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Research interests

- **Sleep, Brain, and Cognition:** Links between sleep spindles, hippocampal volume, and memory consolidation in older adults.
- **Sleep and Cardiovascular Health:** Stage-specific influences of obstructive sleep apnea on blood pressure variability (NREM vs. REM).
- **Neurophysiological Mechanisms of Insomnia:** Hyperarousal, stress reactivity, and sensory processing in chronic insomnia.
- **Endothelial Dysfunction in Sleep Disorders:** NF- κ B activation and viability changes in endothelial cells exposed to serum from OSA patients.
- **Circadian Rhythm Disruption:** Social jet lag, screen time, and their impact on stress and sleep quality in young adults.
- **Translational Sleep Research:** Randomized controlled trial on the efficacy of yoga in chronic insomnia.
- **Innovations in Sleep Assessment:** Novel approaches for daytime sleepiness detection and advanced EEG analysis.

Research Grants as Principal Investigator:

1. A multidisciplinary approach to understanding the interrelationships between sleep quality, brain morphometry and cognition: comparison between Indian individuals residing in the UK vs India (a SOLACE study), Dr Nasreen Akhtar, AIIMS – University College of London collaborative grant
2. Efficacy of 'Common yoga protocol' by AYUSH for chronic insomnia: An open label, two arm, parallel randomized control trial'. Department of Science and Technology, DST/SATYAM/2020/417
3. Nuclear factor kappa B activation, Hypoxia inducible Factor-1 and inducible Nitric Oxide Synthase expression in human vascular endothelial cells by serum of adults with Obstructive Sleep Apnea. ICMR Proposal ID: 2021-13677.

4. Correlation between Karolinska Sleepiness Scale, day-time EEG and Psychomotor vigilance task. AIIMS UG intramural
5. Effect of endocannabinoid at the medial septum on sleep wakefulness. AIIMS, Intramural
6. Circadian rhythm disruption, social jet lag and sleep disorders in urban young adults. ICMR STS Award. 2019

Publications:

<https://pubmed.ncbi.nlm.nih.gov/?term=Nasreen%20Akhtar%5BAuthor%5D&sort=date>