity, and mental health across diverse populations. This symposium brings

together Australian researchers and clinicians to outline multidisciplinary approaches, integrated care models, and emerging technology-enabled solutions for insomnia. Together, these sessions provide a comprehensive view of current challenges and innovations in insomnia management, offering practical strategies to advance multidisciplinary and digital solutions. Drawing on emerging research and clinical practice in Australia, the session will open with innovative, multi-disciplinary insomnia care models that are shaping the way insomnia is understood and treated. Next, lessons will be discussed from the recently aired BBC documentary Australia’s Sleep Revolution, hosted by the late Dr Michael Mosley. The documentary spotlighted cutting-edge Australian research and clinical initiatives, and this session will share our insights as clinicians working with complex insomnia presentations. Attendees will then gain further understanding of how integrated care pathways can improve patient outcomes particularly in populations facing unique sleep challenges, namely young adults and shift workers. The symposium will conclude with insights into digital therapeutics. This presentation will share findings from the HoBIT trial, demonstrating how home-based, technology-driven interventions can deliver scalable, effective treatment for insomnia, bridging gaps in care models.

- **Presentation 1. Setting the Scene: An Overview of Insomnia and Multidisciplinary Care from the Physician Perspective.**
Author: Robert Adams (Flinders, Australia)
- **Presentation 2. Integrated Care Pathways: Lessons from Australia’s Sleep Revolution.**
Author: Nicole Lovato (Flinders, Australia).
- **Presentation 3. Young Adults, Shift Work and Sleep Disorders: Challenges and Emerging Solutions.**
Author: Amy Reynolds (Flinders, Australia)
- **Presentation 4. Advancing digital treatments for insomnia: Results from the Home-Based Insomnia Treatment (HoBIT) trial.**
Author: Hannah Scott (Flinders, Australia)

S.06

From Pages to Pillow: Story-Based Prevention and Intervention Tools for

Better Sleep in Children

Chairs: Judith Owens, Angelika A. Schlarb

Sleep problems are among the most common difficulties in childhood and can significantly affect emotional regulation, daytime functioning, and family well-being. The adapted stepped-care model provides an evidence-based framework for addressing pediatric sleep disturbances through interventions of increasing intensity. In this context, age-appropriate bedtime stories represent a low-threshold, developmentally sensitive approach that can be integrated into both preventive and therapeutic settings. The present contribution summarizes intercultural, empirical, and clinical insights into the creation and use of bedtime stories for children with and without sleep complaints. Bedtime stories can serve as an accessible entry-level component within the stepped-care model, potentially preventing the escalation of mild sleep problems and complementing higher-level interventions for children with clinically relevant insomnia symptoms. In conclusion, bedtime stories—when developmentally adapted and systematically applied—represent a promising, cost-effective tool for promoting healthy sleep in childhood across preventive and clinical contexts.

- Presentation 1: **Now I lay down to sleep. The role of cultural diversity for sleep health disparities: the RESTED framework.**
Author: Judith Owens (Boston, US)
- Presentation 2: **Sleep physiology in children's bedtime books.**
Author: Teresa Paiva (Lisbon, Portugal)
- Presentation 3: **Artificial intelligence (AI) in creating bedtime stories.**
Author: Angelika A. Schlarb (Bielefeld, Germany)
- Presentation 4: **Sleep psychoeducation and pre-bed routines in school aged children.**
Author: Chiara Baglioni (Rome, Italy)

S.07

The predictive brain and insomnia disorder: from fundamentals to possible clinical application

Chairs: Pietro Luca Ratti, Arline-Aude Bérubé

Recently, some mental disorders have been reinterpreted according to a new conceptual framework grounded in Bayesian inferential-predictive models. This “predictive brain” perspective offers a valuable lens to account for insomnia features that remain only partly explained by traditional models, providing a richer account of how the disorder emerges, persists, and becomes self-reinforcing. In the first talk, Dr Bérubé, neurologist, will introduce the principles of the predictive-brain model in neuroscience and how it has been successfully applied to functional neurological disorder. This will provide the rationale for extending this paradigm of care to insomnia disorder, highlighting its potential to clarify mechanisms that traditional models do not fully capture. Dr Ratti, neurologist and sleep expert, will outline the limitations and pitfalls in current insomnia care. He will then reframe the core insomnia symptoms within the inferential-predictive framework, briefly outlining the underlying theoretical principles and the potential of its application in clinical practice. The third talk, by Ritika Mukherji, doctoral student in Neurosciences, will review the basic principles and models of sleep regulation, based on animal studies. Besides the classical bottom-up mechanisms underlying the regulation of sleep and wakefulness, more recent evidence of a top-down cortical regulation of arousal will be illustrated, as the putative neurobiological basis underlying insomnia-related hyperarousal. Finally, Noah Milligan, undergraduate student in Psychology, will revisit existing experimental paradigms in insomnia disorder and will suggest potential methodological frameworks to explore the complex interplay between sleep regulation, subjective perception and predictive processing.

- Presentation 1. **The Bayesian (predictive) Brain in clinical neurosciences**
Author: Arline Bérubé (Montréal, Canada)
- Presentation 2. **Insomnia, as the Bayesian Brain sees it**
Author: Pietro-Luca Ratti (Oxford, UK)
- Presentation 3. **Top-down vs. bottom-up regulation of alertness in animal models.**
Author: Ritika Mukherji (Oxford, UK)
- Presentation 4. **The Bayesian Brain in action.**
Author: Noah Milligan (Newcastle, UK).

S.08

Sleep and Mental Health Across the Lifespan: From Non-Clinical Populations to Psychopathology

Chairs: Marco Sforza, Debora Meneo

Sleep is a key dimension of mental health, and sleep disorders such as difficulties in sleep onset and sleep maintenance (i.e., insomnia) are associated with increased risk of psychological distress and the onset of mental disorders. The symposium aims to examine how sleep alterations shape mental health across the lifespan and along the continuum from typical functioning to psychopathology, integrating findings from clinical and non-clinical samples. A contribution by Dr. Marco Sforza will present findings from a network meta-analysis employing a comparative framework to assess differences in sleep parameters across psychiatric diagnostic categories. While insomnia is considered a transdiagnostic process of psychopathology, it has yet to be fully demonstrated whether specific psychiatric categories may be associated with sleep continuity and sleep architecture alterations more than others. A second contribution by Dr. Andrea Ballesio will investigate the role of actigraphic sleep in predicting psychotic symptoms in non-clinical individuals as well as the potential mediating role of anxiety. In fact, while disturbed sleep is commonly associated with depressive symptoms, its role in influencing anxiety and psychotic experiences is less studied, especially using a physiological sleep assessment. A third contribution by Dr. Valeria Bacaro will examine the role of actigraphic sleep in predicting resilience following a natural disaster in adolescents from IDENTITIES longitudinal project. In fact, sleep is a crucial key variable modulating psychological and cerebral processes involved in acute stress reactions and may therefore play a role in influencing adolescents' adjustments to major environmental changes. Finally, Dr. Debora Meneo will focus on the perinatal period, a sensitive yet underexplored phase in women's mental health. Her contribution will examine psychophysiological mechanisms linking sleep and peripartum mental health, highlighting the need for gender-informed approaches to sleep research. In conclusion, this symposium will present some of the latest advancements in the study of the influence of sleep on mental health.

- Presentation 1. **Distinct Patterns of Sleep**

Continuity and Architecture in Psychiatric Disorders: A Network Meta-Analysis.

Author: Marco Sforza (Milan, Italy)

- Presentation 2. **Sleep, anxiety, and psychotic-like experiences: longitudinal analysis from the C.A.T.C.H. IN.HE.AD. study.**

Author: Andrea Ballesio (Rome, Italy)

- Presentation 3. **Objective sleep patterns and adolescents' adjustment in natural disasters' aftermath: Insights from a longitudinal study.** Author: Valeria Bacaro (Bologna, Italy)

- Presentation 4. **Psychophysiological pathways linking sleep health to peripartum mental health.**

Author: Debora Meneo (Rome, Italy)

S.09

Insomnia and depression: a shared construct through the lens of symptomatology and neurobiology

Chairs: Kai Spiegelhalter, Masoud Tahmasian

Over recent decades, growing evidence has underscored the bidirectional relationship between insomnia and mood disorders, particularly depression. However, this relationship remains complex: many individuals with insomnia never develop depressive symptoms, while some patients with depression report relatively normal sleep patterns. These inconsistencies highlight the multifaceted interplay between sleep and mood regulation. Large-scale meta-analyses and population-based cohorts have provided valuable insights into the shared and distinct pathways linking insomnia and depression. This symposium brings together recent findings from large-scale data analyses, emphasizing novel methodological approaches, analytical challenges, and translational implications for insomnia research. The first lecture, presented by Dr. Tessa Blanken, will examine insomnia and depression as an interconnected system of symptoms through a network-analysis framework. She will illustrate how specific symptoms bridge the two disorders, identifying features that predict first-onset depression and potential treatment targets. These findings will be integrated into a theoretical model addressing asymmetry in

psychopathological pathways. Dr. Andrea Galbiati will explore disorder-specific sleep alterations in insomnia and depression, expanding beyond traditional REM sleep findings to a broader characterization of sleep architecture. Drawing on polysomnographic data, he will describe distinct patterns of sleep continuity and depth that reflect neurobiological differences between the disorders. The third lecture, by Ms. Sarah Schmid, M.Sc., will present UK Biobank data examining how various sleep health dimensions—insomnia symptoms, sleep duration, chronotype, and daytime sleepiness—affect the trajectory of depressive symptoms. Findings suggest multiple aspects of sleep health significantly influence depression outcomes, underscoring the importance of incorporating sleep-focused strategies into clinical care. Finally, Dr. Masoud Tahmasian will discuss multivariate and machine learning analyses exploring interactions among insomnia, brain structure and function, depressive symptoms, and lifestyle factors, using data from both the UK Biobank and clinical cohorts.

- Presentation 1. **Investigating insomnia and depression as system of symptoms.**
Author: Tessa Blanken (Amsterdam, The Netherlands)
- Presentation 2. **Mapping Sleep Architecture in Insomnia and Depression: Beyond and Above REM Sleep.**
Author: Andrea Galbiati (Milan, Italy)
- Presentation 3. **The impact of sleep health dimensions on the trajectory of depressive symptoms.**
Author: Sarah Schmid (Freiburg, Germany)
- Presentation 4. **From Population to Clinic: Decoding interactions among insomnia, brain, and depression using multivariate and machine learning analyses.** Author: Masoud Tahmasian (Jülich, Germany)

ORAL PRESENTATIONS

0.01

The Relative Efficacy of Individual Treatment Components in Digital Cognitive Behavioral Therapy for Insomnia: A Multiphase Optimization Strategy Trial (MOST)

Author: Ali Amidi¹, Sofie Møgelberg Knutze¹, Dinne Skjærland Christensen¹, Henrike Neumann¹, Morten Juul Lopdrup¹, Cecilie Dorte Rask Buskbjerg¹, Malene F. Damholdt¹, Robert Zachariae¹

1. Sleep & Circadian Psychology Research Unit, Department of Psychology & Behavioural Sciences, Aarhus University, Aarhus, Denmark;

Introduction: Although cognitive behavioral therapy for insomnia (CBT-I) is the recommended treatment for insomnia, the relative contribution of treatment components remains unclear. Using the Multiphase Optimization Strategy (MOST), an innovative factorial optimization framework, we aimed to identify the most efficacious treatment components of a smartphone-delivered CBT-I (Hvil®), developed by our team.

Methods: Adults with Insomnia Severity Index (ISI) scores ≥ 10 were randomized in a $2^{(5-1)}$ factorial trial to 16 different combinations of sleep restriction (SR), stimulus control (SC), cognitive therapy, relaxation training, and sleep hygiene (SH). ISI was assessed at baseline, post-treatment (11 weeks), and 6-month follow-up. Intent-to-treat (ITT) mixed-effects models were used to estimate component main effects and interactions.

Results: In the ITT sample (N=478), overall ISI improved significantly. Post-treatment mean change = -6.6 (SD=5.3), and follow-up = -6.8 (SD 5.1), corresponding to ES=1.24/1.33, respectively. Only SRT demonstrated a statistically significant main effect indicating additional reduction in ISI at post-treatment relative to the overall mean effect ($\beta = -0.77$, 95% CI [-1.31, 0.22], $d=0.29$). At follow-up, the improvement was reduced ($\beta = -0.50$, 95% CI [-1.1, 0.10], $d=0.20$). Finally, an antagonistic SCT×SHE interaction

was observed at both post-treatment ($\beta = 0.57$, 95% CI [0.03, 1.12]; $d= 0.22$) and follow-up ($\beta=0.71$, 95% CI: 0.10 to 1.31; $d= 0.28$).

Conclusion: Using MOST, we show that sleep restriction is the primary driver of improvements in digital CBT-I. Stimulus control and sleep hygiene combined may dilute benefits.

0.02

Cognitive and emotional correlates of sleep health in the peripartum period: a systematic review

Author: Elisabetta Baldi¹, Debora Meneo¹, Martina Rizzuti^{1,2}, Silvia Cerolini¹, Fee Benz³, Dieter Riemann³, Francesca Gelfo^{1,2}, Chiara Baglioni^{1,3}

1. Department of Human Sciences, Guglielmo Marconi University, Rome, Italy;
2. IRCCS Fondazione Santa Lucia, Rome, Italy;
3. Department of Psychiatry and Psychotherapy, Medical Center – Faculty of Medicine, University of Freiburg, Freiburg, Germany

Introduction: Sleep plays a key role in cognitive and emotional functioning. Sleep difficulties and psychopathology are more prevalent in women, particularly during sensitive periods such as pregnancy and postpartum. However, limited evidence has focused on the underlying processes linking sleep and psychopathology in the peripartum period. This systematic review aimed to synthesise evidence on the relationship between sleep outcomes and cognitive/emotional processes in the peripartum period.

Methods: A systematic literature search was conducted up to September 2025 to identify studies investigating the relationship between sleep outcomes and cognitive/emotional processes among adult pregnant women.

Results: Thirty-three studies involving 16,563 women were included. Cross-sectional evidence showed that poor sleep outcomes were consistently associated with impairments in emotional processes (e.g., mood, emotion regulation) and cognitive-emotional processes (e.g., rumination, worry). Findings for cognitive functions (e.g., memory, cognitive inhibition) were mixed. Limited longitudinal evidence suggested that poor sleep may contribute to alterations in nocturnal rumination, perinatal-focused rumination, and

sleep-specific rumination and worry across pregnancy, and alterations in mood, anger, and emotion regulation from pregnancy to the postpartum period.

Conclusion: Sleep outcomes are consistently associated with cognitive and emotional functioning during the peripartum period, suggesting that sleep may represent a relevant clinical target for prevention and intervention.

O.03

Sleep as a Mediator in the Complex Behavioral and Psychosocial Pathways Linking Religiosity and Obesity: A Structural Equation Model in Carmelite Druze Adults in Israel.

Author: Najwa Basis¹, Lital Keinan-Boker¹, Tamar Shochat¹

1. University of Haifa, Haifa, Israel;

Introduction: Building upon Grandner's Social Ecological Model of Sleep (SEMoS), this study explored the mediating role of sleep in the relationships between social and individual factors and obesity in the Druze community.

Methods: We assessed individual factors (mental health problems and lifestyle) and social factors (religious orientation) using validated questionnaires. Sleep quality and quantity were measured by a 2-week diary. Obesity was measured by waist-hip ratio (WHR) and body mass index (BMI). Data from 297 participants were analyzed using Structural Equation Modeling (SEM) to assess the direct and indirect effects on obesity, with sleep as a mediating variable.

Results: SEM revealed that better sleep and lower Artificial Light in Night (ALAN) exposure directly predicted lower obesity ($\beta=-0.188$, $p=0.044$); ($\beta=0.594$, $p=0.003$). The relationship between religiosity and obesity was mediated by mental health and sleep ($IE=-0.062$, $p=0.014$); ALAN and sleep ($IE=-0.063$, $p=0.011$); ALAN, mental health, and sleep ($IE=-0.039$, $p=0.002$), and diet and sleep ($IE=-0.026$, $p=0.014$). Finally, the relationship between physical activity and obesity was mediated by mental health and sleep ($IE=-0.078$, $p=0.027$).

Conclusions: Our findings highlight the role of poor sleep health as both a direct predictor of obesity and a mediator in the relationships between religiosity, individual behavioral factors, and obesity.

O.04

Characterizing hyperarousal in insomnia: a multidimensional approach

Author: Roxanne Bongers¹, Lucija Blazeviski^{1,2}, Merel Ottens¹, Djamilah Mohamed¹; Eus van Someren^{1, 2, 3}; Lara Rösler¹

1. Department of Sleep and Cognition, Netherlands Institute for Neuroscience, Royal Netherlands Academy of Arts and Sciences, Amsterdam, the Netherlands;
2. Department of Integrative Neurophysiology, Center for Neurogenomics and Cognitive Research, Amsterdam Neuroscience, Vrije Universiteit Amsterdam, Amsterdam, the Netherlands;
3. Department of Psychiatry, Amsterdam UMC location Vrije Universiteit Amsterdam, Amsterdam, the Netherlands;

Introduction: Hyperarousal is a core component in most insomnia models, proposing that individuals with insomnia show elevated cognitive, emotional, and physiological arousal, both at baseline and in response to stress. This study investigated how daytime hyperarousal manifests in insomnia across multiple domains: trait hyperarousal, and subjective and objective responses during stress induction.

Methods: Twenty individuals with insomnia and eighteen healthy controls (26 females; mean age = 42) participated in five laboratory sessions. Each session comprised a stress induction in which participants listened to their own out-of-tune singing. Heart rate (ECG), electrodermal activity (EDA), blushing (PPG), and subjective arousal (VAS 0–100) were assessed. Trait hyperarousal was measured using the newly developed Trait Hyperarousal Dimension Questionnaire (THDQ).

Results: Individuals with insomnia scored higher on six of seven THDQ dimensions compared to health controls, namely: anxious, somatic, sensitive, sleep-related, sudomotor, and irritable. During stress induction, insomniacs showed larger increases in heart rate, blushing response, and skin conductance level and response amplitude. Subjective arousal during stress did not differ between groups.

Conclusion: These findings suggest that insomnia is characterized by elevated trait hyperarousal and autonomic stress reactivity. Our multidimensional approach could help explain how hyperarousal may serve as a transdiagnostic mechanism linking insomnia to anxiety and depression.

O.05

From Risk to Intervention: Longitudinal Links Between Insomnia and Disordered Eating in Adolescents

Author: Silvia Cerolini¹, Valentina Meregalli², Chiara Tosi², Elisabetta Baldi¹, Sara Curati¹, Debora Meneo¹, Sara Scrimin³, Chiara Baglioni^{1,4}, Valentina Cardi²

1. Department of Human Sciences, Guglielmo Marconi University, Rome, Italy;
2. Department of General Psychology, University of Padua, Padova, Italy;
3. Department of Developmental and Socialization Psychology, University of Padua, Padova, Italy;
4. Department of Clinical Psychology and Psychophysiology/Sleep, Medicine, Centre for Mental Disorders, University Medical Centre, Freiburg, Germany;

Introduction: Insomnia symptoms and disordered eating frequently co-occur during adolescence and may mutually reinforce each other through shared biological, cognitive, and emotional mechanisms. Since the COVID-19 pandemic, both conditions have increased, often presenting with significant comorbidity and psychological burden. This study examined the prevalence, stability, and longitudinal bidirectional associations between insomnia symptoms and disordered eating risk in adolescents.

Methods: Data were drawn from the S.A.N.A. longitudinal project. A total of 1,891 adolescents (54.9% female; M age = 15.3, SD = 1.4) completed questionnaire-based assessments at baseline, 3 months, and 6–9 months. Measures included insomnia symptoms, eating disorder risk, emotional and behavioral symptoms, emotion regulation, stress, and social media use. Cross-sectional analyses and longitudinal associations were tested using descriptive statistics, multivariate regression, and Generalized Linear Mixed Models (GLMMs).

