ORIGINAL ARTICLE

FACTORS INFLUENCING MEDICAL STUDENTS' ATTENDANCE A CROSS-SECTIONAL STUDY

SOBIA ADNAN[1], ZUBIA AFZAL[2], AYESHA SHAUKAT[3], RAFIA MINHAS[4]
[1]Assistant Professor, Department of Medical Education, Continental Medical College, Lahore, Pakistan.[2]Demonstrator, Department of Community Medicine, Continental Medical College, Lahore. [3] Principal, Continental Medical College, Lahore, [4]Continental Medical College, Lahore

ABSTRACT

Background: Absence of students from the classroom is one of the emerging problems in the medical sciences since recent years. Failure to attend classes disrupts the dynamic teaching-learning environment and causes this environment to become boring and unpleasant. The aim of this study was to evaluate medical students' views on factors affecting their presence in classrooms in Continental Medical College

Methods: A cross-sectional study was done on medical students at Continental Medical College, Lahore. A non-probability convenience sampling technique was used. A pre-tested semi-structured questionnaire containing demographic questions, and 13 items on factors affecting student attendance in classrooms on a five-point Likert scale was used to collect data. Data was evaluated using SPSS 25.

Results: All 13 questions were categorized in 3 domains: Compulsory, Learning Outcomes, and Motivation. Descriptive statistics showed learning outcome as the major factor influencing student's attendance followed by compulsory and motivation. Independent sample t test showed no significant difference between both genders. One way ANOVA test showed significant difference in all domains across years of study. Post Hoc Tukey HSD test showed 1st Year students are more likely to view attendance as compulsory and beneficial compared to students in later years.

Conclusion: The results indicate that while gender does not play a significant role in students' perceptions of class attendance, the year of study does. First-year students tend to have stronger perceptions of the necessity and benefits of attending classes, which may decrease as they progress through their medical education. This information could be valuable for developing targeted strategies to maintain or improve attendance rates throughout the MBBS program.

Keywords: medical students, attendance, undergraduate medical education, absenteeism

How to cite this article: Khan S, Afzal Z,Shaukat A. Factors Influencing Medical Students' Attendance: A Cross-Sectional Study. Pak Postgrad Med J 2025;36(1):

Correspondence to: *Dr. Sobia Adnan*
Assistant Professor, Department of Medical Education, Continental Medical College, Lahore, Pakistan.

Email: *sobiadnan@gmail.com*

Received: January 28,2025; Revised: March 26,2025
Accepted: March 27,2025

DOI: https://doi.org/10.51642/ppmj.v36i01.749

INTRODUCTION

Absence of students from the classroom is one of the emerging problems in the medical sciences in recent years.[1] The dynamics of academic education lies on professors, students and the educational environment. The disruption in any of these elements can decline the true purpose of education. Institutions play a pivotal role in providing competent faculty members and a good academic environment; however, students need to play their part. They need to attend classes attentively and participate actively during the class to complete the cycle of transfer of knowledge from professor to student efficiently.[2]

It is a well-established fact that academic performance has a positive correlation with the attendance. Those students who regularly attend classes perform better in exams than those who do not attend the class.[3,4] This effect has been particularly seen in male population. [5,6] However, there are other studies that show this

correlation is no longer important in present day when online learning resources have become as good as live classes, or maybe more efficacious for personalized study methods.[4,7] Whether or not attendance influences performance in exams directly, there are multiple other benefits of interactive sessions during live classes which online learning platforms cannot replace such as positive behavioural changes and improved cognitive skills.[1,8]

The surge in online classes peaked during COVID-19, when the world was facing lockdown yet institutions had to implement online classes to continue learning process. Apart from institutional online classes, other learning platforms and online tools have been created which enhances the learning aptitudes of the students. However, despite being accessible and time saving, students prefer face to face learning over e-learning owing to limited interaction.[8]

With due consideration to this positive correlation between attendance and academic performance, the regulatory authority overlooking medical schools in Pakistan, the University of Health Sciences, has implemented 85% mandatory attendance, starting from academic year 2024, to appear in professional examinations. This recent change in attendance policy from 75% to 85% has been done to ensure academic excellence among the medical students of Pakistan. Failure to attend classes disrupts the dynamic teaching-learning environment and causes this environment to become boring and unpleasant. The aim of this study was to evaluate medical students' views on factors affecting their presence in classrooms.

