

27. **SLEEP HYGIENE, MEDIATING THE ASSOCIATION BETWEEN CIRCADIAN TYPOLOGY AND PSYCHOLOGICAL DISTRESS: AN ASSOCIATION ELICITED BY MEDIATION ANALYSIS MODEL AMONG YOUNG SUDANESE ADULTS, 2022-2023**

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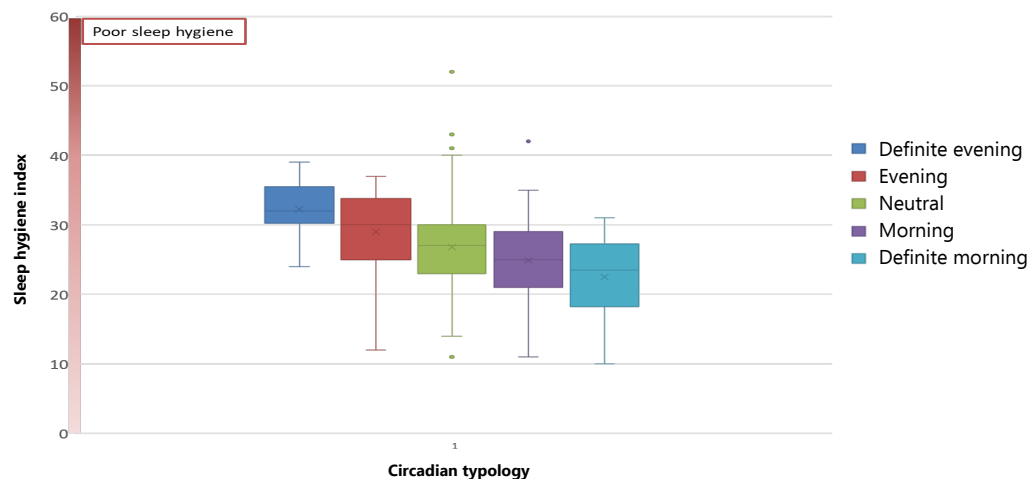


<https://www.youtube.com/watch?v=vlsNiqV1-28&t=14954s>

BACKGROUND: Circadian rhythms are regulated by genetic and environmental components. The association of intrinsic and extrinsic factor modulates physiological and individual sleep schedules sleep hygiene and even different chronotype. Evidence suggests evening-type individuals have a higher risk of reporting psychological distress than morning-type individuals. However, less is known regarding the underlying processes that might mediate this association among Sudanese young adults. This study aimed at assessing the mediating role of sleep hygiene on the relationship between circadian typology and psychological distress among young Sudanese adults. **METHODS:** This is a cross sectional study. Conducted among medical students, graduates and medical interns of Al-Neelain University. Between April and August 2022. Morningness–Eveningness 19 items Questionnaire (MEQ) was used to assess chronotype preference. Kessler10-item Questionnaire was used to assess Psychological Distress, and sleep hygiene index (SHI) was used to screen Sleep

hygiene behaviors. Hayes PROCESS macro (model 4) was used to perform the mediation analysis. **RESULTS:** Among 303 medical students who complete the study questionnaire. Mean of age for study participants was (22.71±2.49). Sleep hygiene index mean score was (29.35±5.46) indicating poor sleep hygiene behaviors. Most of the population were Neutral in their circadian typology preference (58.1%). (89.8%) of our population had psychological distress, Chronotype correlated with severe psychological distress and poor sleep hygiene behaviors ($r=-0.141$, $P<0.05$) ($r=-0.292$, $P<0.001$) respectively. Poor sleep hygiene behaviors also correlated with severe psychological distress ($r=0.466$, $P<0.001$). Individuals who were severely psychologically distressed mostly had higher sleep hygiene mean scores than normal individuals (29.35±5.46), (21.61±6.42) ($p<0.001$). Sleep hygiene index scores were lower for Morning circadian typologies [definite Morning 22.50± (7.00), moderate morning 24.89± (5.63)] compared to evening typologies [definite evening 32.25± (4.43), moderate evening 29.00± (6.09)]. Which indicated good sleep hygiene behaviors for Morning chronotype groups. Figure 1.0 illustrates the distribution of mean sleep hygiene index scores across circadian preference groups. Multiple regression analysis results showed that there was no significant direct effect of chronotype on psychological distress $\beta = -.0096$, $SE = .0496$, $t = -.1937$, $P = .8466$, $CI [-.1073-.0881]$. We also found a significant indirect effect of sleep chronotype on psychological Distress ($\beta = -0.113$, $SE = 0.0265$, $CI [-.1698 - -.0649]$). According to bias-corrected percentile bootstrap method the total effect was negatively significant, ($\beta = -0.123$, $SE = 0.0534$, $t = -2.30$, $p < 0.05$, $CI [-0.2280 - -0.0178]$), indicating a full complimentary mediation between evening chronotype and impaired psychological wellbeing through sleep hygiene behaviors. **CONCLUSION:** Sleep hygiene was found to mediate the correlation between eveningness and impaired psychological wellbeing, Improvement of Sleep hygiene behaviors is advised to enhance morning circadian typology as to prevent and reduce psychological distress. Interventions to enhance morning circadian typology should be prioritized to medical students, graduates and medical interns who are prone to eveningness to minimize the risk for psychological distress.

Figure. Sleep Hygiene Index Score Mean Distribution Across Different Circadian Preference.



Key words: Physiological Stress; Quality; Sleep; Psychological Wellness; Medical Students (Source: MeSH-NLM).