Results: At baseline, 22.9% of participants showed combined risk for insomnia and disordered eating. Girls reported significantly higher symptom levels and a more persistent combined risk. Longitudinal GLMMs confirmed significant bidirectional effects: insomnia predicted later disordered eating risk (log-odds = 0.40, $p < .001$), while

eating disorder risk strongly predicted later insomnia (log-odds = 2.79, $p < .001$). **Conclusion:** Findings highlight the stability and reciprocal nature of insomnia and disordered eating risk in adolescence, supporting early, integrated, and transdiagnostic prevention strategies, including digitally supported and immersive interventions. The oral presentation will also outline the broader S.A.N.A. protocol, including quasi-experimental and intervention strategies employing virtual reality to assess and reduce insomnia and eating disorder symptoms.

O.06

The relationship between sleep and eating-related symptomatology in a sample of patients from two public health services

Author: Monica D'Amico¹, Claudia Boccuzzi², Silvia Cerolini^{2,3}, Ausilia Ferrentino², Mariacarolina Vacca⁴, Noemi Floris⁵, Tamara Antici⁶, Francesco Frigerio⁷, Claudia Picocchi⁶, Giulia Pierantozzi⁶, Domenico Accorrà⁵, Armando Cotugno⁵, Lorenzo M Donini⁶, Caterina Lombardo²

1. Sapienza University of Rome, Rome, Italy;
2. Department of Psychology, Sapienza University of Rome, Rome, Italy;
3. Department of Human Sciences, Università degli Studi Guglielmo Marconi, Rome, Italy;
4. Dipartimento di Scienze Umane, Sociali e della Salute, Università degli studi di Cassino e del Lazio Meridionale; Cassino, Italy;
5. UOSD DCA Santa Maria della Pietà, ASL Roma1, Roma, Italia;
6. Department of Experimental Medicine, Sapienza University of Rome, Rome, Italy;
7. Department for the Promotion of Human Sciences and Quality of Life, San Raffaele Open University, Rome, Italy;

Introduction: Eating-related symptomatology is often associated with functional impairment, physical and psychiatric comorbidities. Sleep disturbances are increasingly

recognised as a transdiagnostic feature across eating disorder (ED) symptomatology.

Methods: Participants were recruited from two public nutritional and ED services. Hierarchical weighted linear regression models examined associations between sleep (SCL-90-R, Sleep Problems subscale, SLP) and ED symptomatology. The first set of models tested SLP as the outcome, with age and diagnosis entered first, followed by EDEQ subscales (Restriction, Eating Concern, Weight Concern, Shape Concern); models were weighted by BMI. A complementary model tested whether SLP predicted eating-related symptomatology severity (EDEQ global scores, GL) beyond age and BMI, weighted by the SCL-90-R Global Severity Index.

Results: Age and categorical diagnosis did not significantly explain variance in SLP. Restriction emerged as the strongest predictor, with Eating Concern providing an additional independent contribution, while Weight and Shape Concern were not significant. The final model explained approximately 8.5% of SLP variance. In the complementary model, SLP significantly predicted EDEQGL beyond age and BMI, accounting for 7% of variance.

Conclusions: Findings support a dimensional and transdiagnostic relationship between sleep disturbances and eating symptomatology, suggesting a potentially bidirectional association centred on restrictive and eating-related cognitive dimensions.

0.07

Daytime Sleepiness in Altered Nutritional Status: The Independent Role of Binge Eating

Author: Ausilia Ferrentino¹, Claudia Boccuzzi², Monica D'Amico¹, Silvia Carolini³, Claudia Picocchi⁴, Francesco Frigerio⁴, Lorenzo M Donini⁴, Caterina Lombardo²

1. University of Rome La Sapienza, Rome, Italy;
2. Psychology Department, Sapienza University of Rome, Rome, Italy;
3. Department of Human Sciences, Guglielmo Marconi University, Rome, Italy;
4. Department of experimental medicine, Sapienza University of Rome, Rome, Italy;

Introduction: Daytime sleepiness is a relevant but underexplored symptom in individuals with altered nutritional status. While body mass index (BMI) and sleep disturbances are established contributors, the role of eating-related psychopathology, particularly binge eating (BE), remains unclear. This study examined whether BE is independently associated with daytime sleepiness and whether sleep disorder symptoms mediate this relationship.

Methods: Patients with altered nutritional status (undernutrition, overnutrition, eating disorders) were recruited from an Integrated Service for weight and eating disorders. Hierarchical multiple linear regressions were used to identify predictors of global daytime sleepiness (Epworth Sleepiness Scale), adjusting for age, sex, BMI, sleep disorder symptoms, BE, and dietary restraint. Mediation analysis (5,000 bootstrap samples) tested the indirect effect of sleep disorder symptoms. Exploratory logistic regressions examined factors.

Results: In fully adjusted models, BE emerged as a significant independent predictor of daytime sleepiness, whereas dietary restraint was not associated. Mediation analysis showed a significant direct effect of BE, with no indirect effect via sleep disorder symptoms. Logistic analyses suggested a joint contribution of BMI, BE, and sleep disorder symptoms to clinically significant sleepiness.

Conclusion: BE is independently associated with daytime sleepiness beyond BMI and sleep disturbances, suggesting a transdiagnostic mechanism relevant to insomnia-related clinical assessment.

0.08

Cognitive and behavioral therapy for insomnia: a living meta-analytic database of randomized controlled trials

Author: Yuki Furukawa¹, Annemieke van Straten², The SLEEPi investigators

1. Technical University of Munich, Munich, Germany;
2. University of Tokyo, Tokyo, Japan;
3. Vrije Universiteit Amsterdam, Amsterdam, The Netherlands;

Introduction: The evidence base for cognitive behavioral therapy for insomnia (CBT-I) has been rapidly expanding. However, the accumulation of overlapping systematic reviews

and meta-analyses makes it difficult to maintain a coherent understanding of the best available evidence. A continuously updated ("living") meta-analytic database would address this challenge.

Methods: We are developing a living systematic review and meta-analytic database that regularly identifies and integrates all peer-reviewed randomized controlled trials comparing any form of CBT-I with other active or control interventions. Searches are conducted in MEDLINE, Embase, PsycInfo, and the Cochrane Library. The study protocol is publicly available on the Open Science Framework (<https://osf.io/c82xu/>).

Results: The current update includes trials published up to 2025. A comprehensive network meta-analysis will be performed to compare the relative efficacy of CBT-I and its abbreviated versions. There are several ongoing collaborations that utilize our database.

Conclusions: By providing a continuously updated synthesis of CBT-I research, this living database will help clinicians, researchers, and policymakers access the most current evidence for CBT-I. We welcome collaboration from researchers interested in advancing evidence synthesis insomnia treatment.

O.09

The Impact of War on Sleep: Exploring Connections Between Trauma and Sleep Quality

Author: Iris Haimov¹, Ohad Szepeswol¹, Ami Cohen¹

1. Department of Psychology and the Center for Psychobiological Research, The Max Stern Yezreel Valley College, Israel;

Introduction: Prolonged exposure to armed conflict can have long-term adverse effects on sleep and mental health. The current study examined the long-term trajectories of war-related anxiety and insomnia symptoms during the Israel-Hamas War. The study also investigated whether these trajectories are moderated by early-life exposure to unpredictability, morbidity-mortality, resource scarcity, and adverse childhood experiences.

Methods: A sample of 262 Israeli Jews ages 19-40 participated in three online assessment waves conducted 3 (T1), 7-8 (T2), and 18-19 (T3) months into the ongoing Israel-Hamas war. In each assessment, they completed measures of war-related anxiety and insomnia symptoms. At

T1, they also completed measures of early-life risk factors.

Results: Insomnia symptoms increased linearly throughout the study, whereas war-related anxiety decreased non-linearly. Positive associations were found between the trajectories of war-related anxiety and insomnia symptoms, and lagged associations were found between T2 and T3. Early-life exposure to unpredictability and morbidity-mortality were associated with higher war-related anxiety and insomnia symptoms at T1. Still, insomnia symptoms increased more rapidly over time among individuals with low early-life unpredictability.

Conclusions: These findings suggest that during an ongoing war, insomnia symptoms can persist and exacerbate with time, even when anxiety symptoms abate. Thus, the findings contribute to our understanding of chronic insomnia during prolonged armed conflict. The findings also point to a nuanced role of early-life unpredictability, serving, along with early-life morbidity-mortality, as a risk factor for overall war-related anxiety and insomnia symptoms, but also supporting long-term adaptation and protecting against the development of chronic insomnia.

O.10

The effect of sleep and sleep deprivation on memory reorganization: an experimental study using the native American story "The War of the Ghosts"

Author: Elisabeth Hertenstein¹

1. University of Geneva, Geneva, Switzerland;

Introduction: It is a common notion that sleep consolidates memories. Yet, newer experiments partly fail to replicate initial findings and suggest that effects may be smaller and less robust than assumed. The impact of sleep on memory reorganization is less thoroughly investigated. With his experiments in the 1930s and his schema theory, the British psychologist Frederic Bartlett demonstrated that memory formation is an active, context-dependent reconstructive process rather than an exact reproduction of the original content. Using the "War of the Ghosts" story Bartlett worked with in his seminal experiments, the aim of the current study was to investigate the effects of sleep, sleep deprivation and daytime wakefulness on memory consolidation and reorganization.

Methods: Sixty healthy young adults (mean age 23.4 ± 2.1 years, 30 female and 30 male) were randomized to one of three experimental conditions: a full night of sleep in the sleep laboratory, a full night of sleep deprivation, or daytime wakefulness. Before their respective condition, participants read and memorized the native American story "The War of the Ghosts" and reproduced it as exactly as possible, in written form (baseline assessment). After their respective condition (retention interval of 12 hours), they reproduced the story again (post assessment). Written reproductions were analyzed using a published standardized coding manual that allows for the differentiation of correctly remembered propositions and different levels of distortion. Primary outcomes of the study were memory consolidation operationalized as the number of remembered propositions, and memory reorganization operationalized as the number of memory distortions.

Results: Repeated measures ANOVAs with the between-subject factor group (sleep, sleep deprivation, wake) and the within-subject factor time (baseline, post) demonstrated a significant effect of time, suggesting an improvement from baseline to post independent of condition, for the number of remembered propositions ($p = .001$) but not for memory reorganization. No significant effect of the factor group and no group $\times$ time interaction for memory consolidation or memory reorganization was observed. In this experiment, no effect of overnight sleep, compared to wakefulness and sleep deprivation, on memory consolidation and memory reorganization was observed.

Conclusions: Our findings align with several newer findings failing to replicate evidence of previously reported sleep-dependent memory consolidation and reorganization. Together, this newer notion suggests that effects of sleep on memory are small and context-dependent, and that short-term sleep deprivation can frequently be well compensated by healthy adults.

O.11

Paradoxical intention as a treatment for insomnia disorder: an uncontrolled trial exploring clinical effectiveness and potential mechanisms

Author: Markus Jansson-Fröjmark¹, Rikard Sunnhed¹, Serena Bauducco², Christina Sandlund¹, Osame Salim², Annika Norell²

1. Karolinska Institutet, Stockholm, Sweden;

2. Örebro University, Örebro, Sweden;

Introduction: Paradoxical intention has often been regarded as an effective component of treatment for insomnia disorder. There is, however, a lack of research on the efficacy of paradoxical intention across a broad range of outcomes, such as insomnia severity, and on the mechanisms by which it works. As a result, the present study aimed to explore the clinical effectiveness and mechanisms of paradoxical intention.

Methods: Thirty-eight participants with insomnia disorder were delivered a four-week, digital and therapist-supported paradoxical intention intervention. Across the study period, the participants completed measures of insomnia severity, sleep diary parameters, depression, anxiety, functional impairment, quality of life, and four mechanistic measures (sleep-related performance anxiety, sleep effort, metacognitions, and sleep problem acceptance).

Results: At post-treatment, paradoxical intention resulted in significantly reduced insomnia severity and functional impairment with large effect sizes ($d = 1.00$ - 1.38). There were no significant improvements in the sleep diary parameters, depression, anxiety, or quality of life. The clinical outcomes were maintained at the 3-month follow-up. All four mechanistic measures changed significantly in the expected direction ($d = 0.54$ - 0.96).

Conclusion: Paradoxical intention resulted in improvements in some key outcomes but not in others, indicating potential for distinct insomnia characteristics, and tentative evidence for several mechanisms. Controlled trials are needed in future research to disentangle the clinical effectiveness and mechanisms of paradoxical intention.

O.12

Is insomnia a consequence of industrialization and modern anxiety? A cross-cultural study

Author: Kevin Mammeri¹, Leela McKinnon³, Ming Fei Li³, David Samson³, Lampros Perogamvros^{1,2}

1. Faculty of Medicine, University of Geneva, Geneva, Switzerland;
2. Swiss Center for Affective Science, Geneva, Switzerland;
3. Department of Anthropology, University of Toronto, Mississauga, Canada;

Introduction: Insomnia disorder (ID) affects 10% of the population and constitutes a major risk factor for mental disorders. However, the societal determinants underlying its high prevalence in industrialized societies remain poorly understood.

Methods: We investigated subjective sleep satisfaction and sleep duration using a cross-cultural design including small-scale (non industrialized) populations (Hadza, Tanzania), mixed-scale (developing) populations (Madagascar, Guatemala, Mexico, South Africa), large-scale (industrialized) populations (Mexico City, USA, Switzerland), and patients with ID (Switzerland). Logistic regressions and Bayesian inferences were applied to 1,477 self-reported assessments of sleep satisfaction and duration.

Results: Small-scale societies exhibited a higher probability of being satisfied with their sleep than those from large scale societies and ID patients, despite comparable probabilities of sleeping more than six hours. Mixed- and large-scale populations did not differ in sleep satisfaction, although large-scale populations showed a higher probability of longer sleep duration. ID patients displayed the lowest probability of sleep satisfaction.

Conclusion: These results reveal a dissociation between sleep duration and sleep satisfaction across societies, suggesting that societal factors play a key role in shaping subjective sleep experience beyond sleep quantity alone.

O.13

Nocturnal Eating in Chronic Insomnia: A Case Report of a Sleep-Related Safety Behavior

Author: Persefoni Papatheodosiou¹

1. Sleep Research Unit, Eginitio Hospital, NUKA, Athens, Greece;

Introduction: Nocturnal eating is a symptom of Night Eating Syndrome (NES) or Sleep-Related Eating Disorder (SRED). However, similar behaviors may also occur in chronic insomnia as sleep-related safety behaviors that perpetuate sleep disturbance through anxiety reduction and perceived control oversleep.

Methods: We present a single case of a 58-year-old male with a long-standing history of sleep problems, daytime impairment, nocturnal eating, and comorbid obstructive sleep apnea treated with continuous positive airway pressure

(CPAP). Despite adequate control of sleep-disordered breathing and multiple prior pharmacological and eating-focused interventions, symptoms persisted. A mechanism-based clinical formulation was adopted, and a tailored, safety-focused behavioral intervention drawing on components of cognitive behavioral therapy for insomnia (CBT-I) was implemented. The patient kept a sleep diary throughout the intervention.

Results: At baseline, sleep efficiency was 43% and total sleep time was approximately 230 minutes per night. Nocturnal eating was used as a coping strategy to relieve internal tension during sleep initiation rather than as a primary eating pathology. Following intervention, sleep efficiency increased to 89% and total sleep time to 433 minutes**, and** improvement was sustained at follow-up. Nocturnal eating resolved without direct eating-focused intervention.

Conclusion: This case highlights that nocturnal eating might be a sleep-related safety behavior in chronic insomnia. Mechanism-based formulation and stepped interventions may help in differential diagnosis and support treatment in complex insomnia presentations.

O.14

Sleep structure and brain changes in grey and white matter integrity in breast cancer patients with insomnia complaints

Author: Joy Perrier¹, Shailendra Segobin¹, Clara Elia¹, Melvin Galin¹, Stéphane Rehel¹, Franck Doidy¹, Patrice Clochon¹, Jean-Michel Grellard², Bénédicte Clarisse², Chankannira San², Fausto Viader^{1,5}, Pierre Denise⁶, Vincent De la Sayette^{1,5}, Nicolas Delcroix⁷, Alison Johnson⁴, Carine Segura-Djezzar⁴, Francis Eustache¹, Florence Joly^{2,3,8}, Bénédicte Giffard^{1,3}

1. Université de Caen Normandie, Inserm, EPHE-PSL, PSL Université Paris, CHU de Caen, GIP Cyceron, U1077, NIMH, 14000 Caen, France;
2. Clinical Research Department, Centre François Baclesse, 14076 Caen, France;
3. Cancer and Cognition Platform, Ligue Nationale Contre le Cancer, 14076 Caen, France. 4Medical Oncology Department, Centre François Baclesse, 14076 Caen, France;

4. Neurology Department, CHU de Caen, 14000 Caen, France;
5. Normandie Université, UNICAEN, INSERM, COMETE, CYCERON, CHU Caen, Caen, France;
6. Normandie Université, UNICAEN, CNRS, INSERM, CYCERON, Caen, UAR3408/US50, France;
7. ANTICIPE (Interdisciplinary Research Unit for the Prevention and Treatment of Cancer), INSERM Unit 1086, Caen, France;

Introduction: Insomnia complaints are frequent in breast cancer and may contribute to neurocognitive functioning, yet their relationship with brain and cognitive changes remains unclear, especially prior to adjuvant treatments. This study aimed to investigate sleep, cognitive, and brain structural changes in breast cancer patients compared to cancer-free controls before adjuvant treatments.

Methods: Thirty-four middle-aged women with insomnia complaints have been included for now: 18 breast cancer patients and 16 age-matched controls. Participants completed questionnaires assessing complaints and anxio-depressive factors, and underwent neuropsychological testing. Sleep was assessed using polysomnography. Gray matter volumes and white matter integrity were analyzed. Group comparisons were performed using ANCOVA controlling for age.

Results: Patients reported lower perceived cognitive abilities and reduced activity and motivation compared to controls. They showed poorer inhibition and short-term memory performance as well as a higher number of awakenings during sleep. Patients had reduced gray matter volume in the right lingual gyrus and higher fractional anisotropy in cerebellar and brainstem regions.

Conclusion: Even before adjuvant treatments, breast cancer patients exhibit subtle cognitive deficits associated with mild brain structural and sleep alterations. These early changes may contribute to patients' complaints and support the need for early management of cognitive and sleep difficulties.

O.15

Fix the Sleep, Fix the System: Digital CBT-I Powered by Wearables

Author: Manuel Schabus¹, Alexandra Hinterberger¹, Pavlos Topalidis¹, Sebastian Baron¹

1. Center for Cognitive Neuroscience Salzburg (CCNS), University of Salzburg, Austria;

Introduction: Sleep disorders, particularly insomnia, are among the most prevalent mental health problems and are closely associated with increased stress, anxiety, and depressive symptoms. Although cognitive behavioral therapy for insomnia (CBT-I) is considered the gold standard treatment for insomnia, access to this intervention remains limited due to insufficient care structures. Digital interventions offer new opportunities to provide rapid support and to empower health professionals to become sleep experts.

Methods: Within our accompanying research at the University of Salzburg, we evaluate the smartphone application sleep², which delivers a fully automated CBT-I program combined with objective sleep assessment using Polar sensors.

Results: The validated heart rate variability (HRV) algorithm enables reliable four-stage sleep classification in the home environment, approaching the standards of laboratory-based polysomnography (Topalidis et al., 2023). Randomized controlled trials (RCTs) demonstrate significant improvements in sleep quality (PSQI), insomnia severity (ISI), and reductions in psychological distress (BSI). In parallel, depressive symptoms (BDI) and anxiety (BAI) are reduced, while quality of life (WHO-QOL) is increased (Hinterberger et al., 2023; Hinterberger et al., 2025). In addition, data from the Nukkuaa4Ukraine project highlight the central role of improved sleep quality for resilience and symptom trajectories in extreme circumstances (Kurapov et al., 2024).

Conclusion: Taken together, these findings underscore the substantial potential of AI-supported, validated wearables in psychological care. They enable personalized, low-threshold interventions that improve sleep and sustainably alleviate comorbid symptoms, representing a promising approach for both prevention and treatment in everyday psychological practice.

O.16

Sleep improvement for metabolic health: Feasibility trial of a digital sleep treatment in people with insomnia who are at high risk of type 2 diabetes.