METHODS

A cross-sectional observational study was conducted at Continental Medical College, Lahore, Pakistan from July 2024 to September 2024 after obtaining approval from the Institutional Review Board.

A non-probability convenience sampling was done.

Inclusion Criteria: All the medical students enrolled in MBBS from 1st to 5th year in the mentioned medical college were included.

Exclusion Criteria: Students who were absent or not willing to voluntarily participate were excluded from the study. Moreover, students enrolled in the same medical college but graduated, enrolled in other specialities or enrolled in MBBS in other medical colleges were excluded.

Data collection tool: A pre-validated semi structured questionnaire was used.[3] It was shared with the students of all classes of MBBS. The questionnaire included demographic questions including gender and year of MBBS, and 13 items on factors affecting student attendance in classrooms on a five-point Likert scale.

Data Analysis: For better understanding of different factors that may affect student's attendance, all 13 questions were categorized into 3 categories:

Compulsory: Questions 1, 2, 12, 13

Learning Outcomes: Questions 3, 4, 5, 6, 7, 10, 11

Motivation: Questions 8, 9

Data was entered in SPSS 25. Descriptive analysis was performed. For comparing any significant difference between the genders, independent sample t test was performed. One way ANOVA test and Post Hoc Tukey HSD test were performed to evaluate any significant difference among the different years of MBBS.

RESULTS

The study population included 214 medical students (Table 1) of which 30.3% were males and 60.7% were females.

Year of MBBS	Frequency
1st Year	73
2nd Year	48
3rd Year	25
4th Year	34
5th Year	34
Total	214

Table 1: Number of student participants from each year of MBBS

Descriptive Statistics: According to descriptive statistics, learning outcomes was the most influential factor for students followed by compulsory and motivation.

Independent Samples Test		t-test for Equality of Means				Std. Error Difference	95% Confidence Interval	95% Confidence Interval
		t	Df	Sig.	Mean Difference			
Compulsory score	Equal variances assumed	-.729	212	.467	-.10453	.14336	-.38712	.17805
	Equal variances not assumed	-.717	167.538	.474	-.10453	.14572	-.39221	.18314
Learning Outcome score	Equal variances assumed	1.503	212	.134	.16253	.10813	-.05061	.37568
	Equal variances not assumed	1.522	184.764	.130	.16253	.10676	-.04808	.37315
Motivation score	Equal variances assumed	.586	212	.558	.09240	.15767	-.21840	.40319
	Equal variances not assumed	.588	179.186	.557	.09240	.15716	-.21773	.40253

Table 2: Independent Sample T test to compare statistical difference between two groups i.e. males and females. Results show there is no significant difference in all three categories between males and female

Independent Samples t-Test

To compare any statistical difference between two groups, males and females, independent sample T test was done which showed no significant difference in all three categories between males and females. (Table 2)

One way ANOVA test

This test was done to compare mean across different years of MBBS. According to results, p values for compulsory score (0.023), learning outcomes (0.012) and motivation (0.036) were all less than 0.05, indicating there is a statistically significant difference in means across all the years of MBBS (Table 3). However, this test alone does not tell which specific groups are different, therefore, another test Post Hoc Tukey HSD test was done.

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Compulsory Score	Between Groups	11.689	4	2.922	2.892	.023
	Within Groups	211.189	209	1.010		
	Total	222.877	213			
Learning Outcome score	Between Groups	7.603	4	1.901	3.304	.012
	Within Groups	120.225	209	.575		
	Total	127.829	213			
Motivation Score	Between Groups	12.864	4	3.216	2.620	.036
	Within Groups	256.492	209	1.227		
	Total	269.356	213			

Table 3; One-Way ANOVA Test: One-Way ANOVA is used to compare the means of a dependent variable across three or more independent (categorical) groups. In this research, ANOVA to compare the average scores of different years of MBBS students on composite variables.

