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Letter to the Editor

Sleep deprivation should not be attributed solely to cigarette smoking

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We were interested to read the article by Al-Salabani et al. on a random-effects meta-analysis of the association between cigarette smoking and sleep deprivation in 21105 adolescents aged 11 to 18 years from five Gulf Cooperation Countries (GCC) [1]. Overall, 17.9% of the adolescents included reported sleep deprivation, and adolescents who smoked cigarettes were 75% more likely to be sleep deprived than non-smokers [1]. It was concluded that there is a positive association between sleep deprivation and cigarette smoking among adolescents in GCC countries [1]. The study is noteworthy, but some points require further discussion.

The first point is that sleep deprivation was assessed with a single question ("In the last 12 months, how often were you so worried about something that you couldn't sleep at night?" [1]. Subjective ratings are questionable to assess sleep quality [2]. Although subjective sleep assessments using questionnaires or sleep diaries can provide valuable insights into a person's sleep experience, they are not always a reliable substitute for objective measures such as polysomnography [2]. In how many of the people who reported poor sleep quality was the lack of sleep objectified by polysomnography? Even if a questionnaire was used, a single question is not sufficient to assess sleep quality.

The second point is that sleep quality may not only depend on whether someone smokes or not, but on several additional factors. In general, the factors influencing sleep quality can be divided into endogenous and exogenous factors. Endogenous factors include personality type, individual worry load, acute and chronic stress levels (balance between sympathetic and parasympathetic nervous system), ability to cope with exogenous or endogenous stressors, genetic background, comorbidities and lifestyle structure (e.g. sleeping habits (going to bed at a certain time, turning off lights, TV, headphones, radio, cell phone, iPad and bedroom light, and removing and turning off all devices that generate electro smog)). Exogenous determinants include noise, light, vibration, drafts, insects, pets, children, partners, electro smog, cell phone towers, relationships with neighbours, socioeconomic status, time of last meal or fluid intake, concomitant medication, use of alcohol, adrenergic stimulants or illicit drugs, and local and geopolitical stress [3]. These factors need to be included in a regression analysis to determine which parameters actually influence sleep quality in smokers.

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Third, the effect of cigarette smoking on sleep was assessed only by the question "On how many days in the last 30 days have you smoked cigarettes?" [1]. To relate nicotine dose to sleep quality, it is also important to know the number of cigarettes and the type of cigarettes. Different brands of cigarettes may contain different amounts of tobacco. It is also important to know how many of the adolescents involved inhaled the smoke and how many only puffed.

Before attributing sleep deprivation solely to the amount of tobacco consumed, other factors that additionally influence sleep need to be included in a regression analysis to determine their effects on sleep quality in adolescent smokers.

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References

[1] A. H. Al-Zalabani. The association between cigarette smoking and sleep deprivation among adolescents in gulf cooperation council countries: analysis of national surveys. *Neurosciences (Riyadh)*, 30(2):117–123, April 2025. doi:10.17712/nsj.2025.2.20240101.

[2] M. Masaki, S. Tsumoto, A. Tani, M. Tominaga, J. Seol, S. Chiba, K. Miyanishi, K. Nishida, F. Kawana, T. Amemiya, T. Hiei, T. Kanbayashi, and M. Yanagisawa. Discrepancies between subjective and objective sleep assessments revealed by in-home electroencephalography during real-world sleep. *Proc Natl Acad Sci U S A*, 122(3), January 2025. doi:10.1073/pnas.2412895121. Article e2412895121.

[3] H. W. Gordon. Differential effects of addictive drugs on sleep and sleep stages. j addict res (opast group). doi:10.33140/JAR.03.02.01., 2019;3(2):10.33140/JAR.03.02.01.