

"Prevalence and Care-Seeking Cascade of Low Back Pain Among Undergraduate Students"

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ABSTRACT:

Background: Low back pain (LBP) is a common musculoskeletal complaint among young adults, particularly undergraduate students. Factors such as prolonged sitting, excessive smartphone use, poor posture, physical inactivity, and sedentary lifestyles may contribute to its occurrence. This study aimed to determine the prevalence of low back pain and examine the care-seeking cascade among undergraduate students.

Methods: A cross-sectional survey was conducted among 540 undergraduate students using a structured questionnaire. Data regarding the occurrence of low back pain, healthcare-seeking behaviour, barriers to seeking care, and treatment adherence were collected and analysed.

Results: Among the 540 participants, **363** reported experiencing low back pain, resulting in a prevalence of **67.2%**. Of those experiencing low back pain, **177 students [48.8%]** sought professional healthcare services, including consultations with medical practitioners and physiotherapists. Among those who sought professional care, **38 students [7.04%]** completed the recommended treatment and reported improvement in their symptoms. When considered across the entire group of students with low back pain, treatment completion was observed in only **10.47%** of affected individuals. The major barriers to seeking professional care included lack of time, underestimation of pain severity, ignoring symptoms, and financial constraints.

Conclusion: Low back pain is highly prevalent among undergraduate students and represents a significant public health concern. The observed care-seeking cascade highlights important gaps in healthcare utilization, with many affected students failing to seek timely professional care or complete treatment. Interventions such as health education programs, ergonomic awareness initiatives, and improved access to physiotherapy and healthcare services within educational institutions may promote early care-seeking behaviour and reduce the burden of low back pain among students.

Keywords:

Low back pain; Undergraduate students; Care-seeking behaviour; Healthcare utilization; Physiotherapy; Musculoskeletal disorders.

INTRODUCTION:

Low back pain (LBP) is one of the most common musculoskeletal disorders worldwide and a leading cause of disability across all age groups. Although traditionally considered a problem affecting older adults and working populations, recent evidence suggests that low back pain is increasingly prevalent among adolescents and young adults, including undergraduate students. The condition can adversely affect physical health, academic performance, daily activities, and overall quality of life.

Undergraduate students are particularly vulnerable to developing low back pain due to various lifestyle and academic factors. Prolonged sitting during lectures and study sessions, excessive use of computers and smartphones, poor posture, inadequate physical activity, and academic stress have been identified as potential contributors to the development of musculoskeletal discomfort. The growing dependence on digital devices and sedentary behaviours among students has further increased the risk of low back pain in this population.

Despite the high prevalence of low back pain, healthcare-seeking behaviour among students remains suboptimal. Many individuals tend to ignore symptoms, self-medicate, or rely on informal sources of advice rather than seeking professional healthcare. Delayed or inadequate management of low back pain may lead to persistent symptoms, reduced productivity, and a greater risk of chronic musculoskeletal problems. Understanding how students respond to symptoms and utilize healthcare services is therefore essential for designing effective preventive and management strategies.

The concept of a care-seeking cascade provides a useful framework for examining the progression from symptom experience to healthcare utilization. It illustrates the proportion of individuals who recognize their symptoms, seek care, consult healthcare professionals, receive treatment, and achieve symptom improvement. Identifying losses at different stages of this cascade can help highlight barriers to healthcare access and opportunities for intervention.

Although several studies have reported the prevalence of low back pain among university students, limited research has explored the complete care-seeking cascade associated with the condition, particularly among undergraduate students in India. A better understanding of both the burden of low back pain and patterns of healthcare utilization is necessary to inform student health programs and promote early intervention.

Therefore, the present study aimed to determine the prevalence of low back pain and assess the care-seeking cascade among undergraduate students.

MATERIALS AND METHODS:

Study Design and Setting:

A cross-sectional observational study was conducted among undergraduate students enrolled in various academic programs at a selected college/university. The study was carried out over a period of three months, from January 2026 to March 2026.

Study Population:

The study population consisted of undergraduate students aged 18–25 years who were currently enrolled in the institution during the study period.

Inclusion Criteria:

- Undergraduate students aged 18–25 years.
- Students willing to participate in the study.
- Students who provided informed consent.

