# Medical Education Gateway: Evaluating the Structural and Procedural Integrity of MDCAT 2024 in Pakistan

[1]Mohsin Mushtaq Ali, [2]Anjiya Amin, [3]Muhammad Rohan Khan, [4]Sidra Tul Muntaha, [5]Syed Numair Ashraf, [6]Amna Ashraf

## Article Details

**Mohsin Mushtaq Ali**
Department of Medicine, Baqai Medical University, Karachi Pakistan.
drmohsinmushtaqali@gmail.com

**Anjiya Amin**
Department of Medicine, Karachi Medical and Dental College, Karachi Pakistan
anjiyaamin@hotmail.com

**Muhammad Rohan Khan**
Department of Medicine, Baqai Medical University, Karachi Pakistan.
rohankhan260@gmail.com

**Sidra Tul Muntaha**
Department of Medicine, Baqai Medical University, Karachi Pakistan.
ahmedsidratulmuntaha@gmail.com

**Syed Numair Ashraf**
Department of Medicine, Baqai Medical University, Karachi Pakistan.
syednumairashraf@gmail.com

**Amna Ashraf**
Department of Medicine, Baqai Medical University, Karachi Pakistan.
amnaashraf132@gmail.com

## ABSTRACT

The Medical and Dental College Admission Test (MDCAT), conducted annually by provincial public universities under the oversight of the Pakistan Medical and Dental Council (PMDC), is a crucial determinant for admissions into medical and dental colleges across Pakistan. MDCAT 2024 faced significant challenges, including a paper leak in Sindh, allegations of mismanagement, and concerns regarding syllabus variations and difficulty levels across regions, leading to widespread student distress and calls for systemic reform. This narrative review investigates these issues, analyzing participation statistics, problems encountered by students, and the student-to-seat ratio. It synthesizes information from official reports, student feedback collated by media, and extensive media coverage to assess the irregularities and their impact. The analysis also considers suggested reforms and recommendations from various stakeholders. Key findings reveal a high student-to-seat ratio (approximately 8:1), significantly intensifying competition and causing emotional distress among students and their families. The lack of a standardized syllabus and concerns about examination security were prominent issues. The PMDC's proposed reforms, including a transition to IT-based testing and a unified syllabus, contrast with suggestions from some stakeholders, including a National Assembly committee, advocating for decentralization to enhance regional relevance and provincial autonomy. The implications of these findings underscore the need for robust reforms to ensure a more equitable and reliable admission process. Recommendations are grouped into key areas: Security and Integrity (strengthening examination security, standardizing the syllabus and question bank, transitioning to IT-based testing); Equity and Fairness (enhancing grievance redressed mechanisms, regulating private college fees, evaluating decentralization); and Student Support (prioritizing student mental health and ensuring accountability).

## INTRODUCTION

The Medical and Dental College Admission Test (MDCAT) serves as the primary determinant for admissions into medical and dental colleges across Pakistan. This standardized examination, typically conducted annually, evaluates the aptitude and knowledge of aspiring candidates seeking to pursue careers in medicine and dentistry. The Pakistan Medical and Dental Council (PMDC) plays a pivotal role in regulating medical and dental education standards and oversees the conduct of the MDCAT through various public sector universities in each province.[1] Understanding the intricacies of the MDCAT process, including the number of participating students, the challenges they encounter, and the availability of seats, is crucial for stakeholders in the education and health sectors to inform future reforms. This report aims to provide a detailed analysis of the MDCAT 2024, encompassing participation statistics, major problems faced by students, the ratio of students to available seats, and other pertinent issues that arose during the admission cycle.