Author: Rachel Sharman¹, David Ray^{1,2}, Andrew Farmer³, Poppy C.E. Green¹, Victoria Harris³, Fredrik Karpe², Colin A. Espie¹, Diana Mantripp², Thomas Marjot², Niall M. McGowan¹, Jeremy W. Thomlinson^{2,4}, Simon D. Kyle¹

1. Sir Jules Thorne Sleep and Circadian Neuroscience Institute, University of Oxford, Oxford, United Kingdom;
2. Oxford Centre for Diabetes, Endocrinology and Metabolism, University of Oxford, Oxford, United Kingdom;
3. Nuffield Department of Primary Care Health Sciences, University of Oxford, Oxford, United Kingdom;
4. NIHR Oxford Biomedical Research Centre, OUH Trust, Oxford, Oxford, United Kingdom;

Introduction: Insomnia may play a causal role in type 2 diabetes (T2D). Addressing insomnia through cognitive behavioural therapy (CBTi) in people with non-diabetic hyperglycaemia could potentially reduce the risk of T2D. This feasibility study evaluated digital CBT (dCBTi) in people at increased risk of T2D.

Methods: Participants were recruited from UK primary care. Evaluations occurred at baseline (week-0) and post-treatment (week-11). Primary outcomes were ability to recruit and treatment engagement. We also assessed mean change in insomnia severity, health-related quality of life, depression, chronotype, sleep (7-day actigraphy and diary), continuous glucose monitoring, and fasting blood metabolites (insulin, lipids, glucose, and C-reactive protein).

Results: Of 242 people completing screening, 36 were eligible, and 24 were enrolled (age 65.5 ± 12.4 years, 70.8% female, 120% of target). Twenty-three (96%) completed post-intervention assessments, with excellent treatment engagement (83.3% completed ≥ 4 sessions). The intervention was associated with a large reduction in insomnia severity [-4.7 (95%CI: -6.2 to -3.2), $d = -1.4$] and a medium reduction in depressive symptoms [-2.7 (95%CI: -5.1 to -0.2), $d = -0.5$]. Sleep diary parameters tended to show greater improvement following intervention relative to actigraphy. There was evidence of a reduction in serum lactate, glycerol and triglycerides but no clear change in glucose or insulin.

Conclusion: Poor sleep contributes to multi-morbidity. These results indicate that a full trial is likely feasible, and participants found the intervention beneficial. Further refinement of the intervention and target population is necessary.

O.17

Sleep Interference, Misperception, and REM Sleep: Unpacking Dimensional Pathways in Insomnia and Treatment Response

Author: Emily Stanyer¹, Nathan Lebens¹, Rachel Sharman¹, Simon Kyle¹

1. Experimental and Clinical Sleep Medicine, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom;

Introduction: insomnia is a heterogeneous condition characterised by subjective sleep complaints that often diverge from objective measures. Patients frequently report disrupted sleep and may misperceive sleep duration. This study used a novel questionnaire of perceived sleep interference to examine how interference relates to subjective and objective sleep measures and treatment response.

Methods: Secondary analyses were conducted using data from a randomised controlled trial of digital cognitive behavioural therapy for insomnia (dCBT-I) in 33 participants with insomnia. Measures included sleep diaries, actigraphy, polysomnography (PSG), and the Sleep Interference Rating Scale (SIRS). The Manconi misperception index was used to quantify sleep misperception. PSG analyses focused on REM sleep (arousal index, latency, percentage, theta power) due to its hypothesised role in sleep perception.

Results: Mixed-effects models demonstrated that higher nightly subjective sleep interference significantly predicted diary-based WASO and TST, actigraphy-based WASO, and greater sleep-wake misperception, but not subjective SOL or actigraphy-based TST. REM sleep measures were unrelated to interference or misperception. Although dCBT-I significantly improved insomnia severity compared with controls, it did not significantly reduce perceived sleep interference.

Conclusion: Findings suggest that subjective sleep interference is more strongly linked to overall perceived and objective sleep disruption than to REM-sleep specifically. This suggests that NREM mechanisms may underlie sleep-wake misperception. The limited impact of dCBT-I on perceived interference, despite improved insomnia, indicates that interference may represent a distinct construct, or that the current measure needs validation. Incorporating nightly, item-level assessments of sleep interference into future research may enhance mechanistic phenotyping and guide

precision treatment.

O.18

The effectiveness of i-Sleep in autistic adults: a randomized controlled trial

Author: Annemieke van Straten¹, Kirsten Spaargaren¹, Sander Begeer¹

1. Department of Clinical Psychology, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands;

Introduction: Insomnia is highly prevalent among adults with autism. In this study i-Sleep (an online CBTi intervention consisting of 5 modules) was adapted in cocreation with autistic adults. We tested the effectiveness of this guided intervention in comparison to a waitlist control.

Methods: A total of 163 adults with autism and insomnia (ISI ≥ 10) was randomly allocated to i Sleep Autism or a waitlist control (receiving psychoeducation and sleep hygiene) and assessed at baseline, after 6-weeks (post-test) and 6 months. The primary outcome was insomnia severity and main secondary outcomes: anxiety, depression, daily functioning, and quality of life.

Results: A total of 82% completed 4 to 5 modules. The intervention significantly reduced insomnia severity at post-test ($d = 1.02$; 95% CI 0.65-1.40). Almost 40% of the intervention group showed clinically meaningful improvement (ISI reduction ≥ 6 -point). There was a significant effect on quality of life but not on anxiety, depression, or daily functioning. The effects on insomnia and quality of life were maintained at the 6-month follow-up.

Conclusion: This is the first randomized controlled trial to investigate (internet-delivered) CBTi for autistic adults suffering from insomnia. i-Sleep Autism is an effective intervention for improving insomnia.

O.19

Virtual reality for mental health assessment: evidence from adolescents at risk for insomnia and eating disorders

Author: Chiara Tosi¹, Valentina Meregalli², Silvia Cerolini³,

Elisabetta Baldi³, Chiara Baglioni³, Valentina Cardi¹

1. Department of General Psychology, University of Padova, Padova, Italy;
2. Department of Neuroscience, University of Padova, Padova, Italy;
3. Department of Human Sciences, University G. Marconi, Rome, Italy;

Introduction: This study tested whether a VR-based task can differentiate adolescents at risk for insomnia, with or without comorbid eating disorder symptoms, from healthy controls.

Methods: 104 adolescents (58 females; mean age = 14.79) completed the Insomnia Severity Index twice over six months and were classified as at-risk participants ($n = 55$, of which 17 with comorbid insomnia eating disorder risk), or healthy controls ($n = 49$), and completed one immersive VR session in a virtual bedroom. Agitation, anxiety, and sleepiness were assessed pre/post exposure, and negative emotions and emotion regulation post-exposure.

Results: At-risk adolescents scored higher than controls on all self-report measures (agitation $F = 20.22$; anxiety $F = 16.89$; sleepiness $F = 23.85$, all $p < .001$). Agitation and anxiety decreased after exposure ($F = 9.92$, $p = .002$; $F = 4.75$, $p = .032$). At-risk participants reported higher negative emotions ($t = 3.66$, $p < .001$), greater use of distraction ($t = 2.94$, $p = .004$), and more frequent emotion modification attempts ($t = 2.36$, $p = .020$). The comorbid risk group showed significantly higher scores across measures compared to healthy participants (all $p < .001$).

Conclusions: Results suggest immersive VR as a promising tool for probing vulnerability processes associated with sleep-related risk in adolescence.

O.20

Changes in specific dysfunctional beliefs about sleep domains mediate the effect of sleep-restriction on insomnia severity

Author: Daniel Vethe¹, Çağdaş Türkmen¹, Simen B Saksvik¹, Liv Marie Rønhovde¹, Henrik Brøckerbaum¹, Stian Lydersen², Håvard Kallestad¹

1. Department for Research and Development, St. Olav's University Hospital, Trondheim, Norway;

2. Regional Centre for Child and Youth Mental Health and Child Welfare, Department of Mental Health, Faculty of Medicine and Health Sciences, Norwegian University of Science and Technology, Trondheim, Norway;

Introduction: Cognitive behavioural therapy (CBT) assumes targeted behavioural change produces corrective experiences and modifies maladaptive beliefs, alleviating symptoms. Sleep-restriction is a behavioural CBT-I component and a central driver of treatment effect, while dysfunctional beliefs about sleep (DBAS) have been implicated as both mediators and moderators. However, the relationship between behaviour change during sleep-restriction, dysfunctional beliefs, and insomnia outcomes remains unclear. We tested whether behavioural adherence to sleep-restriction predicted outcomes following digital CBT-I (dCBT-I) and whether specific DBAS subdomains mediated such effects.

Methods: This secondary analysis used data from the treatment arm of an RCT comparing dCBT-I with patient education and included 604 participants who initiated sleep-restriction. Behavioural adherence was the average time exceeding prescribed sleep-restriction calculated from sleep diaries. DBAS-subdomains were assessed at baseline and post-treatment. Insomnia severity was assessed at baseline, post-treatment, 6-months, and 2-years. Parallel mediation models were estimated using Hayes' PROCESS for R.

Results: Behavioural adherence predicted insomnia severity at all time-points. Post-treatment effects were partially mediated by the worry/helplessness and the consequences DBAS-subdomains. Longer-term effects at 6-months and 2-years were fully mediated by the consequences subdomain.

Conclusion: Among participants receiving dCBT-I, behavioural adherence to sleep-restriction predicts outcomes, with effects mediated by changes in specific dysfunctional beliefs about sleep.

POSTER

PRESENTATIONS

P.01

Barriers and Facilitators to the Implementation of Cognitive Behavioral Therapy for Insomnia (CBT-I): Preliminary Qualitative Findings from the Swiss and European Context

Author: Marie Angelillo¹, Carlotta L. Schneider¹, Kristoffer D. Fehér¹, Pauline Henckaerts¹, Tobias Krieger², Thomas Berger²

1. Department of Psychiatry, University of Geneva, Geneva, Switzerland;
2. Department of Clinical Psychology and Psychotherapy, University of Bern, Bern, Switzerland;

Introduction: CBT-I is the first-line treatment for insomnia disorder, yet its implementation in real-world settings remains limited. This qualitative interview study explores how insomnia care is delivered within the Swiss healthcare system, with comparative insights from the broader European context. The aim is to gain insight into barriers and facilitators of CBT-I implementation and develop suggestions for optimized health-care for insomnia disorder.

Methods: Semi-structured interviews are being conducted with professionals working in insomnia care and with patients affected by insomnia. Data are analyzed inductively using qualitative content analysis.

Results: This abstract presents early insights from the first interviews. Preliminary themes point to fragmented use of CBT-I, limited training, time constraints, and strong patient expectations for medication as major barriers. Facilitators include structured care environments, interprofessional collaboration, and patient education.

Conclusion: Early findings highlight multi-level obstacles—professional, systemic, and cultural—to the dissemination of CBT-I across European healthcare systems, emphasizing the need for training, institutional support, and public awareness.

P.02

Exploring EEG complexity in REM and NREM sleep: preliminary insights into insomnia disorder

Author: Giulia Aquino¹, Andrea Piarulli^{1,2}, Marta Orlandini¹, Kai Spiegelhalder³, Bernd Feige³, Angelo Gemignani⁴

1. Department of Surgical, Medical, Molecular Pathology and Critical Care Medicine – University of Pisa, Pisa, Italy;
2. Coma Science Group, GIGA Consciousness, University of Liège, Liège, Belgium;
3. Department of Psychiatry and Psychotherapy, Faculty of Medicine, Medical Center - University of Freiburg, University of Freiburg, Freiburg, Germany;
4. Department of Neuroscience, University of Pisa Hospital, Pisa, Italy;

Introduction: Insomnia disorder (ID) has been associated with alterations in slow-wave activity and REM sleep EEG patterns, but EEG evidence remains limited. EEG complexity reflects the diversity of spatiotemporal brain activity and may offer novel insights into sleep dynamics in ID. This exploratory study investigated slow-wave and REM sleep in insomnia using EEG-based complexity metrics.

Methods: Overnight recordings from 45 insomnia patients and 50 matched good sleepers were analyzed. Standard sleep architecture parameters were extracted. EEG complexity was assessed using two Lempel-Ziv compression approaches, both global and local. Exploratory independent t tests were performed.

Results: Patients showed significantly higher EEG complexity during REM sleep compared to controls using local threshold, both across all channels ($p = 0.03$) and at the Fz electrode ($p = 0.009$). Higher complexity was also observed in N1 sleep across all channels ($p = 0.04$) and at Fz ($p = 0.01$), with a trend toward significance in N2 at Fz ($p = 0.05$).

Conclusion: Although preliminary, these findings support the hypothesis of increased cortical complexity in insomnia, consistent with hyperarousal and REM sleep instability. EEG complexity may represent a sensitive marker of altered brain dynamics relevant to sleep fragmentation and emotional regulation in ID.

P.03

Could sleep be a brain/cognitive/neural reserve-builder factor? A systematic review on the cognitive effects of sleep modulation in animal models

Author: Francesca Balsamo^{1,2}, Debora Meneo¹, Erica Berretta², Chiara Baglioni^{1,3}, Francesca Gelfo^{1,2}

1. Department of Human Sciences, Guglielmo Marconi University, Rome 00193, Italy;
2. IRCCS Fondazione Santa Lucia, Rome 00179, Italy. Electronic address: f.balsamo@unimarconi.it.
3. Department of Clinical Psychology and Psychophysiology/Sleep, Medicine, Centre for Mental Disorders, University Medical Centre, Freiburg, Germany.

Introduction: The brain/cognitive/neural reserve concept suggests that lifelong experiences, from early life through adulthood, make the brain more resilient to neuronal damage. Modifiable lifestyle factors, such as sleep, can support the development and enhance such a reserve, helping to counteract age- or disease-related brain changes and their impact on cognition. Sleep plays a crucial role in cognitive functioning, and disruptions or disorders may increase neurodegenerative risks.

Methods: This systematic review aims to explore how functional and disturbed sleep impacts cognitive functions and neuromorphological mechanisms in rodents, aiming to better understand its role in brain/cognitive/neural reserve development. This systematic review, registered on PROSPERO (ID: CRD42023423901) and conducted according to PRISMA-P guidelines, searched PubMed, Scopus, Web of Science, and Embase databases for studies up to June 2022, with terms related to sleep, rodents, and cognitive functions. Of the 28,666 articles identified, 142 met the inclusion criteria. Results: Main results showed significant cognitive decline after sleep deprivation, especially in memory performance.

Conclusions: These findings support the importance of sleep as a critical factor in modulating brain/cognitive/neural reserve.

P.04

The SPECTRUM Trial: A randomised controlled trial examining the sleep and circadian mechanisms of sleep restriction therapy in young adults with depression and anxiety

Author: Nicola Barclay¹, Yan K. Tse¹, Hannah Wisniewska¹, Shruti Menon¹, Poppy Green¹, Alessandra Ambrosio¹, Colin A. Espie¹, Stuart Peirson¹, Dimitri Gavrilloff¹, Simon Kyle¹

1. Sir Jules Thorn Sleep and Circadian Neuroscience Institute, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom;
2. Department of Psychiatry, University of Oxford, Oxford, United Kingdom;
3. Department of Primary Care Health Sciences, University of Oxford, Oxford, United Kingdom;
4. Albert-Ludwigs Universität, Freiburg, Germany;
5. King's College London, London, United Kingdom;

Introduction: Sleep problems are common in people who experience depression and anxiety. Previous research has shown that we can improve sleep quality using 'sleep restriction therapy' (SRT). We want to find out whether using this treatment to improve sleep will also improve depression and anxiety and, if so, how it works. We hypothesise that SRT works via two mechanisms: increasing homeostatic sleep pressure; and realigning and regularising the circadian clock.

Methods: We will recruit 158 participants who experience insomnia and depression and/or anxiety. Participants will be randomised to either SRT or Sleep Hygiene Education (SHE) delivered over six weekly sessions. Both groups will complete home polysomnography (PSG); as well as a lab-based dim-light-melatonin-onset (DLMO) protocol to assess the timing of the circadian clock and circadian phase angle, at baseline and following treatment. Mid-treatment PSG will also be performed to address mechanistic questions. Expected

Results: The primary hypothesis is that SRT compared to SHE will increase NREM delta power at 8 weeks post-randomisation. A secondary hypothesis is that SRT compared to SHE will modify the circadian phase and phase angle after treatment.

Conclusion: Our study will provide clear evidence on how behavioural sleep treatments improve sleep and mental health.

P.05

Impact of individual sensitivity to musical pleasure on insomnia among university students

Author: Giulia Belluardo¹, Debora Meneo¹, Silvia Cerolini¹, Chiara Baglioni^{1,2}, Paola De Bartolo^{1,3}

1. Department of Human Sciences, University of Guglielmo Marconi, Rome, Italy;
2. Department of Psychiatry and Psychotherapy, Faculty of Medicine, Medical Center, University of Freiburg, Freiburg, Germany;
3. Laboratory of Experimental Neurophysiology, IRCCS Santa Lucia Foundation, Via del Fosso di Fiorano 64, Rome, Italy;

Introduction: It is well known that music influences human health and, in particular, sleep. The beneficial effects found in this area have led to the implementation of numerous music therapy protocols as a non-pharmacological treatment for insomnia. However, it is still unclear how musical behaviour, and in particular individual sensitivity to musical pleasure, may influence the relationship between music and insomnia. The aim of this study is therefore to investigate the relationship between insomnia and musical behaviour in a population of university students.

Methods: After obtaining approval from the ethics committee, university students were recruited from an Italian digital university. The ISI was administered to investigate insomnia symptoms, and musical behaviour was investigated using the eBMRQ.

Results: A sample of 906 students completed the survey. Multiple linear regression analyses paint an interesting picture: the social reward associated with listening to and creating music together emerges as a factor that negatively predicts insomnia, confirming the data in the literature; however, individual absorption in music has the opposite effect, negatively predicting sleep disturbance.

Conclusion: Music exerts both positive and negative influences on insomnia symptoms. Future studies should take individual musical absorption traits into account when

implementing music therapy programmes for sleep disorders.

P.06

The Impact of Attentive System on Sleep Reactivity: A Study With a Participant Applied Electroencephalography in the Home Environment

Author: Francesca Berra¹

1. Università Vita-Salute San Raffaele, Milan, Italy;

Introduction: A comprehensive understanding of the mechanisms leading to Insomnia Disorder (ID) is a key objective in clinical research. Sleep Reactivity (SR), defined as the tendency to experience sleep disturbances following stress, is one of the strongest predictors of ID. Cognitive processes contribute to hyperarousal, and excessive attention to sleep-related cues has been identified as a factor promoting ID. However, how attention influence sleep response to stress remains unclear. This study investigated whether attention modulates SR by comparing healthy individuals with (IS) and without (GS) ID symptoms.

Methods: Forty participants, classified using the Sleep Condition Indicator, completed a two-week sleep diary, underwent an attentional assessment, and were exposed to the Trauma Film Paradigm. Objective sleep was recorded via portable polysomnography on two nights before and after stress exposure.

Results and Conclusion: Subjectively, stress worsened sleep quality in both groups, with significantly greater reductions in total sleep time and sleep efficiency in IS. Objectively, stress disrupted sleep continuity and REM stability, but IS showed a markedly stronger decline in sleep efficiency, total sleep time, and REM arousal density. GLMM analyses revealed that executive control and orienting abilities significantly modulated stress-related sleep changes, highlighting attention as a key factor in sleep vulnerability and a target for interventions.

P.07

Altered REM Sleep Responses to Noradrenergic Modulation in Insomnia

Author: Lucija Blaževski¹, Roxanne E. Bongers¹, Merel Ottens¹,
Djamilah Mohamed¹, Eus J.W. van Someren^{1,2,3}, Lara Rösler¹

1. Netherlands Institute for Neuroscience, Amsterdam, The Netherlands;
2. Department of Integrative Neurophysiology, Center for Neurogenomics and Cognitive Research, Amsterdam Neuroscience, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands;
3. Department of Psychiatry, Amsterdam Public Health Research Institute and Amsterdam Neuroscience Research Institute, Amsterdam UMC, Vrije Universiteit, Amsterdam, The Netherlands;

Introduction: The locus coeruleus–noradrenaline (LC–NA) system plays a central role in regulating arousal and sleep stability. Normally, LC activity decreases from wakefulness to NREM and is nearly silent during REM sleep. In insomnia, however, LC activity may remain active, contributing to the fragmentation of REM. To test the role of LC–NA regulation in sleep instability, we examined the effects of its pharmacological manipulation in healthy sleepers and people with insomnia.