Post Hoc Tukey HSD test: According to result, there is a statistically significant difference in compulsory and learning outcome score between the 1st Year and 4th year, with the 1st year having a higher mean score in both categories. No statistically significant differences were found between any years in motivation score, though the difference between the 3rd year and 1st year is close to significance (p = 0.056). (Table 4)

DISCUSSION

The purpose of this study was to explore the factors that affected undergraduate medical student's attendance in medical school. The results showed that while gender did not significantly affect perception of attendance, however, significant difference emerged across years of study. These findings provide insights into how perceptions regarding class attendance can evolve throughout medical education.

Our results indicate there is no significant differences in medical students' views based on gender on the compulsion of class attendance, its impact on learning, or motivation to attend classes. This aligns with previous research suggesting no significance difference in absence rate between male and female medical science students.[5] These findings highlight the importance of designing policies to enhance class attendance need not be tailored based on gender but can instead focus on other universal factors.

Significant differences were found across different years of study. First-year students were more likely to perceive class attendance as compulsory (p = 0.023) and beneficial to their learning outcomes (p = 0.012), compared to students in later years, particularly those in the 4th Year. This trend is consistent with research indicating that early-year students often have a stronger adherence to institutional rules and perceive higher academic benefits from structured learning environments.[9,10] The higher agreement in 1st Year students could reflect the initial enthusiasm or unfamiliarity with the medical curriculum, where structured guidance is more necessary.1[1] As students' progress in their medical degree, they may adopt more independent learning strategies, perceiving classroom lectures as less critical to their academic success. Moreover, they also regard online lectures equally effective and good substitute to classroom lectures.[12] For senior medical students, clinical rotations and practical experience may take precedence over traditional class attendance, which could explain the observed decrease.

The motivational factors for attending classes showed a significant variation across the years of study (p = 0.036), with 3rd Year students having notably lower motivation scores compared to other years. This finding is consistent with a study conducted on 3rd year medical students at King Khaled University Hospital, Riyadh, where they found out that 3rd year students found lectures lengthy and lack of interest in lecture subject leading to absenteeism. Instead, these 3rd year students were involved in other activities such as sleeping, spending time with friends and studying.[13] Therefore, this suggests a potential dip in motivation during the middle of the medical program, which might be linked to multiple factors related to teaching staff and their strategies, medical school, curriculum fatigue, shift toward clinical responsibilities or even to themselves.[2,14,15] Addressing this dip through targeted interventions, such as engaging class formats or integrated clinical teaching in the later years, could improve attendance.[16]

