



Research Article

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Prevalence of Posture Problems among Medical Students and Its Impact on Their Daily Lives

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Abstract

Background: Medical students engage in a large amount of sedentary activity, which has been associated to poor mental health outcomes. Poor postural patterns caused by a rise in this activity, combined with prolonged cell phone use, can contribute to poor posture in these young groups.

Objective: The purpose of this study is to determine how medical college students perceive their posture, the prevalence of pain patterns, psychological status, and their awareness of potential management choices.

Methods: A convenience sampling technique was used to conduct a cross-sectional survey of medical students at Mirpur University of Science and Technology's Physiotherapy Department in Mirpur, AJK. A questionnaire known as Q-BAPHYP (Questionnaire on Body Awareness and Postural Habits of Young People) was used.

Results: The study revealed that a significant percentage of participants exhibited suboptimal body postures in different environments, such as the classroom and home. These included sitting with a forward tilt, twisted upper body, and slipping buttocks. These findings highlight the importance of promoting better body posture habits.

Conclusion: The study discovered a high frequency of posture-related problems affecting daily functions. Future studies should assess severity using validated criteria and focus on offering education and rehabilitation programs to relieve pain and dysfunction. Implementing interventions and raising awareness can help to improve posture and general well-being.

Keywords: Posture, Musculoskeletal system, Lower back pain.

Introduction

It has been found that college students participate in considerable quantities of sedentary behavior regardless of geographical location, in the form of class, study, and leisure activities [1]. Sedentary behavior is described as having a metabolic equivalent (MET) of less than 1.5 while in a relaxed position, such as sitting [2]. Long periods of sedentary activity have been linked to negative psychological states like despair and anxiety, as well as alterations in musculoskeletal function [3]. As the number of hybrid and distant learning environments has grown, college students may be more vulnerable to maintaining poor body positions, which can contribute to unpleasant psychological states and chronic alterations in individual posture and musculoskeletal function [1].

According to the American College Health Association, a considerable proportion of college students experience mental health issues, with 27.4% diagnosed with anxiety and 21.7% with depression [4]. Independent studies back up these findings, revealing that 20% to 36% of college-aged students had mental health concerns, with more than half reporting poor sleep habits, sleeping less than the required 8 hours each night [5-7]. Given these data, it is critical to provide targeted mental health interventions for this population. Physical activity is one of the most commonly recommended successful measures identified in study [8, 9].

Nonverbal communication research repeatedly demonstrates a substantial relationship between posture and critical health indicators such as pain levels, quality of life, and mental well-being, including mood and confidence. Forward head posture (FHP) is a common postural condition caused by abnormalities in the neck and upper shoulder muscles. FHP, which is distinguished by a forward protrusion of the head, affects the cervical spine and is thought to impact a considerable proportion of college students, ranging from 63% to 67%. This postural imbalance, exacerbated by prolonged screen time, particularly mobile phone use, is known colloquially as 'text neck' [1, 10, 11].

The mechanical strain on the neck caused by using a mobile phone at an average Cranio Vertebral Angle (CVA) of 33 to 45 degrees might cause pain and dysfunction. Complications from Forward Head Posture (FHP) include headaches, thoracic outlet syndrome, temporomandibular joint dysfunction syndrome, and persistent neck pain. Since neck discomfort affects both adults and late teens, it is

imperative to treat this issue as it is a major contributor to disability worldwide [1, 12, 13].

The study sought to investigate the incidence of postural issues among medical students and their impact on their daily life. The data gathered from participants provided useful insights into several facets of posture and their respective percentages.

Methods

The study was conducted entirely on the campus of Mirpur University of Science and Technology, ensuring easy access for all participants. The study used convenience sampling, a non-probability sample technique chosen for its practicality and availability of access to participants. The study involved 100 medical students from Mirpur University of Science and Technology. Their participation provided vital insights into how this particular population perceives their postural patterns.

The aim of the research was to evaluate how young people perceived themselves in relation to their posture in different environments. These contexts, or dimensions, included the classroom setting, at-home pastimes (such as using a computer or watching TV), resting positions, motions made while doing chores like carrying bags and picking up objects, and the ways in which teachers disciplined their students.

A questionnaire known as Q-BAPHYP (Questionnaire on Body Awareness and Postural Habits of Young People) was used [14]. The questionnaire had 35 closed-ended questions (Likert items) with response possibilities ranging from 1 (Never) to 5 (I don't know/remember). It was divided into four categories: classroom posture (11 questions), home posture (17 questions), object-handling postures (4 questions), and teacher behavior assessment (3 questions). Participants took an average of seven minutes to complete the questionnaire. Each evaluator assigned a score from 1 to 5, reflecting their level of agreement or disagreement with the questionnaire items. Evaluators were given additional resources such as study objectives, questionnaire aims, literature references, a worksheet for comments and ideas, and a questionnaire to assess the instrument as a whole.