Methods: Seventeen participants (7 with insomnia) completed five overnight visits, following administration of: Atomoxetine (noradrenaline reuptake inhibitor), Clonidine (α -adrenergic agonist), Nebivolol (β -adrenergic blocker), Daridorexant (dual orexin receptor antagonist), or placebo.

Results: Noradrenergic modulation primarily influenced REM sleep. Atomoxetine reduced REM duration, delayed its onset, and increased fragmentation in both groups. Clonidine shortened REM time across both groups, suggesting the dose may have surpassed the REM-promoting range. Daridorexant was REM-promoting, particularly in participants with insomnia. Nebivolol produced less fragmented REM sleep in insomnia, but shorter REM in healthy controls. NREM changes, however, were limited to lighter NREM after Atomoxetine in healthy sleepers.

Conclusion: These findings indicate that REM sleep is especially sensitive to noradrenergic tone. Group differences suggest altered noradrenergic dynamics in insomnia, possibly indicating persistent LC activity during sleep.

P.08

Alterations in Sleep Health Among Individuals with Substance Use Disorder: A Review of Clinical Evidence

Author: Ludovica Briotti¹, Debora Meneo¹, Silvia Cerolini¹, Elisabetta Baldi¹, Antonino Carcione^{1,2}, Chiara Baglioni^{1,3}

1. Department of Human Sciences, Guglielmo Marconi University, Rome, Italy;
2. Third Centre of Cognitive Psychotherapy, Italian School of Cognitive Psychotherapy (SICC), Rome, Italy;
3. Department of Psychiatry and Psychotherapy, Medical Center – Faculty of Medicine, University of Freiburg, Freiburg, Germany;

Substance Use Disorder (SUD) is a chronic and complex clinical condition characterized by persistent patterns of substance consumption associated with significant psychological, emotional, and behavioral impairment. Among the harmful consequences of SUD, sleep disturbances represent a frequent and clinically relevant condition, often related to substance-related physiological and behavioral changes. In individuals with SUD, sleep disturbances tend to become embedded in the course of the disorder as a result of everyday patterns of substance use. These alterations may involve impaired sleep quality and continuity, as well as increased irregularity of sleep–wake rhythms. At the same time, disrupted sleep may contribute to difficulties in emotional regulation and stress management, fostering a self-reinforcing cycle between substance use and sleep disturbance. Despite their clinical relevance, few studies have specifically focused on sleep health in individuals with SUD. This contribution aims to explore the relationship between substance use and sleep health. The findings indicate that this relationship is associated with alterations in sleep health, with a particularly marked involvement of sleep efficiency and insomnia severity, while daytime alertness appears less consistently impaired. Future research should further examine how specific sleep health dimensions are affected in individuals with SUD and their clinical relevance.

P.9

Insomnia and metacognition: an experimental study on subjects with personality disorders

Author: Antonio Canzanella¹, Daniela Tempesta², Antony Bologna², Antonino Carcione^{1,3}

1. Department of Human Sciences, Guglielmo Marconi University, Rome, Italy;
2. Department of Biotechnological and Applied Clinical Sciences (DISCAB), University of L'Aquila, Coppito (L'Aquila), Italy;
3. Third Centre of Cognitive Psychotherapy, Italian School of Cognitive Psychotherapy (SICC), Rome, Italy;

Introduction: Insomnia is highly prevalent among patients with personality disorders (PD), affecting up to 70% of cases. Theoretical models link this comorbidity to persistent cognitive and metacognitive hyperarousal, stemming from difficulties in monitoring and regulating mental states. Despite this strong association, longitudinal studies simultaneously examining insomnia and metacognition in PD patients undergoing psychotherapy remain scarce.

Methods: This longitudinal experimental study involved 95 patients with DSM-5 PD diagnoses recruited at a cognitive psychotherapy center in Rome. Assessments were conducted at baseline (T0), 6 months (T1), and 12/18 months (T2). Metacognition, sleep quality, and insomnia severity were measured using the IVAM, PSQI, and ISI, respectively. Participants received weekly Cognitive Behavioral Therapy, including Interpersonal Metacognitive Therapy interventions. Longitudinal analyses were performed on the subsample (n = 38) completing all assessment waves, using nonparametric statistical tests.

Results: Significant improvements emerged over time in metacognitive functioning and sleep outcomes. IVAM scores increased significantly from T0 to T1 and T2, while PSQI and ISI scores showed significant reductions at T2, indicating improved sleep quality and reduced insomnia severity.

Conclusion: Findings support the effectiveness of CBT-based interventions in improving both metacognitive functioning and insomnia in patients with personality disorders, highlighting sleep as a sensitive marker of therapeutic change.

P.10

Insomnia-LCA Classifier: an interactive webapp for insomnia subtype classification based on latent class analysis

Author: Matteo Carpi¹, Daniel Ruivo Marques^{2,3}

1. Department of Human Neuroscience, Sapienza University of Rome, Rome, Italy;
2. Department of Education and Psychology, University of Aveiro, Aveiro, Portugal;
3. CINEICC – Centre for Research in Neuropsychology and Cognitive Behavioral Intervention, Faculty of Psychology and Educational Sciences, University of Coimbra, Coimbra, Portugal;

Introduction: Insomnia is a highly heterogeneous condition, with substantial variability in symptom presentation and clinical impact. Efforts to capture this heterogeneity have recently shifted toward data-driven methods, such as latent class analysis (LCA), which identify empirically distinct insomnia subtypes based on self-reported symptom patterns. However, these models are rarely translated into practical tools usable by clinicians and researchers.

Methods: To address this gap, we developed the Insomnia-LCA Classifier, a web application (https://mcarpi.shinyapps.io/isi-lpa_classifier/) that enables users to classify new Insomnia Severity Index (ISI) response profiles into empirically derived insomnia subtypes. Using class priors and item-response probabilities from a previously published LCA conducted on a large cohort of Italian university students, the app estimates posterior probabilities for each subtype—no insomnia (NI), subthreshold insomnia (SI), high insomnia risk (HI), and predominant daytime symptoms (DS)—based on individual or batch ISI data.

Results: The app outputs class membership probabilities, ISI total and subscale scores, and a graphical comparison with subtype means.

Conclusion: Registered on the Open Science Framework (<https://osf.io/2w6uv/>), with code freely available (https://github.com/carpcraft/isi-lca_classifier), the tool promotes reproducibility and practical implementation of LCA-based phenotyping in behavioral sleep medicine, providing future studies with a feasible solution for making subtyping

models accessible for testing and applications.

P.11

Nocturnal Mental Content in Insomnia: A Window on Daytime Cognitive–Emotional Traits

Author: Elettra Cini^{1,2}, Francesca Berra^{1,2}, Francesca Bolengo^{1,2},
Samantha Mombelli^{3,4}, Lara Dell’acqua¹, Marco Provenzano¹

1. “Vita-Salute” San Raffaele University, Department of Psychology, Milan, Italy;
2. IRCCS San Raffaele Scientific Institute, Department of Clinical Neurosciences, Neurology–Sleep Disorders Center, Milan, Italy;
3. Center for Advanced Research in Sleep Medicine, Centre Intégré Universitaire de Santé et de Services Sociaux du Nord de l’Île-de-Montréal, Montréal, Québec, Canada;
4. Department of Psychiatry and Addictology, Université de Montréal, Montréal, Québec, Canada;

Introduction: The relationship between insomnia and nocturnal mental content remains insufficiently understood. This study examined whether insomnia symptoms or cognitive emotional traits better accounted for variations in dream recall and qualitative features.

Methods: Thirty-four adults were assigned to two groups based on Insomnia Severity Index scores. Over 15 days, participants completed a Sleep Diary, a Dream Diary, a battery of psychological questionnaires, and underwent a night of polysomnographic recording.

Results: The group with insomnia symptoms (ID) showed markedly poorer sleep quality (ISI, PSQI, $p < .001$), higher anxiety and depression (BAI, BDI-II, $p = .002$), and greater pre-sleep cognitive arousal (PSAS $p = .011$), while no differences emerged in somatic arousal, emotional regulation, rumination, or worry. Despite sleep diaries confirmed the impaired sleep profile of the ID group, no group differences emerged in dream qualitative features. The only significant group effect was higher dream-content recall in healthy controls ($p = .038$). At the dimensional level, higher rumination was associated with fewer recalled dreams ($r = -.377$, $p = .028$). In contrast, several cognitive–emotional traits were associated

with more emotionally negative and perceptually vivid nocturnal mental content.

Conclusion: These findings suggest that transdiagnostic cognitive–emotional traits, rather than insomnia symptoms, modulate the phenomenology of nocturnal mental activity.

P.12

A Stepped Care Model for Improving Access to Insomnia Care in Canada

Author: Judith Davidson¹

1. Queen's University, Kingston, Ontario, Canada;

Introduction: As in Europe, access to first-line treatment for insomnia (CBT-I) is limited in Canada. Our goal was to improve access.

Methods: Since 2017, an interdisciplinary team has provided insomnia treatment workshops for healthcare professionals across Canada. The team includes psychologists, pharmacists, a social worker, a family physician, and a psychiatrist-sleep-medicine specialist. The workshops provide training in CBT-I and sedative-hypnotic deprescribing. Inspired by the stepped care model developed by Espie et al. (2009), we developed a model specifically for Canada.

Results: The model highlights where people with insomnia can access effective care. The foundation, Step 1, comprises self-guided resources: books or digital options with education/guidance about CBT-I and sedative-hypnotics. Step 2 involves primary care providers and community pharmacists who can provide education, CBT-I core strategies, and deprescribing. Step 3 involves community CBT-I providers, including those within primary care teams. Step 4 involves behavioural sleep experts. The steps are access points, their width representing the relative availability of resources. This open system adapts to urban, rural, and remote communities and is a useful framework for training diverse healthcare providers. We present research on the effectiveness of interventions at each step and the use of the model in training.

Conclusion: The model illustrates how insomnia treatment can be broadly accessible through public education, community pharmacies and primary care.

P.13

Outcomes of Large-Group

Cognitive-Behavioural Therapy for Insomnia in a National Health System setting

Author: Manuel de Entrambasaguas¹, Mar Mascarell¹, Yamaris Vera¹, Javier Salas¹, Santiago Michelin¹, Mika Aiko¹, Paula Cases¹

1. Hospital Clínico Universitario, INCLIVA Biomedical Research Institute, Valencia, Spain;

Introduction: Group sessions are an efficient method for delivering Cognitive-Behavioural Therapy for Insomnia (CBT-I) within the stepped-care model.

Methods: Patients diagnosed with chronic insomnia disorder during their first visit to a National Health System (NHS) sleep clinic, including those with comorbidities, were enrolled in large group CBT-I (gCBT-I), comprising 7 weekly sessions (in-person, live online, and recorded) with supportive materials. Participants were assessed 1 to 5 weeks post-gCBT-I using the Insomnia Severity Index (ISI). Non-responders could proceed to individual CBT-I, polysomnography, or be referred to another consultation.

Results: 270 patients signed up for 11 consecutive CBT-I groups; 5 declined participation, 51 were no-shows, 14 didn't meet attendance criteria, and 8 missed the post-gCBT-I assessment. Of the 192 assessed, 67 (35%) met ISI criteria for response or remission, 71 (37%) had moderate to severe insomnia, and 9 symptomatic insomnia patients did not complete ISI. Main causes for non responding included not following CBT-I instructions (28), and comorbid/symptomatic mental (38), medical, (15) or sleep (8) disorders.

Conclusion: gCBT-I is an effective first intervention for insomnia disorder, requiring patient involvement. Insomnia may also indicate unaddressed health problems like personality disorders, anxiety, or central sensitivity syndromes, which often lack dedicated resources in the NHS.

1. Department of General Psychology, University of Padova, Padova, Italy;
2. Department of Psychological Medicine, Institute of Psychology, Psychiatry and Neuroscience, King's College London, London, United Kingdom;
3. Department of Neuroscience, University of Padova, Padova, Italy;
4. Complex Operative Unit (UOC) of Dietetics and Clinical Nutrition, University of Padua Hospital, Padua, Italy;

Introduction: Sleep plays a fundamental role in human well-being, and its impairment is well-documented across nearly all psychological disorders. However, research on sleep patterns in individuals with Anorexia Nervosa (AN) remains limited and inconsistent.

Methods: In this study, sleep was evaluated in 50 AN patients (Mage = 18.9±5.0 years) consecutively admitted to a day-hospital ED program at Padova University Hospital, and 52 healthy controls (HC; Mage = 19.2±3.1 years), using self-report questionnaires and actigraphy. We also investigated whether excessive physical activity (PA), a common compensatory behavior in AN, contributed to sleep disturbances.

Results: Results revealed a discrepancy between subjective and objective sleep measures. AN patients reported significantly poorer sleep quality than HC, whereas actigraphy indicated better sleep parameters in AN. AN patients also showed phase-advanced sleep timing and generally stable but more fragmented Rest-Activity Rhythms. Moderate-to-vigorous PA (mvPA) was negatively associated with actigraphy-derived sleep efficiency (SE) in AN, but not in HC. No associations emerged between self-reported sleep and PA.

Conclusions: Overall, AN patients perceive their sleep as impaired, despite relatively preserved objective indices. The negative association between mvPA and SE in AN may reflect the physiological burden of excessive activity on a compromised physical state, with detrimental effects on sleep.

P.14

Sleep, circadian, and physical activity patterns in Anorexia Nervosa: An actigraphy study

Author: Giorgia Degasperi¹, Valentina Cardi^{1,2}, Paolo Meneguzzo³, Alessandra Zattarin⁴, Anna Marchetto⁴, Angela Favaro³, Nicola Cellini¹

P.15

Do recreational endurance runners deserve sleep prevention interventions? Insights from a sample of amateur runners

Author: Renata del Giudice¹, Paolo J. Olivari², Lisa Manganiello¹, Benedetta Fasoli¹, Alessia Castelletti¹, Ezio Cozzio¹, Lucia Bocchi¹, Flavio Nascimbene¹, Roberta Lecchi¹, Lilli Ferri¹

1. Centro Studi e Formazione In Psicologia dello Sport, Milan, Italy;
2. Facultad de Ciencias del Deporte, Universidad de Extremadura, Cáceres, Spain;

Introduction: Sleep plays a crucial role in physical recovery, injury prevention, performance, and psychological well-being among athletes, including non-professionals. In recent years, the number of amateur runners has increased substantially, with many engaging in high-intensity training and long distance running. This study examines sleep quality among 88 amateur runners in the metropolitan area of Milan, exploring associations between perceived sleep quality, training habits, and perceived impact on athletic performance.

Methods: Participants completed an online questionnaire assessing sociodemographic and physical activity measures, subjective sleep quality, and psychological skills related to sport performance.

Results: Most participants reported training more than three times per week, with distances ranging from 10 km to ultramarathons. Younger athletes and those with higher training intensity perceived sleep as more influential on performance. Although 73% recognized sleep's importance, only 8% were satisfied with their sleep quality. Runners with greater concentration difficulties expressed a stronger desire to improve sleep, whereas those with better emotional regulation reported higher sleep satisfaction.

Conclusion: Findings indicate high intensity training and regularity, a mismatch between sleep awareness and satisfaction, and meaningful interaction between sleep quality, training habits and emotional regulation. These results suggest that sleep-focused integrated sport psychology interventions may enhance well-being in amateur runners.

P.16

Sleep quality in youth seeking help for mental health: a cross-sectional study

Author: Renata del Giudice¹, Clarissa Dibenedetto², Stefano Masier², Pierluca Mosillo², Giuditta Lazzati², Angelo Bertani³, Elia Chiudinelli^{1,3}, Armando D'Agostino^{1,3}

1. Department of Mental Health and Addiction, ASST Santi Paolo e Carlo, Milan, Italy;
2. Department of Health Sciences, University of Milan, 20142 Milan, Italy;
3. Department of Mental Health and Addiction, ASST Santi Paolo e Carlo, Milan, Italy;

Introduction: Sleep disturbances are widespread among adolescents and young adults and are linked to mental health difficulties. Disrupted sleep can intensify anxiety, mood symptoms, and psychotic experiences, undermining emotional regulation and everyday functioning. Nevertheless, sleep focused approaches remain underused in youth mental health services. This study examines sleep patterns in individuals aged 16–25 receiving psychological or psychiatric care at a specialized facility.

Methods: We conducted an observational cross-sectional study involving patients aged 16–25 treated for psychological distress—including anxiety, personality, and psychotic disorders—at the Centro Giovani Ponti in Milan, Italy, over a 12-month period. Participants completed sleep questionnaires such as the Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale, and Insomnia Severity Index. Additional psychiatric, sociodemographic, and self-reported psychological data were collected to explore relevant clinical associations.

Results: Preliminary analyses show a high prevalence of poor sleep quality and insomnia symptoms. Greater sleep disturbance scores were associated with elevated anxiety, mood instability, and specific emotional regulation and attachment patterns.

Conclusion: These findings highlight the need to systematically assess sleep in youth presenting with mental health concerns. Incorporating sleep-focused evaluations and interventions into routine care may support emotional regulation and enhance overall treatment outcomes and improve long-term clinical wellbeing overall.

P.17

The mediation of anxiety in the relationship between sleep discontinuity and psychotic-like experiences (PLEs) in the C.A.T.C.H. IN. HE.AD study

Author: Simone Doria¹, Valeria Fiori¹

1. Department of Psychology, Sapienza University of Rome, Rome, Italy;

Introduction: This longitudinal study explored the relationships among sleep efficiency, anxiety symptoms, and psychotic-like experiences (PLEs) in a non-clinical adult sample (n = 65).

Methods: Sleep efficiency was objectively assessed via seven-day actigraphy at baseline, while anxiety and PLEs were measured using the DASS-21 and CAPE-P15 at baseline and at a two-month follow-up. A general linear mediation model was employed to test whether anxiety mediated the association between sleep efficiency and PLEs.

Results: Findings indicated a significant indirect effect of sleep efficiency on PLEs through anxiety ($\beta \approx 0.15$, $p = .044$). Lower sleep efficiency predicted higher anxiety levels ($\beta = -0.2588$, $p = .031$), which in turn predicted increased PLEs ($\beta = 0.5812$, $p < .001$). The direct effect of sleep efficiency on PLEs was nonsignificant ($\beta = 0.0162$, $p = .877$), and the total effect was also nonsignificant ($\beta = -0.1342$, $p = .279$), a pattern consistent with full mediation. Overall, although modest in magnitude, the significant indirect effect suggests that anxiety is the key mechanism linking reduced sleep efficiency to subclinical psychotic phenomena.

Conclusion: These findings underscore the importance of integrated interventions addressing both sleep disturbances and anxiety to mitigate psychosis vulnerability.

P.18

The home-based auditory slow oscillation stimulation in chronic insomnia: methodological aspects and practical considerations

Author: Daniela Dudysova¹, Linda Soukupova^{1,2}, Filip Cerny^{1,3,4}, Stefan Jongejan^{1,3,4}, Lucia Talamini^{3,4}, Jana Koprivova^{1,2}

1. National Institute of Mental Health, Czechia;
2. 3rd Medical Faculty, Charles University in Prague, Prague, Czech Republic;
3. Department of Psychology, University of Amsterdam, Netherlands;

4. Deep Sleep Technologies BV, Amsterdam, Netherlands;

Introduction: Closed-loop auditory stimulation (CLAS) is a promising non-invasive method for studying and enhancing sleep, yet its potential to attenuate chronic insomnia symptoms remains unclear. This abstract introduces the methodological and practical aspects of the first long-term home based CLAS study with an 8-week protocol.

Methods: Fourteen participants (8 women, aged 21–44) with chronic insomnia, from a planned sample of 35, completed a within-subjects randomized crossover design. The protocol consisted of five adaptation nights, three weeks of slow oscillation stimulation, a one-week washout period, and three weeks of sham stimulation. Participants wore an EEG headband throughout the study, yielding up to 30 nights of data per individual.

Results: Responsiveness to CLAS was variable, with some participants showing greater effects than others. Once participants adapted to the equipment, adherence to the protocol was generally high. However, hydrogel electrodes substantially degraded EEG data quality due to unstable impedance and frequent sweat artifacts, resulting in partial data loss or interpretability issues.

