

Sleep Patterns and Perceived Cancer Risk Awareness Among Undergraduate Medical and Dental Students in Pakistan

A Multi-Center Analytical Cross-Sectional Study • LUMHS, Jamshoro, Pakistan

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BACKGROUND & OBJECTIVE

Sleep disruption may affect cancer-related biological pathways through circadian disruption, melatonin changes, inflammation and immune surveillance.

Medical and dental students face demanding academic schedules and may experience short sleep and poor sleep hygiene.

Cancer-risk perception may influence preventive behaviors; the sleep–awareness relationship in young adults remains understudied.

OBJECTIVE
Evaluate the association between sleep patterns and perceived cancer-risk awareness among undergraduate medical and dental students in Pakistan.

METHODOLOGY

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DESIGN
Analytical cross-sectional study across public & private medical universities in Pakistan.
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PARTICIPANTS
451 MBBS & BDS students, aged 18–30 years, from 6 institutions.
- 03

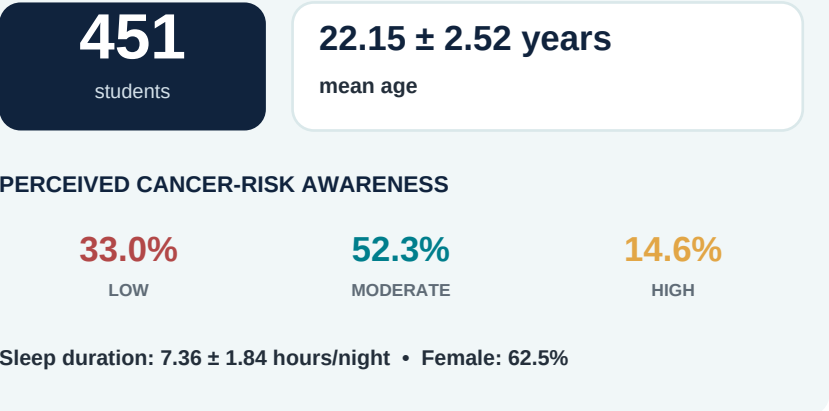
INSTRUMENTS
PSQI + structured cancer-risk-awareness questionnaire via Google Forms.
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ELIGIBILITY
Consent and English literacy required; prespecified exclusions for cancer history, chronic disease, diagnosed sleep disorders, pregnancy/lactation and incomplete responses.
- 05

ANALYSIS
Descriptive statistics, Chi-square, independent t-test, ANOVA and multivariable regression using SPSS.
- 06

SIGNIFICANCE
p < 0.05 considered statistically significant.

RESULTS AT A GLANCE



KEY ASSOCIATIONS



DEMOGRAPHIC & LIFESTYLE FINDINGS

Gender	χ^2 22.00	p < 0.001
Academic program (MBBS vs BDS)	χ^2 9.37	p = 0.009
Year of study	χ^2 30.85	p < 0.001
Socioeconomic status	χ^2 69.05	p < 0.001
Smoking-risk knowledge	χ^2 92.82	p < 0.001
Physical activity level	χ^2 23.34	p = 0.001

WHAT THE FINDINGS SUGGEST

Poorer sleep quality, shorter sleep duration and greater sleep disturbance were associated with lower perceived cancer-risk awareness. Cross-sectional data cannot establish direction or causality.

DISCUSSION & IMPLICATIONS

The findings are biologically plausible in the context of circadian disruption, melatonin changes and inflammation.

Medical/dental students have high health literacy but demanding schedules, highlighting sleep as a potentially relevant factor.

Public-health campaigns could integrate sleep-health messaging into youth-focused cancer-prevention education.

Sleep health may be considered alongside broader lifestyle and cancer-awareness strategies.

CONCLUSION & RECOMMENDATIONS

Sleep health belongs in cancer-awareness strategy. • Embed sleep-health messaging in youth cancer-prevention campaigns. • Integrate sleep health into curriculum wellness interventions. • Encourage policy approaches linking sleep health with cancer prevention.

LIMITATIONS & FUTURE DIRECTIONS

• Cross-sectional design establishes association, not causality. • Reverse causality is plausible. • Self-reported measures may introduce recall/social-desirability bias. • Sample limited to medical/dental students. Future: longitudinal/interventional studies should test directionality and preventive-behavior effects.

ETHICS & SELECTED REFERENCES

LUMHS REC approval: LUMHS/REC/-1580 (16 Apr 2026), per Declaration of Helsinki. Written informed consent obtained. No competing interests; no external funding. Irwin MR (2019) • Chen Y et al. (2018) • Reiter R et al. (2017) • Kyle RG et al. (2012) Full reference list (24 sources) in accompanying manuscript.