Exclusion Criteria:

- Students with a history of spinal surgery.
- Students diagnosed with congenital spinal deformities.
- Students with traumatic injuries to the spine within the previous six months.
- Students with known neurological disorders affecting the musculoskeletal system.

Sampling Technique:

- A convenience sampling method was used to recruit undergraduate students.

Sample Size:

- A total of 540 undergraduate students participated in the study.

Data Collection Tool:

Data were collected using a structured self-administered questionnaire developed after reviewing relevant literature. The questionnaire consisted of four sections:

1. Sociodemographic Information

- Age
- Gender
- Academic year
- Course of study

2. Lifestyle and Risk Factors

- Daily sitting duration
- Screen time
- Physical activity level
- Exercise habits

3. Low Back Pain Assessment

- Presence of low back pain during the previous 12 months
- Duration and frequency of symptoms
- Pain intensity

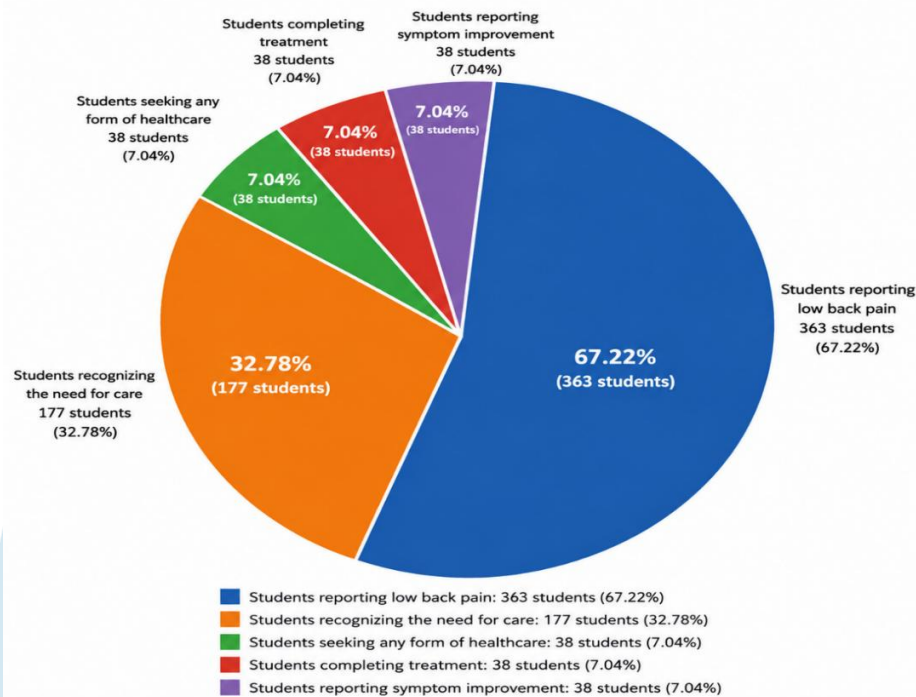
4. Care-Seeking Behaviour

- Recognition of symptoms as a health problem
- Healthcare consultation
- Type of healthcare provider consulted
- Treatment received
- Treatment completion
- Perceived improvement in symptoms

STATISTICAL ANALYSIS:

Data were entered into Microsoft Excel and analysed using descriptive statistics. Frequencies and percentages were calculated for all categorical variables. The prevalence of low back pain was expressed as a percentage of the total study population. The care-seeking cascade was summarized using frequencies, percentages, and graphical representations to illustrate attrition across successive stages of healthcare utilization.

Care-Seeking Cascade for Low Back Pain Among Undergraduate Students (N = 540)



CARE-SEEKING CASCADE :

The care-seeking cascade was assessed through the following sequential stages:

1. Students reporting low back pain.
2. Students recognizing the need for care.
3. Students seeking any form of healthcare.
4. Students consulting a healthcare professional.
5. Students receiving treatment.
6. Students completing treatment.
7. Students reporting symptom improvement.

The questionnaire was distributed electronically through Google Forms. Participation was voluntary, and informed consent was obtained before data collection. Responses were collected anonymously to ensure confidentiality.