## MDCAT 2024 PARTICIPATION NUMBERS:

The MDCAT 2024 attracted a significant number of aspiring medical and dental students from across Pakistan, Azad Jammu and Kashmir (AJK), Gilgit-Baltistan, and even international venues. According to the Pakistan Medical and Dental Council (PMDC), a total of 167,772 candidates registered for the examination in 2024.[2]

A breakdown of provincial participation reveals the following: In Punjab, 58,380 candidates reportedly appearing for the test conducted by the University of Health Sciences (UHS) across 26 centers in 12 cities.[1,3,4] Sindh saw a registration of 38,678 candidates.[1] While initial reports indicated that over 38,000 students attempted the test conducted by Dow University of Health Sciences (DUHS) [5,6], IBA Sukkur conducted an MDCAT retake on 8th December 2024, with 32,208 candidates (83.26%) appearing from 38,684 registrations. [2,7] Khyber Pakhtunkhwa (KP) had 42,329 registered candidates, with 41,671 students participating in the test administered by Khyber Medical University (KMU).[1,8] Balochistan recorded 5,806 registered students.[1] In the Islamabad Capital Territory (ICT), Azad Jammu and Kashmir (AJK), Gilgit Baltistan, and among international students from the UAE and Saudi Arabia, 22,557 students registered for the MDCAT exams 2024, with 21,858 students attending. The exam was conducted by Shaheed Zulfiqar Ali Bhutto Medical University (SZABMU).[9]

| Region | Registered Candidates | Appeared Candidates | Conducting Body |
|---|---|---|---|
| Punjab | 58,380 | 58,379 | University of Health Sciences (UHS) |
| Sindh (Initial Test by DUHS) | 38,678 | ~38,000 | Dow University of Health Sciences (DUHS) |
| Sindh (Retest by IBA Sukkur) | 38,684 | 32,208 | IBA Sukkur |
| Khyber Pakhtunkhwa (KP) | 42,329 | 41,671 | Khyber Medical University (KMU) |
| Balochistan | 5,806 | — | Bolan University of Medical and Health Sciences (BUMHS) |
| ICT, AJK, GB, UAE & Saudi Arabia | 22,557 | 21,858 | Shaheed Zulfiqar Ali Bhutto Medical University (SZABMU) |

**CHALLENGES AND PROBLEMS FACED BY STUDENTS**

The MDCAT 2024 was unfortunately fraught with several challenges and controversies that significantly impacted the aspiring medical and dental students.

**THE SINDH MDCAT 2024 PAPER LEAK**

The initial MDCAT 2024 in Sindh, conducted by Dow University of Health Sciences (DUHS) on September 22, 2024, witnessed the participation of over 38,000 students across various cities including Karachi, Hyderabad, Jamshoro, Larkana, Nawabshah, and Sukkur.[5] However, the integrity of this examination was quickly called into question following widespread allegations of a paper leak.[10] A joint action committee (JAC) was formed by concerned parents and students to demand a thorough investigation into these allegations.[11] The Sindh High Court (SHC) subsequently intervened, ordering a retest based on the findings of a probe committee that unanimously concluded the entire test procedure had been compromised.[10] The re-examination was mandated to be held within four weeks of the court's order.[12]

The Federal Investigation Agency (FIA) further substantiated the claims of a paper leak,

revealing that the leaked material was widely shared on WhatsApp, originating from a doctor's mobile phone.[13,14] Investigations indicated the involvement of over 42 staff members in the process leading to the leak.[13] In response to the compromised examination, the SHC appointed the Institute of Business Administration (IBA) Karachi and IBA Sukkur to jointly conduct the re-examination across Sindh.[13] The retest was eventually conducted by IBA Sukkur on December 8, 2024, with 32,208 candidates in attendance.[2]

## ALLEGATIONS OF MISMANAGEMENT AND IRREGULARITIES

Beyond the paper leak, numerous students and parents voiced their frustrations over alleged mismanagement and irregularities at various MDCAT test centers.[5] Complaints surfaced regarding last-minute directives, such as the removal of jewelry, which caused significant distress, particularly for female students.[5] In an attempt to prevent cheating, the Sindh Home Department implemented Section 144 around the examination centers and installed mobile jammers.[5] Despite these measures, reports of cheating and the presence of fake candidates emerged during the IBA Sukkur retest.[7] The National Assembly (NA) committee also expressed its dissatisfaction with the reported irregularities, acknowledging the considerable emotional distress and confusion caused to the students.[15]