Conclusion: This unique long-term study highlights the need for improved analysis tools which take into account both variable impedance and artifacts and the need for improving current EEG systems to reliably assess the true potential of CLAS in alleviating insomnia symptoms. Acknowledgements: This work was supported by Ministry of Health of the Czech Republic, Czech Health Research Council, Grant/Award Number: NU23-04-00469.

P.19

CBT-I Training Exposure and Practice Patterns: A Cross-Sectional Survey in Singapore's Healthcare System

Author: Leonard Eng¹, Wong Mei Yin², Constance Png³

1. Singapore General Hospital, Singapore;
2. Frontier Healthcare Group, Singapore;
3. Changi General Hospital, Singapore;

Introduction: Insomnia affects 7.4-15.3% of adults in

Singapore, and Cognitive Behavioural Therapy for Insomnia (CBT-I) is the first-line treatment for Insomnia Disorder. This study examined CBT-I training exposure and practice patterns among psychologists.

Methods: An anonymous cross-sectional survey was conducted among psychologists attending Singapore's inaugural large-scale CBT-I training workshop. The survey assessed post-graduate training exposure, current practice patterns, and CBT-I component utilisation.

Results: Seventy-eight of eighty-one (96.3% response rate) psychologists who attended responded, representing diverse experience levels (65.4% with 6+ years) and practice settings across Singapore's healthcare system, including most sleep centre psychologists. Despite 70.5% reporting >21% caseload with significant sleep complaints, critical training gaps emerged: only 3.8% received formal CBT-I education and 14.1% received clinical supervision in CBT-I during post-graduate training. In treating patients with insomnia disorder, respondents relied on interventions with limited standalone efficacy (88.5% sleep hygiene, 74.4% relaxation techniques) while underutilizing gold-standard CBT-I components (19.2% sleep restriction, 23.1% stimulus control).

Conclusion: A substantial proportion of psychologists treating insomnia disorder report limited training in CBT-I and ongoing reliance on less well-supported interventions. These findings highlight the importance of a broader integration of CBT-I into psychology training and professional development to strengthen the delivery of evidence-based insomnia care.

P.20

Different Paths to Sleep Loss: A two-in-one coordinate-based fMRI meta-analysis on Insomnia Disorder and Sleep Deprivation studies

Author: Elisabetta Fasiello¹

1. Scuola Universitaria Superiore IUSS, Pavia, Italy;

Introduction: Sleep loss occurs in several forms, including Sleep Deprivation (SD) and Insomnia Disorder (ID). Although both conditions result in insufficient sleep, they differ in etiology, neurophysiological, and behavioral manifestations. Crucially, these two conditions are fundamentally distinct and should not be conflated. This Activation-Likelihood-Estimation (ALE) meta-analysis aims to identify common and divergent

specific brain regions that have been consistently reported to display changes in Functional Connectivity (FC) in individuals with ID vs. SD.

Methods: We performed two separate ALE analyses addressing FC changes in ID patients compared with HCs (37 studies) and in SD conditions (21 studies), respectively. Conjunction and contrast analyses unveiled common and specific activations across the two meta-analyses.

Results: No brain structure was commonly associated with ID and SD. ID was consistently associated with hyper-activity in the left fusiform gyrus, while SD reflected in hyper-activation of the right paracentral lobule and thalamus, and in hypo-activation of the right superior frontal gyrus. Contrast analyses confirmed the selective involvement of all these brain structures across ID and SD.

Conclusion: ID and SD are characterized by distinct patterns of FC alterations, involving, respectively, occipito-temporal vs. thalamic and frontal structures, which supports the notion of divergent neurobiological mechanisms underlying sleep loss.

P.21

Pupillary light reflex index in Insomnia Disorder: an index of daytime autonomic arousal

Author: Elisabetta Fasiello¹

1. Scuola Universitaria Superiore IUSS, Pavia, Italy;

Introduction: The present study investigates whether dynamic Pupillary Light Reflex (PLR) metrics can serve as daytime physiological markers of arousal dysregulation in Insomnia Disorder (ID).

Methods: To evaluate diurnal autonomic nervous system activity, this study used the PLR as a noninvasive index of arousal. A Psychomotor Vigilance Test (PVT) was performed as a behavioral measure of objective daytime sleepiness, hypothesizing that, compared to Healthy Controls (n=24; 49.87±11.75; 15F), ID patients (n=29; 49.03±11.07; 21F) would show objective signs of daytime altered arousal.

Results: The non-parametric t-test showed no significant group differences in PVT performance. Considering PLR metrics, ID patients showed a faster pupil re-dilation after constriction, alongside a slower return of the pupil to 50% of its original diameter. Spearman's correlations were performed to evaluate the association between the PLR indices and clinical features. Results demonstrate positive associations

between pupil re-dilation after constriction and time for the pupil to return to 50% of its original diameter, more severe ID symptoms, higher pre-sleep arousal, and more dysfunctional beliefs about sleep.

Conclusion: The results confirm increased daytime arousal state in individuals with insomnia, supporting the use of pupillometry to assess physiological alterations in this condition. Conclusion: ID and SD are characterized by distinct patterns of FC alterations, involving, respectively, occipito-temporal vs. thalamic and frontal structures, which supports the notion of divergent neurobiological mechanisms underlying sleep loss.

P.22

Arousal, Sleep, Performance, and Emotional Correlates Tracking (ASPECT): multidimensional phenotyping of insomnia symptoms in Italian university students

Author: Fabiana Festucci¹, Federica Naccarato¹, Michele Ferrara¹, Daniela Tempesta¹

1. University of L'Aquila, Department of Biotechnological and Applied Clinical Sciences (DISCAB), L'Aquila, Italy;

Introduction: University students are highly vulnerable to insomnia, yet the interplay between hyperarousal, emotion regulation, and academic functioning remains unexplored. This study examines multidimensional predictors of insomnia severity, focusing on clinical phenotype and functional impairment in students with moderate-to-severe insomnia.

Methods: Two hundred and thirty-seven Italian university students completed a nationwide web-based battery, including the Insomnia Severity Index (ISI), the Pittsburgh Sleep Quality Index (PSQI), the Sleep Health Dimension Questionnaire (SHDQ), the reduced Morningness-Eveningness Questionnaire (rMEQ), the Hyperarousal Scale (H-SCALE), the Difficulties in Emotional Regulation Scale (DERS), the Depression Anxiety Stress Scale (DASS-21), the Fatigue Severity Scale (FSS), and the Work Productivity and Activity Impairment Questionnaire (WPAI). An ISI ≥ 15 defined the insomnia subgroup.

Results: Preliminary analyses indicate that, compared to good sleepers, the insomnia subgroup reports significantly higher cognitive-somatic hyperarousal and greater emotional

dysregulation ($p < .01$). ISI is associated with increased psychological distress and pre-sleep technology use ($p < .05$). Functional outcomes indicate that moderate-to-severe insomnia significantly predicts daytime fatigue and academic productivity loss ($p < .001$), largely attributable to presenteeism.

Conclusion: Data collection is ongoing, but preliminary findings suggest that insomnia in university students is linked to hyperarousal and emotional dysregulation, resulting in academic impairment mainly driven by presenteeism rather than absenteeism.

P.23

Online Public Interest and Search Patterns on Melatonin in Portugal: An Infodemiological Study

Author: Sofia Fontoura Dias^{1,2}, Sofia A. Marques-Fernandes^{1,2,3}, Filipa Oliveira¹, Inês Menezes¹, Isabel M. Santos^{1,2}, Daniel Ruivo Marques^{1,4,5}

1. Department of Education and Psychology, University of Aveiro, Aveiro, Portugal;
2. William James Center for Research (WJCR), University of Aveiro, Aveiro, Portugal;
3. RISE-Health, Department of Education and Psychology, University of Aveiro, Aveiro, Portugal;
4. Center for Research in Neuropsychology and Cognitive Behavioral Intervention (CINEICC), University of Coimbra, Coimbra, Portugal;
5. Faculty of Psychology and Educational Sciences, University of Coimbra, Coimbra, Portugal;

Introduction: Melatonin has attracted researchers' and the public's interest for its role in sleep regulation and potential health benefits. Although widely used as an over-the-counter supplement for sleep disorders, including insomnia, there is inconsistent evidence on its efficacy, safety, and long term use. Using infodemiology to understand online information-seeking behavior, this study aimed to characterize online public interest in melatonin in Portugal using Google search data.

Methods: Relative search volume data from January 2004 to January 2026 were extracted from Google Trends for Portugal using the keyword "melatonina" (melatonin). Data were

obtained by applying the “Health” category and “Web Search” filters.

Results: Temporal analysis indicated a progressive increase in online search interest in melatonin in Portugal, with a marked rise after 2020. Searches were predominantly framed around its practical use for sleep promotion (e.g., “melatonina dormir”, “melatonina para dormir”, “melatonina sono”) and on its effects (e.g., “melatonina efeitos”). Commonly related topics included melatonin (hormone), sleep (topic), and food supplement (medication).

Conclusion: Online search activity for melatonin in Portugal appears to be increasing, possibly reflecting heightened public awareness of sleep health. Future research should incorporate search trends with prescription and consumption data and extend the analysis to other sleep supplements.

P.24

The Mediating Role of Daytime Fatigue Between Insomnia Severity and Cognitive Failures

Author: Sofia Fontoura Dias¹, Isabel M. Santos ^{1,2}, Sandra Carvalho^{3,4}, Daniel Ruivo Marques^{5,6}

1. Department of Education and Psychology, University of Aveiro, Aveiro, Portugal
2. William James Center for Research (WJCR), University of Aveiro, Aveiro, Portugal;
3. Psychological Neuroscience Lab, Research Centre in Psychology (CIPsi), University of Coimbra, Coimbra, Portugal;
4. Department of Basic Psychology, School of Psychology, University of Minho, Braga, Portugal
5. Center for Research in Neuropsychology and Cognitive Behavioral Intervention (CINEICC), University of Coimbra, Coimbra, Portugal;
6. Faculty of Psychology and Educational Sciences, University of Coimbra, Coimbra, Portugal;

Introduction: Insomnia is characterized by impaired daytime functioning, including fatigue and cognitive difficulties. Although cognitive complaints often manifest more clearly in self-report measures, there is limited evidence on how

insomnia affects everyday cognitive functioning. This study examined whether daytime fatigue mediates the association between insomnia severity and cognitive failures, while also considering sleepiness as an additional indirect pathway.

Methods: A cross-sectional study was conducted with a community sample of 309 adults (Mage=38.10, SD=14.89) who completed self-report measures assessing insomnia severity, daytime fatigue, sleepiness, and cognitive failures. Mediation models using bootstrapped confidence intervals were tested and adjusted for covariates (age, sex, and self-reported diagnoses). **Results:** In simple mediation models, both daytime fatigue and sleepiness significantly and partially mediated the association between insomnia severity and cognitive failures. In the parallel model, fatigue accounted for a larger proportion of the indirect effect than sleepiness. All indirect effects remained significant after adjustment for covariates.

Conclusion: Daytime fatigue may play a central role in the association between insomnia severity and cognitive failures. Focused interventions for insomnia symptoms and fatigue management, especially, may be relevant for reducing cognitive complaints. Longitudinal designs and studies with larger samples and clinical populations are needed to further clarify causal inference.

P.25

Disseminating Cognitive Behavioral Therapy for Insomnia

Author: Yuki Furukawa¹, SLEEPi investigators

1. Technical University of Munich, Germany/University of Tokyo, Tokyo, Japan;

Introduction: Cognitive Behavioral Therapy for Insomnia (CBT-I) is the first-line treatment for chronic insomnia, yet access remains limited in many settings. This presentation aims to propose practical strategies to enhance its dissemination.

Methods: To identify effective dissemination approaches, the presenter informally consulted colleagues working in the marketing and advertising sectors, focusing on principles applicable to healthcare services.

Results: Two fundamental concepts emerged. First, people cannot adopt an intervention if it is not readily accessible (“physical availability”). Second, they will not seek or choose an intervention they are unaware of (“mental availability”).

While substantial efforts have been made to improve the physical availability of CBT-I through training programs, digital interventions, and clinical integration, its mental availability among the general public and healthcare providers remains limited.

Conclusion: Improving access to CBT-I requires strengthening both physical and mental availability. Practical starting points include enhancing the visibility and accuracy of CBT-I information on widely used platforms, such as Wikipedia, and updating webpages of professional societies and affiliated institutions. These low-cost, high-impact actions may substantially increase awareness, support informed decision-making, and promote broader uptake of CBT-I worldwide.

P.26

Durable reductions in sedative use through direct-to-patient mailed behaviour-change interventions: evidence from a high-use region

Author: David Gardner¹

1. Dalhousie University, Halifax, Nova Scotia, Canada;

Introduction: New Brunswick has the highest sedative use in Canada, with striking variation by sex, age, and community. The 3-arm YAWNS NB randomized trial tested two mailed, direct-to-patient (DTP) behaviour-change interventions and demonstrated substantial reductions in sedative use, increased uptake of CBT-I techniques, and improved sleep outcomes, particularly with the Sleepwell intervention. This database study assessed the durability of the sedative use reduction, and also population-level sedative use morbidity.

Methods: Administrative dispensing data were linked for consenting YAWNS NB participants to assess sedative exposure 12 months before, 6 months during, and 12 months after enrolment. Outcomes included proportion of days covered and dose-equivalent exposure. Analyses compared the three trial groups and also examined province-wide sedative-use patterns and associations with falls morbidity.

Results: Active interventions produced 25–30% reductions in sedative dispensing during the intervention phase, with further decline over 12 months of follow-up. After receiving the Sleepwell package post-trial, the control group showed comparable reductions. Among adults ≥65 years, sedative use

strongly varied by community and was associated with fall-related hospitalizations (OR 1.94) and fractures (1.92). Overall, chronic use exceeded 21%, with community-level rates ranging from 11% to 60% in some subgroups.

Conclusions: Mailed DTP interventions can achieve durable, scalable, and equitable reductions in sedative use, particularly needed in communities with high baseline rates.

P.27

K-Complexes in Insomnia Disorder and their role in sleep state misperception and sleep stability

Author: Maurizio Gorgoni¹, Elisabetta Fasiello^{2,3}, Andrea Galbiati^{3,4}, Alessandra Ambrosio³, Francesca Berra^{3,4}, Valerio Leonori¹, Serena Scarpelli¹, Valentina Alfonsi⁵, Ludovica Annarumma¹, Francesca Casoni³, Vincenza Castronovo³, Luigi Ferini-Strambi^{3,4}, Luigi De Gennaro¹

1. Department of Psychology - Sapienza University of Rome, Rome, Italy;
2. IUSS Cognitive Neuroscience (ICON) Center, Scuola Universitaria Superiore IUSS, Pavia, Italy;
3. Department of Clinical Neurosciences, Neurology Sleep Disorders Center, IRCCS San Raffaele Scientific Institute, Milan, Italy;
4. Faculty of Psychology, Vita-Salute San Raffaele University, Milan, Italy;
5. Departmental Faculty of Medicine and Surgery, UniCamillus-Saint Camillus International University of Health Sciences, Rome, Italy;

Introduction: The K-Complexes (KCs) are involved in sleep protection and arousal processes during sleep. Therefore, they may have a role in hyperarousal, sleep stability, and sleep state misperception (SSM) in insomnia disorder (ID).

Methods: Nineteen ID patients (42.4 ± 12.1 years) and 18 healthy controls (HC; 41.6 ± 11.9 years) underwent a night of home-polysomnography followed by morning sleep diary. First, midline KC density, amplitude, and area under the curve were detected to assess their relationship with total sleep time (TST) misperception. Then, we applied a Markov chain analysis to assess the sleep stage transition probability from N2 sleep epochs with low (IKC) and high KC (hKC) density.

Results: A reduced anterior KC morphology in ID patients compared to HCs was associated with TST underestimation. The probability of transitioning from N2-hKC to N3 was greater than the probability of transitioning to N1/wakefulness in both groups. ID patients showed greater probability of transitioning from N2 to wakefulness, and lower probability of transitioning from N2-hKC to N3 during the first sleep cycle.

Conclusion: These findings suggest a KC morphological alteration in ID associated with SSM, and a difficulty of ID patients to reach deep sleep also in presence of hKC density.

P.28

Novel Approach for Biologically-Guided Therapeutics in Insomnia

Author: Carolina Gutierrez Herrera^{1,2,3}, Florence M. Aellen¹, Erica Pedron^{1,2}, Alexia Duriez¹, Campelo, T.¹, Yudong Yan^{1,2}, Thomas Rusterholz¹, Bernd Feige⁴, Dieter Rieman⁴, Antoine Adamantidis^{1,2,5}, Athina Tzovara^{1,4}

1. Department of Neurology, Zentrum für Experimentelle Neurologie, Inselspital University Hospital Bern, Bern, Switzerland;
2. Institute of Computer Science, University of Bern, Bern, Switzerland;
3. Department of Neurology, Faculty of Medicine, University of Bern, Switzerland;
4. Department of Psychiatry and Psychotherapy, Medical Center-University of Freiburg, Faculty of Medicine, University of Freiburg, Freiburg, Germany;
5. Sleep Wake Epilepsy Center - NeuroTec, Department of Neurology, Inselspital, Bern University Hospital, University of Bern, Bern, Switzerland;

Introduction: Sleep is a fundamental biological process whose disruption is implicated in neurodegenerative and psychiatric disorders. Despite the global burden of insomnia—12.5% of the population worldwide—current pharmacological treatments remain limited by suboptimal efficacy and adverse effects such as dependence and cognitive impairment. This therapeutic gap stems partly from a lack of mechanistic understanding of how brain activity is regulated across sleep stages and neural organizational levels. Defining sleep-related neural signatures—from single-cell to population

dynamics—is expected to support the development of more precise, biologically-guided treatments. Importantly, current hypnotics, including benzodiazepines (e.g., diazepam) and non-benzodiazepine Z-drugs (e.g., zolpidem), differentially modulate GABAergic circuits, offering an opportunity to understand sleep control at a mechanistic level.

Methods: To investigate the pharmacology of diazepam (a benzodiazepine) and zolpidem (a Z-drug) on sleep dependent brain dynamics, we used 1) in vivo whole-cell patch-clamp recordings to measure subthreshold membrane potentials of layer 2/3 pyramidal neurons in the prefrontal of head-restrained mice across wakefulness, NREM, and REM sleep; 2) longitudinal single-cell calcium imaging in freely behaving mice to track the activity of genetically-defined neuronal populations from the hypothalamus and neocortex. Pharmacological interventions included systemic administration of diazepam (a benzodiazepine) and zolpidem (a Z-drug), along with NMDAR antagonists to probe excitatory and inhibitory mechanisms underlying sleep regulation.

Results: At the single-cell level, we found that Diazepam reduced the depolarization of cortical neurons in the prefrontal cortex, possibly by enhancing GABAergic inhibition via PV interneurons during NREM sleep. In contrast, Zolpidem, selectively acting at $\alpha 1$ -containing GABA-A receptors, induced a similar decrease of neuronal excitability in the prefrontal cortex, although with less impact on interneuron driven inhibition, reflecting distinct circuit-level mechanisms. Interestingly, subthreshold depolarization was reduced during REM sleep as compared to NREM sleep and wake states, while the opposite was found in retrosplenial neurons, suggesting a region-specific modulation of excitability across sleep states. At the population level, hypothalamic neurons-astrocytes displayed overlapping, state-dependent activity patterns rather than strict state selectivity. These distributions were stable across time, with only astrocytes being disrupted by sleep deprivation. However, both Diazepam and Zolpidem modulated activity biases—Diazepam shifted cellular activity toward NREM sleep, while Zolpidem promoted rapid NREM initiation associated with a distinct neuronal activity signature, suggesting different pharmacodynamic mechanisms.

Conclusion: Our study reveals that despite a common GABA-A receptor pathway, Diazepam and Zolpidem influence sleep through divergent receptor selectivity and network recruitment. These findings emphasize a novel biologically-driven approach for pre-clinical drug development based on single cell and network biomarkers relevant to the underlying neural dynamics of EEG signatures of sleep. Long term perspectives include the development of predictive tools to improve drug development and personalized treatment of

insomnia and other sleep disorders.

