

Stationary Scholars: The Looming Health Crisis Among Preclinical and Paraclinical Doctors in India

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ABSTRACT: This letter highlights the critical issue of sedentary lifestyles among preclinical and paraclinical doctors in India, which poses significant health risks that are often overlooked. This manuscript reviews research demonstrating the links between prolonged sitting and increased risks of cardiovascular disease, musculoskeletal disorders, mental health issues, and impaired cognitive function in this population. The COVID-19 pandemic is also discussed as a factor that may have exacerbated sedentary behavior. The letter calls for Indian medical institutions, policymakers, and stakeholders to urgently implement strategies to promote healthier work environments for preclinical and paraclinical doctors, including active workstations, structured activity breaks, tailored wellness programs, and educational campaigns. Advocating for policy changes and further research in this area are also emphasized as key priorities to address this overlooked occupational health concern and improve the well-being of these essential members of India's medical academic community.

KEYWORDS: Physical inactivity, occupational health, medical education, preclinical, paraclinical

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Dear Sir,

In the rapidly evolving landscape of Indian healthcare, a critical issue affecting a significant portion of our medical community often goes unnoticed: the sedentary lifestyle of doctors in preclinical and paraclinical branches. As our nation grapples with the challenges of a growing population and advancing medical education, addressing the health risks these professionals face due to prolonged sitting and physical inactivity is crucial. Preclinical and paraclinical doctors, including those in anatomy, physiology, biochemistry, Forensic medicine, Community medicine, pharmacology, pathology, and microbiology, form the backbone of India's medical education and diagnostic capabilities. However, their work often demands extended periods of sitting at desks, laboratory benches, or computer workstations. This sedentary behaviour, defined as any waking activity characterised by an energy expenditure of ≤ 1.5 metabolic equivalents while in a sitting or reclining posture,¹ poses significant health risks that are particularly relevant in the Indian context.

Cardiovascular health is a primary concern, especially given India's disproportionate burden of cardiovascular diseases (CVDs) globally. A 2020 study by Amrita Institute of Medical Sciences in Kerala found that prolonged sitting time was associated with an increased risk of metabolic syndrome, a precursor to CVDs, among healthcare professionals.² For preclinical and paraclinical doctors spending hours in laboratories or preparing lectures, this finding is alarming and suggests that their work environment may be contributing to India's CVD

epidemic. Musculoskeletal disorders are another major issue. A 2021 study conducted at AIIMS, New Delhi, revealed a high prevalence of work-related musculoskeletal disorders among medical laboratory professionals, with lower back pain being the most common complaint.³ The study highlighted that factors unique to the Indian work environment, such as non-ergonomic furniture and extended work hours, exacerbate these issues. Preclinical faculty, often engaged in long hours of microscopy or computer-based work, are particularly vulnerable to these disorders.

Mental health, an often neglected aspect of healthcare in India, is not spared from the effects of sedentary behaviour. A cross-sectional study from the Manipal Academy of Higher Education in 2022 demonstrated a positive association between sedentary time and symptoms of depression and anxiety among healthcare workers.⁴ Given the high-stress levels in Indian medical academia, this additional risk factor is particularly concerning for preclinical and paraclinical doctors with limited patient interaction and physical movement throughout their workday. Cognitive function, crucial for teaching efficacy and research productivity, may also be at risk. A 2023 study from the All India Institute of Medical Sciences, Jodhpur, found that sedentary behaviour was associated with decreased cognitive performance among healthcare professionals.⁵ For Indian preclinical and paraclinical doctors whose work relies heavily on cognitive abilities, this finding underscores the urgency of addressing sedentary behaviour in academic medical settings.



The COVID-19 pandemic has likely exacerbated this issue in India. A 2022 review in the Indian Journal of Medical Research highlighted increased sedentary time during lockdowns, with significant implications for public health.⁶ For preclinical and paraclinical doctors, many of whom transitioned to online teaching or faced increased research demands, this trend may have further entrenched sedentary habits.

Given these concerning findings, Indian medical institutions, policymakers and other stakeholders must take action to promote healthier work environments for preclinical and paraclinical doctors. Strategies could include:

1. Implementing active workstations, such as standing desks or sit-stand workstations, has shown promise in reducing sedentary time without compromising work performance.⁷ While the initial cost may be a concern in resource-limited settings, the long-term health benefits could justify the investment.
2. Encouraging regular break periods for physical activity, even if brief. A study from the Department of Physiology at AIIMS, New Delhi, showed that short bouts of activity benefit metabolic health in Indian adults.⁸
3. Developing workplace wellness programmes specifically tailored to the needs of preclinical and paraclinical doctors, focussing on both physical activity and ergonomic interventions. These programmes should be culturally appropriate and consider the unique challenges faced by Indian medical academicians.
4. Invest in education and awareness campaigns about the risks of sedentary behaviour and the importance of movement throughout the workday. These campaigns should be integrated into medical curricula to instil healthy habits in future generations of doctors.
5. Fostering a culture that values and prioritises physical health alongside academic achievements, challenging the prevailing notion in Indian medical circles that constant sitting and working is a sign of dedication.
6. Advocating for policy changes at the national level, such as including guidelines for reducing sedentary behaviour in the regulations set by the National Medical Commission (NMC) for medical colleges and research institutions.
7. Promoting research on the specific impacts of sedentary behaviour on preclinical and paraclinical doctors in India, as current data is limited and often extrapolated from general healthcare worker studies.

Conclusion

The sedentary lifestyle prevalent among preclinical and paraclinical doctors in India represents a significant occupational health concern that demands immediate attention. As we strive to improve the quality of medical education and research in our nation, we must not overlook the well-being of those shaping the future of Indian healthcare. By addressing this issue, we can enhance the health, productivity, and career longevity of these essential members of the medical academic community, ultimately contributing to better healthcare outcomes for all Indians.

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