## CONCERNS REGARDING SYLLABUS AND DIFFICULTY LEVEL

Another significant issue that plagued the MDCAT 2024 was the widespread concern regarding the syllabus and the perceived difficulty level of the examination. Students in various regions, particularly those who appeared for the test conducted by Shaheed Zulfiqar Ali Bhutto Medical University (SZABMU), staged protests alleging the inclusion of out-of-syllabus questions.[16] These students demanded either a re-conduct of the exam or the awarding of grace marks to compensate for the irrelevant content.[17-19] In response to these mounting complaints, the PMDC decided to conduct an independent analysis of the test and proposed providing the same question paper to all candidates across the country in the future to ensure uniformity in the difficulty level.[20] Reports also indicated disparities in the difficulty levels across different provinces, with some students claiming that the test administered by UHS Punjab was comparatively easier than the one conducted by SZABMU.[18]

## MBBS AND BDS SEATS AVAILABILITY AND STUDENT-TO-SEAT RATIO

The total number of MBBS and BDS seats available in medical and dental colleges across Pakistan for the 2024 academic year was reported by the PMDC to be 21047.[21] This figure encompasses seats in both public and private sector institutions.

A more detailed breakdown of seats by province, based on available data, indicates the following distribution. [21]

| Province | Public MBBS Seats | Public BDS Seats | Private MBBS Seats | Private BDS Seats | Total MBBS Seats | Total BDS Seats | Total Seats (MBBS+BDS) |
|---|---|---|---|---|---|---|---|
| Azad Kashmir | 330 | 0 | 100 | 0 | 430 | 0 | 430 |
| Balochistan | 470 | 54 | 150 | 0 | 620 | 54 | 674 |
| Khyber Pakhtunkhwa | 1435 | 319 | 1200 | 350 | 2635 | 669 | 3304 |
| Punjab and Islamabad | 3780 | 344 | 5900 | 1525 | 9680 | 1869 | 11549 |
| Sindh | 2450 | 450 | 1550 | 640 | 4000 | 1090 | 5090 |
| **Total** | **8465** | **1167** | **8900** | **2515** | **17365** | **3682** | **21047** |

To calculate the overall student-to-seat ratio, we can use the total number of registered candidates (167,772) [2] and the PMDC's reported total number of seats (21047).[21] This yields a ratio of approximately 7.97 students per seat (167,772 / 21047 ≈ 8). The distribution of seats across provinces reveals that Punjab has the highest number of available seats, which is expected given its larger population.[21]

**PRIVATE MEDICAL UNIVERSITY FEE STRUCTURES**

The fee structures of private medical universities in Pakistan have been a subject of considerable debate and concern. There has been ongoing controversy surrounding the high tuition fees and other charges levied by these institutions, raising questions about affordability and accessibility of medical education. In an effort to regulate these fees, the PMDC has taken steps to establish a tuition fee cap for private medical and dental colleges, setting it at Rs1.8 million per annum for both MBBS and BDS programs.[22]

This cap is subject to annual adjustments based on the Consumer Price Index (CPI).[22] The PMDC has also stipulated that private institutions seeking to charge tuition fees exceeding this cap, up to a maximum of Rs2.5 million per year, must provide detailed financial justifications, including comparisons with similar institutions and the services they offer.[22]

Despite these regulatory efforts, reports have emerged of some private medical colleges charging significantly higher fees, with annual costs reaching up to Rs3 million in certain instances.[23,24]

Examples of fee structures from specific private medical universities in 2024 illustrate the variations in costs. At NUST, the total cost of the five-year MBBS program for national students was approximately Rs11.19 million, with the first year costing Rs2.095 million.[25] Peshawar Medical College's fee structure for the 2024-25 session included an annual tuition fee of 10.65 million local students, in addition to other charges.[26] Lahore Medical and Dental College's MBBS program for local students in the 2024-2029 batch had a total college fee of Rs14.65 million, with the first year costing Rs2.62 million.[24]

These examples highlight the significant financial investment required for private medical education in Pakistan.