P.29

Case Abstract: Differential Diagnosis of Nocturnal Frontal Lobe Epilepsy in a Patient Misdiagnosed with Insomnia and Depression

Author: Nino Gzirishvili¹, Nana Gabeskiria¹

1. Epilepsy and Sleep Disorders Unit, American Hospital Tbilisi, Tbilisi, Georgia;

Introduction: The clinical differentiation between sleep-related parasomnias and nocturnal frontal lobe epilepsy (NFLE) presents a significant diagnostic conundrum. Recurrent nocturnal motor phenomena are frequently misidentified as primary sleep disorders, often resulting in secondary psychiatric morbidities. This case focuses on a 22-year-old male whose chronic insomnia and progressive depressive symptoms were clinically attributed to long-standing, non-rem sleep parasomnias. Consequently, therapeutic interventions over a decade were limited to managing perceived behavioral and psychological sequelae, while the underlying epileptogenic etiology remained overlooked.

Methods: The patient's clinical history involved childhood-onset sleep disturbances, including somnambulism and frequent nocturnal arousals. By 2022, the clinical picture was dominated by refractory insomnia and secondary affective disorders (anxiety and depression), for which Escitalopram and Hydroxyzine were prescribed. To evaluate the refractory nature of these "parasomnias" and associated psychiatric distress, a 24-hour video-electroencephalogram (VEEG) and 3-Tesla brain MRI were performed at American Hospital Tbilisi.

Results: VEEG captured a clinical ictus 15 minutes post-sleep onset during the N3 stage, lasting 46 seconds. Manifestations included left upper limb focal clonic activity, vocalization, and a fixed gaze, with immediate post-ictal reorientation. EEG revealed diffuse, high-amplitude delta activity concordant with the seizure. MRI findings were unremarkable.

Conclusions: Chronic insomnia and depression, initially interpreted as secondary manifestations of childhood parasomnias, were symptomatic of a primary seizure disorder. This case underscores the necessity of VEEG in diagnosing complex nocturnal events to prevent the misclassification of neurological disorders as purely psychiatric or behavioral

conditions.

P.30

Sleep architecture and rapid eye movement sleep without atonia in post-COVID-19 insomnia

Author: Abubaker Ibrahim¹, Matteo Cesari¹, Qi Tang¹, Merve Aktan Süzgün¹, Elisabeth Brandauer¹, Evi Holzknecht¹, Alexander Wachter¹, Victoria Anselmi¹, Anna Heidbreder², Ambra Stefani¹, Birgit Högl¹

1. Department of Neurology, Medical University of Innsbruck, Innsbruck, Austria;
2. Department of Neurology, Johannes Kepler University Linz, Linz, Austria;

Introduction: Insomnia is a frequent complaint in long-COVID, yet most studies rely on questionnaires. This study examined whether post-COVID-19 insomnia shows distinct polysomnographic (PSG) characteristics compared with chronic insomnia unrelated to COVID-19.

Methods: We analyzed 150 patients with chronic insomnia, divided into post-COVID-19 insomnia (n=50), chronic insomnia during the pandemic without COVID-19 infection (n=50), and pre-pandemic chronic insomnia (n=50). All participants underwent one-night video-polysomnography. Sleep architecture, respiratory parameters, and REM sleep without atonia (RWA) were quantitatively compared across groups.

Results: Classical PSG measures—including total sleep time, sleep efficiency, sleep-stage distribution, and apnea-hypopnea index—did not differ significantly between groups. Post-COVID-19 insomnia patients showed higher RWA in the chin and flexor digitorum superficialis muscles (p=.020 for both), elevated nocturnal heart rate (p=.046), shorter sustained N3-sleep bouts (p=.001), and prolonged onset to stable REM sleep (p=.016). Sleep-transition probabilities showed trends toward reduced N3 continuity and increased shifts toward lighter sleep, though these did not survive correction.

Conclusion: While overall PSG architecture in post-COVID-19 insomnia resembles non-COVID chronic insomnia, subtle abnormalities in RWA and sleep continuity suggest additional physiological changes potentially linked to viral effects on the central nervous system rather than pandemic related stress alone.

P.31

Phenotyping Delayed Sleep-Wake Phase Disorder Through Integration of DLMO Timing, Phase Angle, and Insomnia Characteristics

Author: Marcin Iwański¹,

1. Institute of Psychiatry and Neurology, Third Department of Psychiatry and Sleep Medicine Center, Warsaw, Poland;

Circadian rhythm sleep–wake disorders are a group of sleep disorders. The most prevalent diagnosis within this group is delayed sleep–wake phase disorder (DSWPD). It has been proposed that DSWPD may be subdivided into two phenotypes: chronobiological and behavioral. The chronobiological phenotype is characterized by a delayed dim light melatonin onset (DLMO) in relation to the desired sleep onset, whereas the behavioral phenotype does not exhibit such a delay. DLMO delay is caused by light exposure of retinal ganglion cells. We conducted a study evaluating salivary DLMO and retinal ganglion cell light sensitivity using pupillometry, a method that measures parameters of the pupillary light reflex. In addition, insomnia characteristics were assessed in patients with DSWPD to better characterize clinical heterogeneity and support differential diagnosis. The objectives of the study were to identify a pupillometry-based screening protocol for the diagnosis of DSWPD, to utilize DLMO for phenotyping DSWPD, to evaluate retinal ganglion cell light sensitivity as a risk factor for the development of chronobiological DSWPD, and to examine the contribution of insomnia symptoms to the clinical presentation of the disorder. Achieving these objectives will enable the development of more targeted therapeutic programs for patients with insomnia and chronobiological or behavioral DSWPD.

P.32

Changes in tonic and phasic REM sleep after CBT-I

Author: Karolina Janků¹, Linda Soukupová^{1,2}, Aleš Hrubý^{1,2},

Daniela Urbaczka Dudysová¹, Marek Piorecký^{1,3}, Filip Černý^{1,3}, Monika Kliková¹, Jitka Bušková^{1,2}, Jana Kopřivová^{1,2}

1. National Institute of Mental Health, Klecany, Czech Republic;
2. Third Faculty of Medicine, Charles University in Prague, Prague, Czech Republic;
3. Faculty of Biomedical Engineering, Czech Technical University in Prague, Prague, Czech Republic;

Introduction: Cognitive behavioral therapy for insomnia (CBT-I) is the first-line treatment for chronic insomnia; however, its effects on REM sleep, particularly on tonic and phasic REM microstates, remain poorly explored. REM sleep plays a key role in emotional regulation, and its disturbance is frequently observed in insomnia. This study aimed to examine the effects of CBT-I on REM sleep macrostructure and REM-related EEG activity, with a specific focus on tonic and phasic REM sleep.

Methods: Thirty-three participants with chronic insomnia (mean age 39.7 ± 9.5 years) were assigned to a six-week group-based CBT-I intervention ($n = 17$) or a non-intervention control group ($n = 16$). At baseline and post-intervention, participants underwent overnight polysomnography and completed questionnaires including the Insomnia Severity Index (ISI). EEG spectral power during tonic and phasic REM sleep was analyzed using relative power in delta, theta, alpha, and beta frequency bands across frontal, central, parietal, and occipital regions.

Results: CBT-I significantly reduced insomnia severity and shortened REM sleep latency compared to the control group. While overall REM sleep increased in both groups, only the CBT-I group showed increased phasic REM sleep and reduced tonic REM sleep after therapy. EEG analyses revealed higher central beta activity during phasic REM sleep in the control group across both assessments.

Conclusion: CBT-I was associated with distinct alterations in REM sleep architecture, characterized by increased phasic REM sleep and reduced tonic REM sleep. These changes may reflect a normalization of REM-related processes involved in emotional regulation and arousal. Persistent beta activity during phasic REM sleep in untreated participants may indicate ongoing cortical arousal. Future research will examine how changes in REM sleep architecture relate to changes in emotional regulation following CBT-I.

P.33

First Steps in Implementing Cognitive Behavioural Therapy for Insomnia (CBT-I) within a Stepped Care Model in Baltic countries: Lithuania, Latvia and Estonia

Author: Alicja Juškieienė^{1,2}, Tuuliki Hion^{3,4}, Ilona Krone^{5,6}, Natalia Berzina⁶

1. Laboratory of Behavioral Medicine, Neuroscience Institute, Lithuanian University of Health Sciences, Palanga, Lithuania;
2. Department of Health Psychology, Faculty of Public Health, Lithuanian University of Health, Kaunas, Lithuania;
3. Department of Outpatient Psychiatry, East-Viru Central Hospital, Kohtla-Järve, Estonia;
4. Department of Sleep Disorders, Psychiatry Clinic, Tartu University Hospitals, Tartu, Estonia;
5. Riga's Stradins University (RSU), Department of Health Psychology and Pedagogy, RSU Psychology Laboratory, Riga, Latvia;
6. Grandver Klīnika, Riga, Latvia;

Across the Baltic countries, the implementation of Cognitive Behavioural Therapy for Insomnia (CBT-I) within a stepped care model is in its early but promising stages. Each country has started expanding training, public education, and clinical pathways to increase access to evidence-based insomnia care. Lithuania has initiated a stepped care framework through postgraduate CBT-I training, meetings with the Ministry of Health, and emerging initiatives for specialist education, public awareness, and professional collaboration. Latvia has focused on growing specialist capacity, developing public-facing self-help resources, and introducing CBT-I support groups, while continuing to expand outreach through social media, podcasts and educational initiatives. Estonia demonstrates the most structured national approach, with long-standing state-funded and paid training programs for medical doctors, nurses and psychologists, and integration of behavioural insomnia interventions in national sleep disorders

guidelines. Despite differences in system development, all three countries highlight similar challenges, including limited numbers of trained CBT-I providers, insufficient structured or digital treatment options, and fragmented prevention efforts. Early steps show clear movement toward scalable, evidence-based care, but sustained progress will require coordinated national strategies, expanded workforce development, and increased integration of CBT-I across primary and mental health services.

P.34

Reducing inappropriate hypnotics use in older adults: The BE-SAFE intervention as a patient-centered strategy for deprescribing and optimizing sleep health

Author: Martha Kaznowski¹, Joanna Salbert¹, Małgorzata Wałęcka¹, Martha Kaznowski¹, Katarzyna Gustavsson¹, Marcin Iwański¹, Catherine Péteín², Maria Lopez Toribio^{2,4}, Tokandji Adda², Carole E. Aubert^{5,6}, Lucy Bolt^{5,6}, Vagioula Tsoutsis⁷, David Campos⁸, Dimitris Dikeos⁷, Laura Fernández Maldonado⁸, Torgeir Bruun Wyller^{9,10}, Enrico Callegari^{9,11}, Rita Romskaug⁹, Jeremy Grimshaw¹², Thomas Agoritsas^{13,14,15}, Anne Spinewine^{2,3}, Thomas Berger¹⁶, Adam Wichniak¹

1. Third Department of Psychiatry, Institute of Psychiatry and Neurology (IPiN), Warsaw, Poland;
2. Clinical Pharmacy and Pharmacoepidemiology research group, Louvain drug research institute, UCLouvain, Brussels, Belgium;
3. CHU UCL Namur, UCLouvain, Brussels, Belgium;
4. Institute of Health and Society, UCLouvain, Brussels Belgium;
5. Department of General Internal Medicine, Inselspital, Bern University Hospital, University of Bern, Bern, Switzerland;
6. Institute of Primary Health Care (BIHAM), University of Bern, Bern, Switzerland;
7. Sleep Research Unit, First Department of Psychiatry, Eginition Hospital, Medical School, National &

- Kapodistrian University of Athens, Athens, Greece;
8. Fundació Salut i Entornament – UAB - Universitat Autònoma de Barcelona, Barcelona, Spain;
 9. Department of Geriatric Medicine, Oslo University Hospital, Oslo Norway;
 10. Institute of Clinical Medicine, University of Oslo, Oslo, Norway;
 11. Department of Old Age Psychiatry, Østfold Hospital Trust, Grålum, Norway;
 12. Ottawa Hospital Research Institute, Ottawa, Ontario, Canada;
 13. Division of General Internal Medicine, Department of Medicine, Geneva University Hospitals, Geneva, Switzerland;
 14. Department of Health Research Methods, Evidence, and Impact, McMaster University, Hamilton, Ontario, Canada;
 15. MAGIC Evidence Ecosystem Foundation, Oslo, Norway;
 16. Department of Psychology, Clinical Psychology and Psychotherapy, University of Bern, Bern, Switzerland;

Introduction: Although guidelines recommend CBT-I, as a treatment for insomnia disorder, benzodiazepines and sedative-hypnotics (BSH) remain frequently overused. This represents a public health concern due to cumulated risks of severe adverse outcomes. The BE-SAFE project addresses this concern by developing evidence-based intervention and guidance for those aged 65 and over. This presentation outlines the project's objectives and the development of educational materials to facilitate the deprescribing process.

Methods: Questionnaire-based studies were conducted to identify the barriers and enablers to BSH discontinuation, complemented by a systematic review and network meta-analysis to evaluate the effectiveness of various deprescribing strategies.

Results: Patient education was identified as the primary intervention for increasing BSH discontinuation rates. Consequently, we developed three educational brochures: 1) 'You May Be at Risk': Educates patients on BSH-related risks and utilizes shared decision making to actively involve them in the deprescribing process. 2) 'Sleep Soundly, Sleep Safely':

Provides guidance on managing sleep difficulties using CBT-I techniques. 3) The Caregiver Brochure: Familiarizes family members with the therapeutic protocol, empowering them to support the patient.

Conclusions: The BE-SAFE educational materials were developed to promote behavioral changes to reduce BSH use and alleviate insomnia symptoms in older adults. These patient- and caregiver-facing materials, together with a physician-directed intervention, are currently being evaluated in a cluster randomized clinical trial.

P.35

Tracking Sleep – Curse or Benefit? A Single-Case Experimental Study on Wearables, Sleep-Related Anxiety and Preoccupation, and Insomnia Symptoms

Author: Sarah Franziska Korsten¹, Linea Beck¹, Harald Baumeister¹, Laura Simon¹

1. Ulm University, Department of Clinical Psychology and Psychotherapy, Ulm, Germany;

Introduction: Consumer wearables such as smartwatches and fitness trackers are increasingly used, with sleep tracking being a prominent feature. They may therefore be particularly attractive to individuals with sleep problems like insomnia. As insomnia often remains untreated, wearables could offer new avenues for intervention. While some evidence suggests beneficial effects on insomnia symptoms, sleep tracking with wearables may also increase sleep-related anxiety and preoccupation, conceptualized as orthosomnic tendencies. Given limited knowledge about how wearables affect insomniac symptoms, both symptom improvement and deterioration appear plausible for concerned individuals.

Method: In spring 2026, a single-case experimental design study will be conducted with $n = 8$ individuals showing subclinically relevant insomnia symptoms (Insomnia Severity Index ≥ 10). Following a randomized baseline phase (4 - 8 weeks), participants will complete a 4-week intervention phase using a wearable device. Data will be collected to examine how wearable use affects changes in sleep-related anxiety and preoccupation (APSQ) in individuals with insomnia and the resulting impact on insomnia severity (ISI).

Results: Expressions of interest in participating have been received. Results will be available at the time of presentation.

Conclusion: The study aims to clarify individual effects of wearable use on insomnia symptoms and inform insomnia-related health care.

P.36

Obstetric, sleep and social support predictors of perinatal depression in the UK Biobank cohort

Author: Laura Lyall^{1,2}, Donald M. Lyall^{1,2}, Jana J. Anderson¹, Rona J. Strawbridge^{1,2}, Etsubdink T. Gebretsadik¹, Daniel J. Smith²

1. University of Glasgow, Glasgow, Scotland, United Kingdom;
2. University of Edinburgh, Edinburgh, Scotland, United Kingdom;

Introduction: Perinatal depression is common and can have serious consequences for mother and baby. Key predictors, including obstetric, sleep related and social support factors, have rarely been examined in large population based cohorts.

Methods: In 27,519 UK Biobank participants, we assessed associations between obstetric factors, later subjective sleep problems and social support indicators with probability of perinatal depression. A lifetime history approach and linked ICD codes before and after first birth were used. Predictors were tested in separate logistic regression models, then combined in penalised regression to identify the most informative factors and overall predictive performance.

Results: Higher risk of perinatal depression was associated with younger age at first birth, higher parity, stillbirth, miscarriage, preterm birth, insomnia, difficulty waking, short sleep duration and loneliness. Number of births, stillbirth and preterm birth specifically differentiated perinatal depression from major depressive disorder outside the perinatal period. Elastic net models combining sociodemographic, obstetric, sleep and social support factors achieved an AUC of 0.77. Top predictors included neuroticism, younger maternal age, higher BMI, number of births, loneliness, insomnia, difficulty waking and previous miscarriage.

Conclusion: Mothers with tendency towards sleep difficulties, low social support or pregnancy related trauma may benefit from targeted preventive resources and support.

P.37

Clinical Applications of Dream Work in Cognitive Therapy: Evidence from the Literature and Case Discussions

Author: Debora Meneo¹, Marzia Albanese¹, Emanuela Ricchezza³, Orlando Ricciardi³, Francesco Mancini¹, Fabrizia Tudisco³

1. School of Cognitive Psychotherapy SPC, Rome, Italy;
2. Department of Human Sciences, Guglielmo Marconi University, Rome, Italy;
3. School of Cognitive Psychotherapy SPC, Naples, Italy;

Introduction: Dreams are recognized as meaningful psychological phenomena but remain underutilized in Cognitive-Behavioral Therapy (CBT), especially for Personality Disorders (PDs). This study explores the clinical utility of structured dream work within CBT, integrating psychoanalytic, cognitivist, and constructivist perspectives.

Methods: We conducted a case series study involving patients with PDs and complex clinical presentations. Dream content was analysed using the Description–Memory Sources–Reformulation (DMR) protocol, grounded in the continuity hypothesis, which links dream themes to waking-life emotional and cognitive processes.

Results: Dream work facilitated access to core emotional material, identification of latent maladaptive beliefs, enhanced emotional processing, and strengthened the therapeutic alliance across cases, including narcissistic, avoidant, and abandonment/defectiveness profiles.

Conclusions: Structured dream work is a valuable and theoretically coherent extension of CBT for PDs, particularly for patients with limited introspection or strong interpersonal difficulties. Further empirical research is needed to clarify indications, contraindications, and mechanisms when integrating dream material into CBT.

P.38

From sleep pathology to sleep wellness: characterizing sleep health dimensions

in clinical populations

Author: Debora Meneo¹, Rossella Cascone², Chiara Mignogna², Teresa L'Abbate^{2,3}, Serena Malloggi², Fatima Ouerghi^{2,4}, Orlando Ricciardi², Sara Curati¹, Francesco Mancini², Carlo Buonanno², Chiara Baglioni^{1,5}

1. Department of Human Sciences, Guglielmo Marconi University, Rome, Italy;
2. Scuole di Psicoterapia Cognitiva (SPC), Rome, Italy;
3. Laboratory of Electrophysiology for Translational Neuroscience (LET'S), Istituto di Scienze e Tecnologie della Cognizione, CNR, Rome, Italy;
4. Department of Neuroscience, Imaging and Clinical Sciences (DNSIC), University "G. D'Annunzio" of Chieti-Pescara, Chieti-Pescara, Italy;
5. Department of Psychiatry and Psychotherapy Medical Center – University of Freiburg, Freiburg, Germany;

Introduction: The Buysse's (2014) SATED model conceptualizes sleep as a multidimensional construct of health, describing sleep health through five dimensions: satisfaction, daytime alertness, timing, efficiency, and duration. This study explores sleep health dimensions in adult patients undergoing psychotherapy for mental disorders other than insomnia, examining their relationships with psychopathology and quality of life.

Methods: We are conducting an online survey to reach 150 adult patients (18-70 years) currently receiving psychotherapy for mental disorders other than insomnia, including mood disorders, anxiety disorders, and personality disorders. The survey includes socio-demographic questions and self-report questionnaires assessing sleep health dimensions (SHDQ), insomnia severity (ISI), anxiety and depression (HADS), emotion regulation (DERS-SF), symptoms (BSI), and quality of life (SF-12).

Results: Significant alterations in sleep health are expected, with overall reduced SHDQ scores. Differences are hypothesized between diagnostic groups, along with associations between poorer sleep health indices, greater psychopathological symptom severity, and lower quality of life. An inverse relationship is expected between SHDQ scores and insomnia severity measured by the ISI.

Conclusions: The findings may support more targeted clinical interventions aimed at promoting sleep health in clinical

populations and at defining personalized prevention and monitoring strategies within routine psychotherapeutic care and evidence-based clinical practice.