This study's data was analyzed using the Statistical Package for Social Sciences (SPSS) version 20.0. SPSS was chosen as the analytical tool because of its robust ability to handle statistical data and provide useful insights from it. The hospital affiliated with Mirpur University of Science and Technology, DHQ Hospital Mirpur AJK, Pakistan, granted ethical approval for the study, assuring that it followed all relevant ethical rules and standards. This permission demonstrated the commitment to conducting the research in a responsible and

ethical manner, protecting the rights and well-being of the study's participants.

Results

The study included 100 medical students from Mirpur University of Science and Technology, Mirpur AJK. The participants' characteristics are as follows. 26% were aged 18 to 20, 55% were aged 21 to 23, and 19% were aged 24-26. In terms of gender, 31% of participants were men and 69% were women. Furthermore, 41% of the participants lived in Mirpur, AJK, with 59% staying in hostels (Table 1).

Prominent findings emerged from a study on the incidence of postural issues among medical students and how it affects their daily lives. Numerous facets of posture and the corresponding percentages were emphasized by the data gathered from medical students. The characteristics and percentages of body posture assessment in various contexts are as follows: In the classroom, 60% of participants reported sitting with their back properly supported by the backrest, whereas 66% reported sitting with their torso inclined forward. Furthermore, 75% reported sitting with their upper body twisted (torso torsion), and 73% sat with their buttocks sagging forward. Furthermore, 65% reported sitting with their buttocks adequately supported and not tilting forward, while 61% sat with both feet firmly on the floor. In comparison, 78% reported sitting with their feet unsupported and 61% sat cross-legged. In terms of standing, 44% reported equal support on both legs, whereas 75% favored more support on one leg. Furthermore, 77% reported lying down on their stomach, 50% on their side, and 59% on their back. In terms of bodily motions, 62% reported performing joint movements and stretching exercises. In terms of body posture at home, 57% of participants said they sat with their back adequately supported on the backrest, while 64% said they sat with their body inclined forward. Furthermore, 72% claimed they sat with their upper body twisted (torso torsion), and 69% indicated their buttocks slid forward. Furthermore, 67% reported sitting with their buttocks properly supported without leaning forward, and 64% sat with both feet firmly on the floor. In contrast, 76% reported sitting with their feet unsupported, while 58% sat cross-legged. Standing, 47% reported equal support on both legs, whereas 77% preferred more support on one leg. Furthermore, 59% reported moving their bodies, while 62% stated lying down on their stomach, 53% on their side, and 79% on their back. Participants also discussed their habits when viewing TV or using the computer in various postures at home. When it came to transporting objects, 58% of participants reported carrying their bag on one shoulder, whereas 73% reported carrying

Table 1: Demographic Characteristics of the Participants.

Characteristics	Frequency % (n=100)
Age	
18-20 years	26%
21-23 years	55%
24-26 years	19%
Gender	
Male	31%
Female	69%
Residence:	
Mirpur AJK	41%
Hostilities	59%

Table 2: Posture Problem Prevalence and Implications: Medical Student Study Results.

Characteristics	Percentage	Mean	Standard Deviation
With respect to body posture in the CLASSROOM:			
Sit with your Back well supported on the back rest	60%	1.57	0.742
Sit with your body tilted forward	66%	1.35	0.716
Sit with your upper body twisted (torso torsion)	75%	0.98	0.864
Sit with your buttocks slipping forward	73%	1.06	0.851
Sitting with your buttocks well supported without tilting forward	65%	1.39	0.764
Sit with both feet firmly on floor	61%	1.55	0.821
Sit with your feet unsupported	78%	0.86	0.711
Sit cross-legged	61%	1.54	0.979
Stand with equal support on both legs	44%	2.21	0.756
Stand with more support on one leg	75%	0.98	0.841
Lie down on your stomach	77%	0.91	1.016
Lie down on your side	50%	1.99	0.732
Lie down on your back	59%	1.64	0.835
Carry out body movements (e.g. Joint movements, stretching etc.)	62%	1.51	0.948
With respect to Body Posture at HOME:			
Sit with your Back well supported on the back rest	57%	1.71	0.795
Sit with your body tilted forward	64%	1.42	0.785
Sit with your upper body twisted (torso torsion)	72%	1.12	0.956
Sit with your buttocks slipping forward	69%	1.24	1.016
Sitting with your buttocks well supported without tilting forward	67%	1.31	0.748
Sit with both feet firmly on floor	64%	1.51	1.185
Sit with your feet unsupported	76%	0.96	0.790
Sit cross-legged	58%	1.68	0.973
Stand with equal support on both legs	47%	2.12	0.715
Stand with more support on one leg	77%	0.92	0.895
Carry out body movements	59%	1.63	1.060
Lie down on your stomach	62%	0.82	0.957
Lie down on your side	53%	1.87	0.800
Lie down on your back	79%	1.52	0.772
Watch TV or computer sitting down with your back well supported on back rest	63%	1.45	0.936
Watch TV or use of computer lying down	63%	1.48	0.969
Watch TV sitting down with back curved and buttocks slipping forward	73%	1.07	0.977
With respect to CARRYING OBJECTS:			
Carry your bag on one shoulder	58%	1.55	1.009
Carry your bag on both shoulders	73%	1.06	0.983
Bend knee to pick up an object from the floor	63%	1.48	0.745
Bend back to pick up an object from the floor	57%	1.71	0.913
In the classroom, do most of the TEACHERS:			
Ask the students to sit down and remain silent	61%	1.55	0.821
Allow the students movements	58%	1.69	0.849
Encourage the students to carry out movements during the class	61%	1.56	0.998

it on both shoulders. Furthermore, 63% reported bending their knee to pick up an object from the floor, while 57% reported bending their back to do so (Table 2).