Ethical Considerations:

Ethical approval for the study was obtained from the Institutional Ethics Committee of [College Name] before commencement of data collection. Participation was voluntary, and all participants provided informed consent. Confidentiality and anonymity of the collected data were maintained throughout the study.

RESULTS:

Prevalence of Low Back Pain

A total of 540 undergraduate students participated in the study. Among them, 363 students reported experiencing low back pain, yielding a prevalence of 67.2%.

Care-Seeking Cascade

Among the 363 students with low back pain, 177 (48.8%) recognized their symptoms as requiring professional attention. However, a marked reduction was observed in subsequent stages of the care-seeking pathway. Only 38 students (10.5%) completed treatment and reported symptom improvement.

TABLE 1. Care-Seeking Cascade Among Students with Low Back Pain (n = 363)

CASCADE STAGE	NUMBER	PERCENTAGE [%]
Reported Low back pain	363	100%
Recognised need of care	177	48.8%
Sought healthcare	177	48.8%
Completed treatment	38	10.5%
Reported symptom improvement	38	10.5%

TABLE 2. Demographic Characteristics of Participants (N = 540)

<u>VARIABLE</u>	<u>NUMBER [N]</u>	<u>PERCENTAGE [%]</u>
<u>GENDER</u>		
MALE	245	45.4%
FEMALE	295	54.6%
<u>AGE GROUP</u>		
18-20	320	59.3%
21-25	220	40.7%
<u>TOTAL</u>	540	100%

Key Observation

The largest decline occurred between **recognition of symptoms and treatment completion**, suggesting significant barriers to continued healthcare engagement. Although nearly half of the affected students acknowledged the need for care, only about one in ten completed treatments.

DISCUSSION

The present study revealed a high prevalence of low back pain among undergraduate students, with more than two-thirds of participants reporting symptoms. This finding reinforces growing concerns regarding musculoskeletal health among young adults and highlights the impact of increasingly sedentary academic lifestyles.

Several factors may contribute to the elevated prevalence observed in this study. Undergraduate students often spend prolonged periods sitting during lectures, studying, and using electronic devices. In addition, poor ergonomic practices, reduced physical activity, and academic stress may further increase susceptibility to low back pain. These findings support the notion that low back pain is no longer confined to older adults but has become a significant health concern among younger populations.

A notable finding of this study was the substantial attrition observed across the care-seeking cascade. While nearly half of the students experiencing low back pain recognized the need for professional care, only a small proportion completed treatment. This pattern suggests that awareness alone may not be sufficient to ensure appropriate healthcare utilization.

Several explanations may account for this gap. Students may perceive low back pain as a temporary or minor condition that does not warrant professional consultation. Time constraints related to academic commitments, financial concerns, lack of awareness regarding available treatment options, and limited access to healthcare services may also discourage treatment completion. Consequently, many students may rely on self-management strategies or tolerate symptoms without seeking formal care.

The findings of this study have important implications for student health services. Educational institutions should prioritize musculoskeletal health promotion through awareness campaigns, ergonomic education, physical activity initiatives, and accessible physiotherapy services. Early identification and intervention may help prevent progression to chronic pain and reduce the associated impact on academic performance and quality of life.

Strengths and Limitations

A key strength of this study is the use of a care-seeking cascade framework, which provides a comprehensive understanding of healthcare utilization beyond prevalence estimates alone. However, the study is limited by its cross-sectional design and reliance on self-reported data, which may be subject to recall bias. Future longitudinal studies are recommended to explore causal relationships and identify barriers influencing healthcare-seeking behaviour among students.

CONCLUSION:

This study demonstrated a high prevalence of low back pain among undergraduate students and revealed substantial attrition across the care-seeking cascade. Although many students experienced low back pain and a considerable proportion recognized the need for care, only a small percentage completed treatment and reported symptom improvement. These findings highlight important gaps in healthcare utilization and suggest that barriers to accessing and continuing care remain significant among undergraduate students. Educational institutions should promote musculoskeletal health awareness, ergonomic practices, physical activity, and accessible physiotherapy services to encourage timely care-seeking and improve health outcomes. Further research is needed to identify factors influencing healthcare-seeking behaviour and develop targeted interventions aimed at reducing the burden of low back pain in this population.

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