P.39

Exploring sleep in children and adolescents with autism spectrum disorder using objective and subjective sleep measures

Author: Elisa Pellegrini¹, Valentina Alfonsi², Serena Scarpelli^{1,3}, Maurizio Gorgoni^{1,3}, Deny Menghini⁴, Francesca Giumello⁴, Ludovica Annarumma¹, Giovanni Valeri⁴, Mariella Pazzaglia^{1,3}, Leonardo Fava⁵, Stefano Vicari⁴, Luigi De Gennaro¹.

1. Department of Psychology, Sapienza University of Rome, Rome, Italy;
2. Departmental Faculty of Medicine and Surgery, UniCamillus-Saint Camillus International University of Health Sciences, Rome, Italy;
3. Body and Action Lab, IRCCS Fondazione Santa Lucia, Rome, Italy;
4. I.R.C.C.S. Bambino Gesù Children's Hospital, Rome, Italy;
5. Association for Treatment and Research in Autism and Related Conditions "Umbrella", Rome, Italy;

Introduction: Insomnia is common in children with autism spectrum disorder (ASD), however, few studies used subjective and objective sleep measures. This study compared subjective and objective sleep patterns in children with and without ASD and explored associations with demographic and clinical characteristics.

Methods: Thirty-six children with ASD (7F; 8.31±0.60 years) and 24 healthy controls (10F; 10.08±0.75 years) were recruited. Caregivers completed questionnaires on sleep and behavioral problems. Participants wore wrist actigraphs for one week, while caregivers completed daily sleep diaries. Group comparisons were performed on demographic, clinical, and sleep variables (t test/Mann-Whitney-U, χ^2 -test). Within the ASD group, sleep differences between children with IQ ≥ 85 (t-test/Mann-Whitney-U) and correlations among demographic, clinical, and sleep variables were examined

(r/rho).

Results: Participants with ASD showed higher sleep and behavioral problems. Comparisons on sleep diaries revealed more insomnia-related symptoms in the ASD group. Children with ASD and IQ<85 exhibited poorer subjective sleep quality and greater actigraphic sleep fragmentation. Poorer sleep quality correlated with younger age and lower IQ (all $p<0.05$).

Conclusion: Children with ASD, particularly those with lower IQ, may experience greater sleep difficulties. Given the differing tool sensitivities, these findings highlight the need to integrate subjective and objective sleep measures.

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Insomnia and sleep disturbances in breast cancer: a psychopathological matter?

Author: Joy Perrier¹, Clara Elia¹, Melvin Galin¹, Laura Degirolamo¹, Stéphane Rehel¹, Bénédicte Clarisse², Patrice Clochon¹, Franck Doidy^{1,6}, Fausto Viader¹, Pierre Denise⁶, Vincent De La Sayette¹, Carine Segura-Djezzar³, Jean-Michel Grellard², Florence Joly^{2,4,5}, Bénédicte Giffard^{1,4}

1. Université de Caen Normandie, Inserm, EPHE-PSL, PSL Université Paris, CHU de Caen, GIP Cyceron, U1077, NIMH, 14000 Caen, France;
2. Clinical Research Department, Centre François Baclesse, 14076 Caen, France;
3. Medical Oncology Department, Centre François Baclesse, 14076 Caen, France;
4. Cancer and Cognition Platform, Ligue Nationale Contre le Cancer, 14076 Caen, France;
5. ANTICIPE (Interdisciplinary Research Unit for the Prevention and Treatment of Cancer), INSERM Unit 1086, Caen, France;
6. Université de Caen Normandie, Inserm, COMETE U1075, CYCERON, CHU de Caen, F-14000, Caen, France;

Introduction: Links between sleep disturbances and psychopathological factors have been partly documented in different populations, including individuals with insomnia. Insomnia is highly prevalent among breast cancer (BC)

patients, who may also live the announcement of cancer diagnosis as a traumatic event and may experience post-traumatic stress disorder (PTSD) symptoms, depression and anxiety following cancer diagnosis. The present study examined the associations between insomnia, sleep architecture and psychopathological factors in this population.

Methods: Nineteen middle-aged women recently diagnosed with BC and having insomnia complaints were recruited. Patients underwent a full-night polysomnographic recording (PSG), and completed the following questionnaires: Insomnia Severity Index, Perceived Stress Scale, Post-Traumatic Growth Index, PTSD Checklist for DSM-5, State-Trait Anxiety Inventory, Beck's Depression Inventory-II and Functional Assessment of Cancer Therapy-General. Spearman's correlations were used to examine the link between all variables.

Results: Stress and depression were related to sleep complaints ($p<0.03$), and both traumatic growth and symptoms were related to sleep complaints and architecture, notably REM sleep duration ($p<0.05$).

Conclusions: Both sleep complaints and architecture are related to post-traumatic factors in BC patients recently diagnosed. These results suggest that sleep disturbances in this population may partly reflect stress-related mechanisms, potentially exacerbated by the traumatic experience of cancer diagnosis.

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Finnish Current Care Guideline for insomnia 2026

Author: Markku Partinen^{1,2}, Helena Aatsinki³, Anna-Mari Aronen⁴, Heli Järnefelt⁵, Janne Kanervisto⁴, Rea Lagerstedt¹, Juha Markkula⁶, Ulla Mikkonen⁷, Krista Nuotio⁸, Timo Partonen⁹, Tiina Paunio¹, Päivi Polo¹⁰, Tomi Rantamäki¹, Outi Saarenpää-Heikkilä¹¹, Tuula Tanskanen¹², Katinka Tuisku¹²

1. University of Helsinki, Helsinki, Finland;
2. Current Care Guideline for Insomnia, Finland;
3. Mehiläinen, Finland;
4. Terveystalo, Finland;
5. Finnish Institute for Occupational Health, Finland;
6. Turku University Hospital, Turku, Finland;
7. University of Eastern Finland, Finland;

8. Duodecim, Finland;
9. Finnish Institute for Health and Welfare, Finland;
10. University of Turku, Turku, Finland;
11. Tampere University Hospital, Tampere, Finland;
12. Helsinki University Hospital, Finland;

The task group consisted of 16 experts in different fields (child neurology, gynecology, neurology, occupational health, pharmacology, psychiatry, psychology, and nurses. The project lasted from September 2023 to May 2026. We had 26 Teams meetings and 2 face to face meetings, lasting 3-7 hours. GRADE-methods were used. Number of RCTs, meta-analyses and network meta-analyses was > 1,000. 290 articles were included in 77 systematic reviews and 10 supplement articles. A new diagnostic and treatment path was produced. Sleep medication should always be secondary to non-pharmacological treatment. The first-line medications with level A evidence and strong recommendation are: Zolpidem (10 mg for men; 5 mg for women and elderly), zopiclone (caution on driving car), doxepin (1-3-6 mg; not during pregnancy), and melatonin. Second-line medications include temazepam, oxazepam and daridorexant. Other possible medications in special cases include gabapentinoids (RLS), sedative antihistamines (doxylamine), trazodone, mirtazapine (1-4,5-7,5 mg) and quetiapine (if a psychiatric indication exists). Low-dose (≤ 6 mg) doxepin is considered as a first-line medication in Finland, but it is not available in many EU countries. There is a lot of empirical evidence but no RCTs using mirtazapine in doses < 7.5 mg. RCTs of low dose mirtazapine are needed. We need also more research about the benefits and harms of combined treatment with CBT-I and medications. We thank Niina Aho (technical secretary) and Raija Sipilä (chair of the Current Guidelines, Duodecim, Finland). We also thank all experts that have helped in the production of this guideline.

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Guided Digital Cognitive Behavioral Therapy for Insomnia: a (Cost)Effective Intervention for People with Insomnia and Psychological Distress? Results of a Randomized Controlled Trial

Author: Joyce Reesen¹, Savannah L.C. Ikelaar¹, Alex E. van Keeken, Shanna van Trigt^{3,4,5}, Jeanne Leerssen¹, Roxanne E. Bongers^{1,2}, Adriaan W. Hoogendoorn^{3,4}, Judith E Bosmans⁶, Neeltje Batelaan^{3,4,7}, Jaap Lancee⁸, Eus J.W. Van Someren^{1,2,3,9}

1. Department of Sleep and Cognition, Netherlands Institute for Neuroscience, Amsterdam, Netherlands;
2. Department of Integrative Neurophysiology, Center for Neurogenomics and Cognitive Research, Amsterdam Neuroscience, Vrije Universiteit Amsterdam, Amsterdam, the Netherlands;
3. Department of Psychiatry, Amsterdam UMC location Vrije Universiteit Amsterdam, Amsterdam, the Netherlands;
4. Amsterdam Public Health, Mental Health program, Amsterdam, the Netherlands;
5. Clinical, Neuro and Developmental Psychology, Vrije Universiteit Amsterdam, the Netherlands;
6. Department of Health Sciences, Faculty of Science, Vrije Universiteit Amsterdam, Amsterdam Public Health research institute, the Netherlands;
7. GGZ inGeest Mental Health Care, Amsterdam, the Netherlands;
8. Department of Clinical Psychology, University of Amsterdam, Amsterdam, the Netherlands;
9. Amsterdam Neuroscience, Mood Anxiety Psychosis Stress Sleep, Amsterdam, the Netherlands;

Introduction: Insomnia is common in anxiety, post-traumatic stress disorder (PTSD) and borderline personality disorder (BPD), but cognitive behavioral therapy for insomnia (CBT-I) is understudied in these conditions. We evaluated the (cost-) effectiveness of CBT-I in adults with insomnia and symptoms of anxiety, PTSD or BPD.

Methods: 157 adults were randomized to guided digital CBT-I or a sleep diary control. Assessments at baseline, post-treatment (8 weeks), and follow-up (8 months) included insomnia severity (Insomnia Severity Index; ISI) and mental health symptoms. Cost-effectiveness were analyzed from a societal perspective.

Results: At post-treatment, CBT-I produced large reductions in insomnia severity versus control ($d = -1.04$; $p < .001$), small effects on symptoms of anxiety and BPD ($ds = -0.28$;

-0.36) but not of PTSD. At follow-up, effects on insomnia severity remained large ($d = -0.98$; $p < .001$) but effects on anxiety and BPD were no longer significant. CBT-I did not significantly reduce societal costs (-€826, 95% CI [-3797, 2144]) but showed a 94% probability of cost-effectiveness at €450 per ISI-point and 71% at €20,000 per QALY.

Conclusions: CBT-I is a (cost-)effective treatment for insomnia with co occurring anxiety, PTSD or BPD symptoms, although effects on anxiety and BPD are small and none were found for PTSD. These findings support integrating CBT-I into routine care, potentially alongside targeted interventions for co-occurring psychological distress.

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Long-term medication use is reduced after digital cognitive behavioral therapy for insomnia: secondary analysis from a randomized controlled trial

Author: Simen Saksvik¹, Daniel Vether¹, Cagdas Turkmen¹, Håvard Kallestad¹

1. Department of research and development, St.Olavs Hospital, Trondheim, Norway;

Introduction: Cognitive behavioral therapy for insomnia is recommended as first-line treatment for insomnia. Still, most patients are treated using medication. Even though medications are recommended only for short term treatment, many individuals use medications as long-term treatment for insomnia. We investigated whether fully-automatic digital cognitive behavioral therapy for insomnia (dCBT-I) reduced long-term medication use and whether reductions in medication usage were mediated by early improvements in insomnia severity and dysfunctional beliefs and cognitions about sleep (DBAS).

Methods: In this randomized controlled trial 1721 people with insomnia were randomized to dCBT I or patient education (PE). Information about insomnia severity, DBAS and medication use was assessed at baseline, 9 weeks and 6 months and 2 years after treatment. We used logistic linear mixed regression and mediation analyses to investigate between group differences and mediation pathways.

Results: There was significantly lower medication use in the dCBT-I group compared with the PE group at all time points.

Early improvements in insomnia severity fully mediated medication use at 6 months, but not at 2 years. Early improvements in DBAS fully mediated medication use at 6 months and 2 years.

Conclusion: Low-threshold dCBT-I reduces long-term medication usage, that was fully mediated by plausible mechanisms, namely early improvements in insomnia severity and DBAS.

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Theory into Practice: Adapting the Stepped Care Model to Clinical and Educational Practice. Solutions Implemented at the Institute of Psychiatry and Neurology in Warsaw

Author: Joanna Salbert¹, Adam Wichniak¹, Marcin Iwański¹

1. Institute of Psychiatry and Neurology in Warsaw, Warsaw, Poland;

Insomnia is no longer debated as to whether it constitutes a significant public health concern. Its far reaching social, economic, and health consequences are well documented. Cognitive Behavioral Therapy for Insomnia (CBT-I) is an evidence-based treatment, leading to clinical improvement in approximately 60–70% of patients and full remission in about 40%. Despite its proven efficacy, a major unresolved challenge remains the limited availability of CBT-I across Europe. The stepped-care model recommends systemic solutions to this problem by differentiating patient needs and matching them with appropriate therapeutic interventions in insomnia treatment. Based on this model, the poster outlines a range of solutions implemented at the Sleep Medicine Center of the Institute of Psychiatry and Neurology in Warsaw, which are currently being evaluated in ongoing scientific studies. Particular attention is given to the European BE-SAFE project, which aims to develop effective and safe approaches to treating insomnia in patients aged over 65, also addressing the problem of overuse of benzodiazepines and Z-drugs. Additional topics include a two-week insomnia treatment program incorporating novel therapeutic module, as well as educational activities conducted at the Sleep Medicine Center.

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Non-Inferiority of supported dCBT-I versus group-based CBT-I in terms of insomnia severity, depressive and anxiety symptoms, and treatment adherence

Author: Andrea Salibba^{1,2}, Marco Sforza^{1,2}, Francesca Casoni², Marco Zucconi², Mauro Manconi³, Vincenza Castronovo², Luigi Ferini-Strambi^{1,2}

1. Vita-Salute San Raffaele University, Milan, Italy;
2. Department of Clinical Neurosciences, Neurology Sleep Disorders Center, IRCCS San Raffaele Scientific Institute, Milan, Italy;
3. Sleep Medicine Unit, Neurocenter of the Southern Switzerland, Regional Hospital of Lugano, Faculty of Biomedical Sciences, Università della Svizzera Italiana, Lugano, Switzerland;

Introduction: CBT-I is the first-line treatment for chronic insomnia, but access remains limited. Supported dCBT I may enhance scalability within stepped-care models. This study compared group-based CBT-I with supported dCBT-I and tested the non-inferiority of dCBT-I on insomnia severity, depressive and anxiety symptoms, and treatment adherence.

Methods: This retrospective study included 80 adults with chronic insomnia treated with either group-based CBT-I or supported dCBT-I, delivered synchronously by the same therapist using a hybrid in person/telehealth format. Outcomes were assessed pre- and post-treatment using the Insomnia Severity Index (ISI), Beck Depression Inventory-II (BDI-II), and State-Trait Anxiety Inventory State-Y1 (STAI-Y1), with non-inferiority margins predefined at -2.5, -4, and -8 points, respectively. Adherence was defined as the discrepancy between the prescribed sleep restriction and the time-in-bed reported in sleep diaries from Session 4 to end-treatment (-15).

Results: Both interventions produced significant improvements in insomnia severity, depressive symptoms, and anxiety (p0.663). Non-inferiority of dCBT-I was demonstrated for ISI (-2.025), BDI-II (-0.876), STAI-Y1 (-7.491), and adherence outcome (-5.730).

Conclusion: Supported dCBT-I is effective and non-inferior to group-based CBT-I for insomnia severity, depressive and

anxiety symptoms, and treatment adherence, supporting its implementation as a scalable option within stepped-care models.

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Characterization of Sleep Disturbances and Psychopathological Correlates in Eating Disorders: A Comparative Study of a Real-World Patient Cohort with Healthy Controls

Author: Giulia Santangelo¹

1. Department of Health Sciences, University of Milan, 20142 Milan, Italy.

Introduction: Sleep and eating behaviors are closely interconnected, and disturbances in one domain may exacerbate dysfunctions in the other. This observational study examines the relationship between eating disorders (EDs) and sleep disturbances among individuals aged 16–30 years, with the aim of identifying the most prevalent sleep alterations across ED subtypes and their clinical correlates.

Methods: Ninety patients diagnosed with an ED according to DSM-5 criteria and treated at the Center for Eating and Nutrition Disorders, ASST Santi Paolo e Carlo (Milan), between 2025 and 2026 were included. Participants underwent psychiatric and clinical assessments and completed validated questionnaires assessing sleep quality and disturbances, including the Epworth Sleepiness Scale (ESS), Insomnia Severity Index (ISI), Pittsburgh Sleep Quality Index (PSQI), Morningness Eveningness Questionnaire (MEQ), and an OSAS screening tool. Data were analyzed using descriptive statistics, correlation analyses, and logistic regression models to explore associations between ED subtypes, demographic variables, and sleep parameters.

Results: Preliminary analyses showed significant associations between specific ED subtypes and sleep patterns. Patients with anorexia nervosa exhibited higher rates of insomnia, while those with bulimia nervosa presented greater sleep fragmentation and an increased risk of sleep apnea.

Conclusion: These findings highlight the complex bidirectional relationship between eating and sleep disorders and support the inclusion of sleep-focused assessment and interventions in ED treatment pathways.

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Effects of daridorexant on attentional performance in adults with Attention Deficit/Hyperactivity Disorder (ADHD)

Author: Edoardo Scillitani¹, Giacomo Grassi¹, Corinna Moradei¹, Chiara Cecchelli¹

1. Brain Center Firenze, Florence, Italy;

Introduction: Insomnia disorder is highly prevalent in adults with Attention-Deficit/Hyperactivity Disorder (ADHD), worsening core symptoms and cognitive functioning. Dual orexin receptor antagonists, such as daridorexant, represent a novel therapeutic option. The primary aim of the study was to evaluate the effects of daridorexant in adults with ADHD and comorbid insomnia disorder. The present work reports a sub-analysis focused on cognitive outcomes, investigating whether improvements in sleep parameters were associated with changes in attentional performance, assessed using the Conners' Continuous Performance Test 3 (CPT-3).

Methods: In a naturalistic, open-label study, 24 adults with ADHD and insomnia disorder received daridorexant 50 mg/day for one month. Subjective sleep measures, actigraphy-derived sleep parameters, and CPT-3 cognitive indices were collected.

Results: Daridorexant significantly improved subjective and objective sleep measures. Improvements were observed in response stability (Hit Reaction Time Standard Deviation) and sustained attention (Hit Reaction Time Block Change), while Hit Reaction Time Inter-Stimulus Interval Change worsened. After excluding participants without sleep improvement, this negative effect disappeared and additional improvements emerged in Detectability and Commissions.

Conclusions: Daridorexant improved sleep and cognitive performance in adults with ADHD and comorbid insomnia, with cognitive benefits closely linked to sleep improvement.

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Psychological Distress and Insomnia Severity in Untreated Obstructive Sleep Apnea

Author: Anja Seiger¹, K. Johannsdottir², K. Ludwig³, H. Gouveris³, M. Tremblé⁴, S. Matthes⁴, S. Bailly⁵, T. Toncar¹, P.

1. Charité – Universitätsmedizin Berlin, Interdisciplinary Center of Sleep Medicine, Berlin, Germany
2. Reykjavík University, Department of Psychology, Reykjavík, Iceland,
3. Universitätsmedizin der Johannes Gutenberg-Universität Mainz, HNO-Universitätsklinik, Mainz, Germany,
4. Wissenschaftliches Institut Bethanien für Pneumologie e.V., Universität zu Köln, Solingen, Germany,
5. Grenoble Alpes University, HP2 Laboratory, INSERM U1300, Grenoble, France

Introduction: Insomnia is common in patients with obstructive sleep apnea (OSA), but the relationships between insomnia severity, psychological distress, and objective sleep parameters across OSA severity levels remain poorly understood. Clarifying these associations is essential for guiding targeted interventions.

Methods: N = 125 untreated OSA patients (Mild: n = 45, Moderate: n = 34, Severe: n = 46) recruited in the Sleep Revolution Project from May 2024 to April 2025 were analyzed. Insomnia severity was assessed with the Insomnia Severity Index (ISI) and psychological distress with the DASS-21 total score. Subjective sleep quality was measured using the PSQI, while objective sleep parameters—including total sleep time (TST), sleep onset latency (SOL), REM sleep percentage, and sleep efficiency—were obtained from one-night polysomnography. OSA severity was classified using standard AHI cut-offs. Correlations and linear regression models adjusted for age, sex, and BMI were conducted, and moderation analyses tested whether OSA severity influenced the relationship between psychological distress and ISI.