Table 4: Post Hoc Tests using Tukey HSD

Dependent Variable	(I) Year of MBBS	(J) Year of MBBS	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Compulsory Score	1st Year	2nd Year	.48594	.18680	.074	-.0281	1.0000
		3rd Year	.37699	.23294	.487	-.2640	1.0180
		4th Year	.58552*	.20871	.043	.0112	1.1598
		5th Year	.43110	.20871	.239	-.1432	1.0054
	2nd Year	1st Year	-.48594	.18680	.074	-1.0000	.0281
		3rd Year	-.10896	.24793	.992	-.7912	.5733
		4th Year	.09957	.22532	.992	-.5205	.7196
		5th Year	-.05484	.22532	.999	-.6749	.5652
	3rd Year	1st Year	-.37699	.23294	.487	-1.0180	.2640
		2nd Year	.10896	.24793	.992	-.5733	.7912
		4th Year	.20853	.26484	.934	-.5202	.9373
		5th Year	.05412	.26484	1.000	-.6746	.7829
	4th Year	1st Year	-.58552*	.20871	.043	-1.1598	-.0112
		2nd Year	-.09957	.22532	.992	-.7196	.5205
		3rd Year	-.20853	.26484	.934	-.9373	.5202
		5th Year	-.15441	.24380	.969	-.8253	.5165
	5th Year	1st Year	-.43110	.20871	.239	-1.0054	.1432
		2nd Year	.05484	.22532	.999	-.5652	.6749
		3rd Year	-.05412	.26484	1.000	-.7829	.6746
		4th Year	.15441	.24380	.969	-.5165	.8253
Learning Outcome score	1st Year	2nd Year	.36240	.14094	.079	-.0254	.7502
		3rd Year	.24133	.17575	.646	-.2423	.7250
		4th Year	.52049*	.15748	.010	.0872	.9538
		5th Year	.19696	.15748	.722	-.2364	.6303
	2nd Year	1st Year	-.36240	.14094	.079	-.7502	.0254
		3rd Year	-.12107	.18707	.967	-.6358	.3937
		4th Year	.15809	.17001	.885	-.3097	.6259
		5th Year	-.16544	.17001	.867	-.6333	.3024
	3rd Year	1st Year	-.24133	.17575	.646	-.7250	.2423
		2nd Year	.12107	.18707	.967	-.3937	.6358
		4th Year	.27916	.19982	.630	-.2707	.8290
		5th Year	-.04437	.19982	.999	-.5942	.5055
	4th Year	1st Year	-.52049*	.15748	.010	-.9538	-.0872
		2nd Year	-.15809	.17001	.885	-.6259	.3097
		3rd Year	-.27916	.19982	.630	-.8290	.2707
		5th Year	-.32353	.18395	.401	-.8297	.1827
	5th Year	1st Year	-.19696	.15748	.722	-.6303	.2364
		2nd Year	.16544	.17001	.867	-.3024	.6333
		3rd Year	.04437	.19982	.999	-.5055	.5942
		4th Year	.32353	.18395	.401	-.1827	.8297
Motivation Score	1st Year	2nd Year	.37743	.20586	.357	-.1891	.9439
		3rd Year	.69534	.25671	.056	-.0111	1.4017
		4th Year	.42828	.23001	.341	-.2047	1.0612
		5th Year	.51652	.23001	.167	-.1164	1.1495
	2nd Year	1st Year	-.37743	.20586	.357	-.9439	.1891
		3rd Year	.31792	.27323	.772	-.4340	1.0698
		4th Year	.05086	.24832	1.000	-.6325	.7342
		5th Year	.13909	.24832	.981	-.5442	.8224
	3rd Year	1st Year	-.69534	.25671	.056	-1.4017	.0111
		2nd Year	-.31792	.27323	.772	-1.0698	.4340
		4th Year	-.26706	.29186	.891	-1.0702	.5361
		5th Year	-.17882	.29186	.973	-.9820	.6243
	4th Year	1st Year	-.42828	.23001	.341	-1.0612	.2047
		2nd Year	-.05086	.24832	1.000	-.7342	.6325
		3rd Year	.26706	.29186	.891	-.5361	1.0702
		5th Year	.08824	.26868	.997	-.6511	.8276
	5th Year	1st Year	-.51652	.23001	.167	-1.1495	.1164
		2nd Year	-.13909	.24832	.981	-.8224	.5442
		3rd Year	.17882	.29186	.973	-.6243	.9820
		4th Year	-.08824	.26868	.997	-.8276	.6511

LIMITATIONS

The study was conducted in a single medical college, limiting the generalizability of the findings to other institutions or cultural contexts. Future research should include a more diverse sample and consider longitudinal designs to track changes in student perceptions over time. Moreover, further studies could explore the impact of specific teaching methods on attendance motivation, especially during the middle years of medical education and effect of clinical rotations affecting students' perceptions of class-based learning in the final years of study. Understanding these factors may help educators design curricula that maintain high engagement throughout the entire program.

CONCLUSION

This study highlights the importance of understanding how perceptions of class attendance evolve across the years of medical education. While gender does not appear to play a significant role, the year of study significantly influences students' views on the necessity and benefits of attending classes. These findings can inform the development of attendance policies and teaching strategies that are responsive to the diverse needs of students at different stages of their medical education.