According to the report, 61% of teachers encourage pupils to sit down and keep silent in the classroom, while 58% allow them to walk around. Furthermore, 61% of professors encourage pupils to roam around throughout class, creating an environment that fosters physical exercise and flexibility. These findings provide important insights into young people's body posture patterns in a variety of settings, including the classroom, the home, and while carrying goods. Understanding these patterns can help to promote healthier postural habits and raise awareness about the need of keeping correct body posture.

Discussion

Maintaining good posture is essential for preserving musculoskeletal health and general wellbeing. Recent research has highlighted the growing concern regarding the incidence of postural disorders among medical students, emphasizing the necessity for interventions to encourage healthy postural practices. The results revealed that a significant percentage of participants exhibited suboptimal body postures in different environments, such as the classroom and home. These findings emphasize the importance of promoting better body posture habits.

The negative impact of extended sitting and improper posture on musculoskeletal health has been highlighted by a number of

research. Inadequate back support during prolonged sitting can cause misalignment of the spine, imbalances in the muscles, and a higher risk of chronic back pain in people, particularly in students who spend a lot of time studying or in class. Additionally, it was found in multiple studies that college students had a significant prevalence of postural problems, such as rounded shoulders and forward head posture, which highlights the need for focused interventions to address these difficulties [14, 15].

Previous researches show a high prevalence of postural issues among medical students, highlighting a pressing issue that has to be addressed. The high prevalence of postural difficulties among university students, particularly medical students, emphasizes the significance of addressing musculoskeletal abnormalities early on to avoid potential long-term health implications. The data, which show scapula-pelvic asymmetry in 97% of students and cervical hyperlordosis in 85.7% of students, indicate a broad prevalence of postural misalignments that can impair the stability and function of the spine and surrounding tissues. Furthermore, the high prevalence of forward torso (74.2%), lumbar hyperlordosis (65.7%), and a proclivity for scoliosis (100%) among university students indicates a significant risk of developing spinal abnormalities and musculoskeletal imbalances. These findings highlight the importance of taking proactive efforts to achieve good body alignment and develop postural muscles in order to reduce spinal strain and avoid further postural degeneration. Furthermore, the predominance of forward head position (85.5%) and rounded shoulder posture (68.8%) among participants highlights how current lifestyle patterns, such as prolonged sitting and excessive screen time, affect postural habits. If these postural errors are not treated, they can cause muscular imbalances, joint stiffness, and an increased risk of musculoskeletal injury. The occurrence of scoliosis in 18.8% of participants and hyperlordosis in 17.3% demonstrates the range of postural disorders seen among medical students. These diseases can have an impact not just on physical health but also on psychological well-being and quality of life, since people may suffer pain, discomfort, and self-image concerns as a result of their posture problems. The occurrence of scoliosis in 18.8% of participants and hyperlordosis in 17.3% demonstrates the range of postural disorders seen among medical students. These diseases can have an impact not just on physical health but also on psychological well-being and quality of life, since people may suffer pain, discomfort, and self-image concerns as a result of their posture problems [16- 20].

Addressing and changing postural habits may help to lessen or avoid the onset of musculoskeletal pain in medical students. Promoting good body alignment, raising postural awareness, and adding frequent postural exercises and breaks into study or work sessions are critical. By addressing these issues, medical students can lessen the detrimental effects of forward head posture and the prevalence of musculoskeletal pain, so increasing their general well-being and academic performance.

Overall, these findings shed light on the frequency of posture issues among medical students and emphasize the need for interventions and education to develop improved posture practices. Medical students can improve their musculoskeletal health and lower their risk of discomfort and injury by raising awareness and implementing posture-improvement measures. It is critical to teach children on the necessity of keeping appropriate posture throughout various tasks such as sitting, standing, lying down, and carrying luggage. Interventions like posture training programs, ergonomic improvements in study and work spaces, and encouraging regular

physical exercise to strengthen the muscles that support good posture can all help medical students develop healthy postural habits. Ultimately, by emphasizing and maintaining proper posture, students can improve their general well-being, productivity, and long-term physical health.

Conclusion

In conclusion, the study sheds light on the postural patterns and potential obstacles that this demographic faces. The findings emphasize the necessity of maintaining appropriate posture during diverse activities, as well as its potential impact on musculoskeletal health. Understanding these patterns enables targeted interventions and instruction to encourage healthier postural practices among medical students, ultimately improving their well-being and lowering the risk of posture-related disorders.

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