Results: ISI scores were strongly correlated with subjective sleep quality (PSQI, $r = 0.78$) and moderately correlated with psychological distress (DASS-21, $r = 0.59$). Objective sleep parameters (TST, SOL, REM%, sleep efficiency) did not differ significantly between insomnia groups. Regression analyses indicated that psychological distress significantly predicted ISI ($\beta = 0.155$, $p < 0.001$), whereas OSA severity, arousal index, and polysomnographic measures were not significant predictors. Moderation analyses showed that the association between psychological distress and ISI was consistent across OSA severity levels, with no significant interaction. Secondary

analyses of PSQI and other subjective sleep measures mirrored these findings, with higher psychological distress linked to poorer perceived sleep quality.

Conclusions: In untreated OSA patients, insomnia severity is closely associated with psychological distress, independent of OSA severity and objective sleep parameters. The absence of differences in polysomnographic measures across insomnia groups suggests a dissociation between subjective sleep complaints and objective sleep architecture. These findings emphasize the importance of evaluating and addressing mental health in OSA patients with insomnia, highlighting a potential target for interventions beyond OSA-focused therapies.

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Does Tracking Fuel Worry? Sleep-Related Anxiety in Wearable Users vs. Non-Users

Author: Laura Simon¹, Annika Maurer¹, Harald Baumeister¹

1. Ulm University, Ulm, Germany;

Introduction: Over one-third of adults use consumer wearables, such as smartwatches and smart rings. Wearables can provide real-time feedback on sleep, which may help reduce misperceptions and improve adherence to sleep interventions. However, wearables may cause users to become overly preoccupied with their sleep, potentially exacerbating insomnia symptoms. This study explores the differences in dysfunctional sleep-related cognitions and behaviors between wearable users and non-users to better understand the impact of these devices.

Methods: In November 2025, a cross-sectional study was launched to assess various validated sleep-related measures, including the Anxiety and Preoccupation about Sleep, Dysfunctional Beliefs and Attitudes about Sleep, and the Sleep-Associated Monitoring Index. The study will compare two groups: 64 regular wearable users (≥ 5 days/nights a week) and 64 non-users.

Results: Recruitment is still in progress; 118 out of 128 planned participants have been enrolled as of the submission date, ensuring full results will be available at the time of the conference.

Conclusion: This study will provide initial evidence of differences in dysfunctional sleep-related cognitions and behaviors between wearable users and non-users, thereby enhancing understanding of the role that wearables can play

in the treatment of insomnia.

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From Guidelines to Practice: Availability of Cognitive-Behavioural Therapy for Insomnia in Switzerland

Author: Helen Slawik¹, Elisabeth Hertenstein², Christoph Nissen^{2,3}, Carolin Reichert^{1,4,5}, Carlotta Schneider², Tifenn Raffray⁶, Christine Blume^{5,7}

1. Centre for Affective, Stress-related and Sleep Disorders, University Psychiatric Clinics Basel, Basel, Switzerland;
2. Department of Psychiatry, Faculty of Medicine, University of Geneva, Geneva, Switzerland;
3. Psychiatric Specialties Division, Department of Psychiatry, Geneva University Hospitals (HUG), Geneva, Switzerland;
4. Centre for Chronobiology, Stress-related and Sleep Disorders, Psychiatric Hospital of the University of Basel, Basel, Switzerland;
5. Research Cluster Molecular and Cognitive Neurosciences, University of Basel, Basel, Switzerland;
6. Centre du sommeil de Florimont, Lausanne & Centre d'investigation et de recherche sur le sommeil, CHUV, Lausanne, Switzerland
7. Clinic for Adults and Centre for Chronobiology, Psychiatric Hospital of the University of Basel, Basel, Switzerland;

Introduction: Cognitive-behavioural therapy for insomnia (CBT-I) is the first-line treatment for insomnia disorder according to national and international guidelines. However, its actual availability in routine clinical care remains insufficiently characterised in Switzerland and is known to be limited elsewhere.

Methods: The Special Interest Group Sleep and Mental Health of the Swiss Society for Sleep Research, Sleep Medicine and Chronobiology (SSSSC) launched a nationwide survey in January 2026. It targets SSSSC-accredited sleep centres and

additional clinical settings (e.g., registered therapists) involved in insomnia care. It assesses the availability and implementation of CBT-I, including structural and organisational aspects such as full-time equivalent (FTE) positions, number of patients treated in the preceding year, modes of delivery, and perceived barriers to provision.

Results: Data collection is ongoing. By May 2026, we expect that all accredited sleep centres will have provided their responses as well as a relevant number of registered psychotherapists allowing for preliminary analyses.

Conclusions: This survey is expected to provide the first systematic overview of the availability of CBT-I in Switzerland. It will help to raise awareness among relevant authorities of the possible gap between guideline recommendations and actual service provision, and inform strategies to improve access to evidence-based treatment for patients with insomnia.

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A preliminary analysis of the effect of closed-loop acoustic stimulation on subjective insomnia severity

Author: Linda Soukupová¹

1. National Institute of Mental Health Czech Republic and Third Faculty of Medicine, Charles University, Klecany and Prague, Czech Republic;

Introduction: Closed-loop acoustic stimulation (CLAS) is a non-invasive brain stimulation technique to study and enhance sleep. CLAS has been investigated mainly short-term in healthy population. Less is known about long-term effects in clinical population with sleep disorders. This study presents preliminary insights into the effect of at-home CLAS protocol on subjective insomnia severity.

Method: Twenty-four participants with chronic insomnia underwent double-blinded experimental procedure employing a within-subjects randomized crossover design. The protocol consisted of 1 week adaptation, 3-week STIM/SHAM block, 1-week wash-out period and 3-week STIM/SHAM block. Participants filled out questionnaires, including Insomnia Severity Index (ISI), at baseline and before/after each experimental block.

Results: No effect of CLAS alone was observed. However, a significant interaction between order of STIM/SHAM condition and timepoints of measurements was observed $F(3, 45) = 5.44$, $p = .003$, $\eta^2 = .266$, pointing to order-dependent

pattern of changes in ISI. The level of ISI significantly decreased ($p = < .05$) only when STIM condition followed adaptation first. **Conclusion:** These preliminary results do not support a uniform effect of CLAS on subjective insomnia severity. Instead, condition order mattered: participants receiving STIM first in the protocol showed a more favorable trajectory in experienced insomnia severity than those receiving SHAM first. **Acknowledgements:** This work was supported by Ministry of Health of the Czech Republic, Czech Health Research Council, Grant/Award Number: NU23-04-00469.

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Beyond Sleep: Unexpected Benefits of CBT-I. A Thematic Analysis of Clinician Interviews

Author: Klaudia Tabala¹, Martha Kaznowski²

1. Senare Sleep Medicine Centre, University of Lodz, Łódź, Poland;
2. Institute of Psychiatry and Neurology, Warsaw, Poland

Introduction: While CBT-I is the gold standard treatment for insomnia, progress is typically evaluated using standard metrics like sleep efficiency or sleep onset latency. This study explores indicators of recovery that fall outside traditional measurement tools like sleep diaries or questionnaires.

Methods: A Thematic Analysis was conducted following the Braun & Clarke framework. Data were collected via Microsoft Forms from a purposive sample of nine psychologists (mean age 41.8) practicing CBT-I. Participants provided clinical observations and patient testimonials regarding non standard indicators of recovery.

Results: Five key themes of recovery were identified: 1. Normalization of the relationship with sleep, across cognitive, emotional and behavioral domains. 2. Activation of resources, including courage and agency in sleep, tolerance of uncertainty, engagement in behavioral experiments. 3. Improved psychosocial well-being, characterized by better emotional regulation and social interactions, more pleasures. 4. Healthier lifestyle patterns, including regular physical activity and reduced caffeine/alcohol use. 5. Increased freedom and flexibility, allowing for spontaneous social activities without the fear of insomnia.

Conclusion: Reflecting the 24-hour nature of insomnia, the benefits of CBT-I extend beyond nocturnal parameters, foster improvements in overall quality of life. Recovery involves regaining a sense of control, and the restoration of spontaneous daytime functioning.

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Alcohol use and digital cognitive behavioural therapy for insomnia: Moderation and mediation analyses of a large-scale randomised controlled trial

Author: Cagdas Türkmen¹, Guro W. Angenete^{2,3}, Daniel Vethe^{1,3}, Simen Berg Saksvik^{1,3}, Stian Lydersen⁴, Øystein Vedaa^{5,6}, Børge Sivertsen^{5,7}, Knut Langsrud⁸, Jan Scott^{3,9}, Håvard Kallestad^{1,3}

1. Department for Research and Development, St. Olavs Hospital PH, Trondheim, Norway
2. Clinic of Substance Use and Addiction Medicine, St. Olavs Hospital, Trondheim, Norway
3. Department of Mental Health, Norwegian University of Science and Technology, Trondheim, Norway
4. Regional Centre for Child and Youth Mental Health and Child Welfare, Department of Mental Health, Faculty of Medicine and Health Sciences, Norwegian University of Science and Technology, Trondheim, Norway
5. Department of Health Promotion, Norwegian Institute of Public Health, Bergen, Norway
6. Department of Psychosocial Science, University of Bergen, Bergen, Norway
7. Department of Research & Innovation, Helse-Fonna HF, Haugesund, Norway
8. Østmarka Psychiatric Department, St. Olavs Hospital PH, Trondheim, Norway
9. Institute of Neuroscience, Newcastle University, Newcastle, United Kingdom

Introduction: This study assessed whether baseline alcohol

use moderated the effects of digital cognitive behavioural therapy for insomnia (dCBT-I) on insomnia severity, and whether it was associated with the number of completed modules, in adults with insomnia. It also evaluated whether dCBT-I, compared with a control group, changed alcohol use, and whether these changes were mediated by changes in insomnia severity.

Methods: This randomised controlled trial was conducted in the Norwegian general population. 1721 adults (mean age: 44.5 years; 67.8% women) with self-reported insomnia (Insomnia Severity Index (ISI) score ≥ 12) were recruited. Participants were randomly allocated (1:1) to fully automated dCBT-I or patient education about sleep (PE). Insomnia severity (ISI) and alcohol use (Alcohol Use Disorders Identification Test–Consumption (AUDIT-C)) were assessed at baseline, post-intervention (9 weeks), and at 6- and 24-month follow-ups. **Results:** Baseline AUDIT-C score did not moderate the effect of dCBT-I on ISI score at any timepoint. Alcohol use was not associated with the number of completed modules. DCBT-I, compared with PE, had no significant effect on alcohol use at any timepoint, and changes in ISI score at 9 weeks did not mediate AUDIT-C scores at 6 months.

Conclusions: Digital CBT-I is effective in the general population regardless of alcohol use, with no evidence of effects on alcohol use or mediation by insomnia severity.

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Insomnia Symptoms and Maladaptive Personality Traits

Author: Victor Vovc¹, Lozovanu S.¹, Arnaut O.¹, Ganenco A.¹, Rotaru L.², Grosu O.², Moldovanu I.², Odobescu S.²

1. Department of Medical Physiology and Biophysics, Nicolae Testemitanu State University of Medicine and Pharmacy, Chişinău, Republic of Moldova
2. "Diomid Gherman" Institute of Neurology and Neurosurgery of the Republic of Moldova, Chişinău, Republic of Moldova;

Introduction: Insomnia is becoming an omnipresent disease, both among adults and children. The precipitating factor of insomnia is the lifestyle associated with harmful cognitive, emotional and behavioral mechanisms. At the same time, the predisposing factor is the maladaptive personality traits that underlie the psychopathological mechanisms of insomnia. The

study aimed to investigate the relationship between clinical symptoms of insomnia and maladaptive personality traits.

Methods: The study included 284 participants (18–72 years, 135 males) who frequently and very frequently reported insomnia symptoms, as determined by the specific items (44 - difficulties in initiating sleep, 64 - difficulties in maintaining sleep and 66 - quality of sleep) of the Symptom Checklist-90; maladaptive personality traits were evaluated using the Personality Inventory for DSM-5.

Results: Clinical symptoms of insomnia showed differential associations with maladaptive personality traits: difficulties in initiating sleep were associated with an increased risk of "Anxiety", "Anhedonia" and "Hostility"; difficulties in maintaining sleep were associated with "Eccentricity", "Anxiety", "Aging" and "Perceptual Dysregulation"; restless sleep was associated with "Perceptual Dysregulation", "Anxiety", "Hostility" and "Anhedonia".

Conclusions: Insomnia symptoms are differentially associated with maladaptive personality traits, supporting the utility of integrating personality profile assessment in the diagnosis and management of insomnia.

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Reducing inappropriate hypnotics use in older adults: The BE-SAFE intervention as a patient-centered strategy for deprescribing and optimizing sleep health.

Author: Adam Wichniak¹

1. Third Psychiatric Department and Sleep Medicine Center, Institute of Psychiatry and Neurology, Warsaw, Poland

Introduction: Although guidelines recommend CBT-I, as a treatment for insomnia disorder, benzodiazepines and sedative-hypnotics (BSH) remain frequently overused. This represents a public health concern due to cumulated risks of severe adverse outcomes. The BE-SAFE project addresses this concern by developing evidence-based intervention and guidance for those aged 65 and over. This presentation outlines the project's objectives and the development of educational materials to facilitate the deprescribing process.

Methods: Questionnaire-based studies were conducted to identify the barriers and enablers to BSH discontinuation,

complemented by a systematic review and network meta-analysis to evaluate the effectiveness of various deprescribing strategies.

Results: Patient education was identified as the primary intervention for increasing BSH discontinuation rates. Consequently, we developed three educational brochures: 1) 'You May Be at Risk': Educates patients on BSH-related risks and utilizes shared decision making to actively involve them in the deprescribing process. 2) 'Sleep Soundly, Sleep Safely': Provides guidance on managing sleep difficulties using CBT-I techniques. 3) The Caregiver Brochure: Familiarizes family members with the therapeutic protocol, empowering them to support the patient.

Conclusions: The BE-SAFE educational materials were developed to promote behavioral changes to reduce BSH use and alleviate insomnia symptoms in older adults. These patient- and caregiver-facing materials, together with a physician-directed intervention, are currently being evaluated in a cluster randomized clinical trial.

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Group-CBTi in psychiatric care: Design, descriptives and preliminary findings from a pragmatic randomized controlled trial in Norway

Author: Ane Wilhelmsen-Langeland¹, Berge Osnes³, Michael Gradisar^{4,5}, Veronika Alice Vågenes¹, Lin Sørensen⁶, Bjørn Bjorvatn^{7,8}, Ole Bernt Fasmer⁹, Julian Koenig¹⁰, Ståle Pallesen^{7,11}, Ingvild West Saxvig⁷

1. Division of Psychiatry, Haukeland University Hospital, Bergen, Norway
2. Western Norway University of Applied Sciences, Department of Health and Caring Sciences, Bergen, Norway
3. Department of Clinical Psychology, University of Bergen, Bergen, Norway
4. Wink sleep pty ltd, Adelaide, Australia
5. Sleep cycle AB, Gothenburg, Sweden
6. Department of Biological and Medical Psychology, University of Bergen, Bergen, Norway

7. Norwegian Competence Center for Sleep Disorders, Haukeland University Hospital, Bergen, Norway
8. Department of Global Public Health and Primary Care, University of Bergen, Norway
9. Department of Clinical Medicine, Faculty of Medicine, University of Bergen, Bergen, Norway
10. University of Cologne, Faculty of Medicine and University Hospital Cologne, Department of Child and Adolescent Psychiatry, Psychosomatics and Psychotherapy, Cologne, Germany
11. Department of Psychosocial Science, University of Bergen, Bergen, Norway

Introduction: Insomnia is a common sleep disorder comorbid with psychiatric care and may exacerbate the symptoms of mental illness and increase risk of relapse if left untreated. Insomnia is rarely treated with the recommended cognitive behavioral therapy for insomnia (CBTi) in psychiatric clinics. Most often insomnia is not treated at all, or patients receive sleep medications or sleep hygiene advice.

Methods: In this pragmatic randomized controlled trial, we will recruit 60 outpatients with insomnia comorbid with moderate to severe psychiatric illness in a public psychiatric clinic in Norway. In a randomized manner, 30 patients will be allocated to attend an 8-week sleep school in groups with 5 sessions based on CBTi, lasting 2 hrs each, and 30 will be allocated to continue in psychiatric treatment as usual while on a waitlist for the sleep school in groups.

Results: We have recruited 51 patients to the trial. As recruitment is ongoing, descriptives on demographics and preliminary findings regarding insomnia symptoms, work attendance and sleep medication use will be presented.

Conclusion: Group CBTi is possible to implement in psychiatric clinics and is appreciated and well-tolerated by patients. Preliminary data are promising when it comes to reducing insomnia symptoms in this patient group.

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Sleep and Executive Function in Menopause and Their Impact on Women's Participation in Daily Life.

Author: Heba Yahia¹, Tamar Shochat², Naomi Schreuer³

1. University of Haifa, Haifa, Israel;
2. University of Haifa, Faculty of Social Welfare & Health Sciences, Department of Nursing, Haifa, Israel;
3. University of Haifa, Faculty of Social Welfare & Health Sciences, Department of Occupational Therapy, Haifa, Israel;

Introduction: Menopause is a common midlife transition often accompanied by sleep disturbances, cognitive changes—particularly in executive functions—and emotional symptoms that may impair daily functioning, participation, and quality of life (QOL). This study examined the relationships between menopausal symptoms, sleep disturbances, executive functioning, participation, and QOL.

Methods: Data were drawn from the first quantitative phase of a mixed-methods project. A cross sectional online survey was conducted among healthy, working women aged 45–55 (n = 146). Measures included menopausal symptoms, sleep disturbances, emotional state, executive functioning, participation in meaningful daily activities, and QOL.

Results: Menopausal symptom severity did not differ between menopausal and premenopausal women. Higher symptom levels were associated with poorer sleep quality, reduced executive functioning, lower participation, poorer emotional state, and lower QOL (all $p \leq .003$). Regression analyses showed that menopausal symptoms explained 35% of the variance in participation and 32% in QOL. Adding sleep quality and executive functioning increased explained variance to 66% and 45%, respectively, with executive functioning emerging as the only significant predictor.

Conclusion: Executive functioning plays a central role in women's participation and quality of life during midlife, highlighting the importance of integrating cognitive and sleep assessment in menopause-related care.

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Heterogeneous Daily Vigilance Responses During Supervised In-lab CBT-I in Insomnia

Author: Zhongxing Zhang¹

1. Center for Sleep Medicine, Sleep Research, and Epileptology, Clinic Barmelweid, Barmelweid,

Introduction: Previous home-based CBT-I studies reported increased daytime sleepiness and impaired vigilance during sleep restriction therapy (SRT), findings that may be confounded by limited adherence and supervision. We therefore investigated changes in daytime sleepiness and vigilance during a tightly supervised, in-lab CBT-I program.

Methods: We retrospectively analyzed data from 56 chronic insomnia disorder patients who completed a standardized two-week in-house CBT-I program including SRT (5–6 h/night). Daily Stanford Sleepiness Scale (SSS), subjective sleep quality (SQ), and afternoon psychomotor vigilance tests were collected. Linear mixed-effects models assessed changes in vigilance, SSS, and SQ, adjusting for age and sex. Subject-level bootstrap analyses were used to evaluate robustness of individual vigilance trajectories.

Results: SQ improved significantly over time, whereas vigilance and SSS showed no systematic change. Higher sleepiness was consistently associated with poorer vigilance. Individual responses were heterogeneous: 19 patients showed improving and 26 declining vigilance. Subgroups did not differ in demographics or fatigue severity, but higher depressive symptom severity (BDI ≥ 16) tended to be more frequent in patients with declining vigilance. SQ was positively associated with vigilance only in the improving subgroup.

Conclusions: Supervised in-lab CBT-I did not produce consistent increases in daytime sleepiness or vigilance impairment during SRT. Improved sleep quality may mitigate adverse daytime effects despite restricted sleep opportunity.

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