

In Adolescents how Physical Activity and Diet Impact Sleep

Study reviews the impact of [physical activity](#) (PA) and diet on the duration and quality of sleep among adolescents.



Study

The current study reviewed published studies examining the association between [diet](#) and PA with the duration and quality of sleep in adolescents by searching several databases including PubMed, Scopus, Web of Science, and ERIC.

All reviewed studies evaluated PA and/or diet along with [sleep](#), included a sample comprising adolescents between 11 and 18 years of age without health pathologies or alterations, used a quantitative research design, and were published in English or Spanish.

Studies that did not analyze the association between PA, diet, or both with sleep, focused only during the [coronavirus disease 2019](#) (COVID-19) lockdown period, included systematic reviews and meta-analyses, were published prior to 2013, had incomplete text available, did not study the effects of PA or diet on sleep, or conducted an intervention were excluded from the analyses.

Results

Higher levels of PA were associated with better sleep duration and quality, as well as an earlier bedtime. For both males and females, higher moderate-to-vigorous physical activity (MVPA) was associated with increased [sleep efficiency](#) (SE).

The prevalence of insomnia was lower among boys with higher levels of PA, whereas this association was non-linear among girls. For some individuals, intense PA before bedtime interfered with [sleep quality](#), which may be due to higher levels of circulating cortisol.

Several studies reported that sleep quality can be influenced by food choices and meal regularity. Sweets, spicy foods, and nutrient-poor foods were associated with poor sleep quality, whereas a diet rich in milk, fruits, vegetables, and [low-energy foods](#) was associated with a longer sleep duration.

The relationship between diet and sleep quality could be influenced by several factors including gender, PA, and [screen time](#). Late dinner and bedtimes were also associated with poor sleep quality. More frequent consumption of salty biscuits, late dinner and bedtime habits, and less

frequent strength training exercises was associated with shorter duration of sleep and poor sleep quality.

Importantly, the studies included in the current analysis examined the association of diet and PA with sleep duration and quality in [isolation](#). Therefore, additional research is needed to study the potential additive effect of PA and diet on sleep.

Conclusion

The study findings suggest that PA influences sleep quality and duration; however, additional research is needed, including studies that examine the sex-dependent relationship between [insomnia](#) and intensity of PA.

Dietary patterns can also significantly impact sleep. Specifically, a balanced diet low in [ultra-processed foods](#) and rich in fruits and vegetables is associated with longer sleep duration and better sleep quality.

Taken together, these results can be used to inform [future policies](#) to ultimately enhance adolescents' quality of life through PA and/or diet and sleep.

Source:

<https://www.news-medical.net/news/20241004/How-physical-activity-and-diet-impact-sleep-in-adolescents.aspx>