ETHICAL APPROVAL

Ethical approval was granted by the Institutional Review Board of Continental Medical College, Lahore vide reference No 39/IRB/CMC dated: 07/12/2022.

CONFLICT OF INTEREST:

Authors declare no conflict of interest.

FUNDING SOURCE: None

AUTHOR'S CONTRIBUTIONS

SA, ZA: Concept design, analysis, Interpretation of data and manuscript writing
AS, RM: Critical revision, Data analysis
ALL AUTHORS: Approval of the final version of the manuscript to be published

REFERENCES

1. Mirfarhadi N, Jabari Sendi MJ.: Effective factors on attendance in theoretical classrooms from viewpoint of Dental Student of Guilan University of Medical Sciences, 2017. Scientific Journal of Nursing, Midwifery and Paramedical Faculty. 2019 Jan 20;4(3):53-62.
2. Karami M, Amanat A, Rasekh Jahromi A, Sotoodeh Jahromi A. The evaluation of effective factors on attendance and nonattendance in theoretical classrooms, from the Viewpoints of Medical students of Jahromâ s University of Medical Sciences. Pars Journal of Medical Sciences. 2022 Dec 25;11(1):7-14.
3. Aden AA, Yahye ZA, Dahir AM. The effect of student's attendance on academic performance: a case study at simad university mogadishu. Academic Research International. 2013 Nov 1;4(6):409.
4. Kauffman CA, Derazin M, Asmar A, Kibble JD. Relationship between classroom attendance and examination performance in a second-year medical pathophysiology class. Advances in physiology education. 2018 Dec 1;42(4):593-598.
5. Hakami AR. Effect of absenteeism on the performance of medical sciences students: gender differences. Medical education online. 2021 Jan 1;26(1):1875531
6. HAKAMI A. Gender differences in academic grades versus absenteeism for medical sciences students.
7. Eisen DB, Schupp CW, Isseroff RR, Ibrahimi OA, Ledo L, Armstrong AW. Does class attendance matter? Results from a second-year medical school dermatology cohort study. International journal of dermatology. 2015 Jul;54(7):807-816.
8. Gherheș V, Stoian CE, Fărcașiu MA, Stanici M. E-learning vs. face-to-face learning: Analyzing students' preferences and behaviors. Sustainability. 2021 Apr 14;13(8):4381.
9. Kariya VB, Ratanpara LC. Association of Class Attendance and Academic Performance of MBBS Students in Anatomy. Scholars International Journal of Anatomy and Physiology. 2019 Sep 30;02(09):277–280.
10. Nowreen N, Chowdhary S, Hameed R. Impact of class attendance on academic performance in the subject of physiology. Nat J Physiol Pharm Pharmacol. 2019 Feb 6;9(6):524-526.
11. Mattick K, Crocker G, Bligh J. Medical student attendance at non-compulsory lectures. Advances in Health Sciences Education. 2007 May; 12:201-10.
12. Zazulia AR, Goldhoff P. Faculty and medical student attitudes about preclinical classroom attendance. Teaching and learning in medicine. 2014 Oct 2;26(4):327-334.
13. BinSaeed AA, al-Otaibi MS, al-Ziyadi HG, Babsail AA, Shaik SA. Association between student absenteeism at a medical college and their academic grades. J Int Assoc Med Sci Educ. 2009;19(4):155-9.
14. Rashid S, Hassan AU, Bhat IH, Bhat GM. Analyzing the attitude of medical students toward class absenteeism. National Journal of Clinical Anatomy. 2021 Oct 1;10(4):226-231.
15. SENGUPTA P, SAHA S, SUR T. Attitude of Undergraduate Medical Students towards Classroom Lecture Absenteeism and its Association with Academic Performance. Journal of Clinical & Diagnostic Research. 2022 Jan 1;16(1).
16. Banerjee I, Gupta RK, Robinson J, Leclézio A, Gounden L, Rafat I, Bedi S. Medical students' perception on absenteeism: A situational analysis from a medical college in Mauritius. Quest International Journal of Medical and Health Sciences. 2020 Dec 31;3(2):44-51.