## PMDC RESPONSE AND REFORM EFFORTS

In response to the numerous challenges and controversies surrounding the MDCAT 2024, the Pakistan Medical and Dental Council (PMDC) has undertaken several measures and reform efforts. The PMDC played an active role in overseeing the conduct of the MDCAT 2024, issuing directives to the universities responsible for administering the test to ensure strict monitoring and maintain transparency throughout the process.[27] The council also cautioned aspiring students against fraudulent schemes that offered fake question papers, advising them to rely only on official sources of information.[28] Recognizing the need for systemic improvements, the PMDC formed a seven-member committee tasked with reforming the MDCAT process to enhance its fairness and transparency.[29] This committee was mandated to develop a unified syllabus for the MDCAT and establish a sustainable question bank to ensure the quality and relevance of the examination content.[25] Furthermore, the PMDC has announced plans to directly conduct the MDCAT in the future, utilizing an IT-based examination system to minimize the potential for human error and cheating.[27] To address the immediate concerns arising from the MDCAT 2024, the PMDC decided to conduct a post-hoc analysis of the examination to thoroughly review the complaints received regarding the difficulty level and the inclusion of out-of-syllabus questions.[15] In contrast to the PMDC's move towards centralization, the National Assembly (NA) Standing Committee on National Health Services, Regulation and Coordination suggested decentralizing the MDCAT exam process, proposing that provinces be granted greater autonomy in conducting the examinations,

with the PMDC focusing on overseeing licensing exams.[30]

## CONCLUSION AND RECOMMENDATIONS

The intense competition in private medical universities puts a heavy strain on students' mental health. Constant pressure to succeed can lead to exhaustion, hopelessness, and low confidence, especially when combined with controversies and system delays. On top of that, high and often unregulated tuition fees increase stress for both students and their families. These challenges not only harm students' well-being but also create distrust in the education system. To address these critical issues and ensure a more equitable and reliable admission process in the future, the following recommendations are proposed:

**STRENGTHEN EXAMINATION SECURITY**: Implement robust security protocols at every stage of the MDCAT process, from the development and printing of question papers to their secure transportation, administration at examination centers, and the final announcement of results. This includes leveraging advanced technological solutions and ensuring strict oversight to prevent paper leaks and other malpractices.[31]

**STANDARDIZE SYLLABUS AND QUESTION BANK**: Develop a unified national syllabus for the MDCAT through a consensus-based approach involving provincial education boards and medical universities. Establish a centralized and regularly updated question bank aligned with this syllabus to ensure uniformity in exam content and difficulty level across all provinces.[15]

**TRANSITION TO IT-BASED TESTING**: Expedite the transition from paper-based examinations to a secure IT-based testing system. This can enhance transparency, reduce the risk of paper leaks and cheating, and potentially expedite the result processing.[32]

**ENHANCE GRIEVANCE REDRESSAL**: Establish clear, accessible, and efficient grievance redressal mechanisms to address students' concerns and complaints promptly and fairly. This includes having dedicated channels for students to report issues and ensuring timely investigations and resolutions.[18]

**REGULATE PRIVATE COLLEGE FEES**: Implement stricter regulations and ensure greater transparency in the fee structures of private medical and dental colleges. Enforce the established fee cap and develop mechanisms to prevent institutions from charging exorbitant and unjustified fees.[23]

**PRIORITIZE STUDENT MENTAL HEALTH**: Recognize the significant stress associated with the MDCAT and prioritize the mental health and well-being of aspiring students. Provide

access to counseling services, mental health resources, and stress management programs.[10]

**EVALUATE DECENTRALIZATION**: Conduct a thorough evaluation of the potential benefits and challenges of decentralizing certain aspects of the MDCAT process to the provinces, while ensuring that national standards and PMDC oversight are maintained to guarantee uniformity and fairness.[30]

**ENSURE ACCOUNTABILITY**: Conduct thorough and impartial investigations into all reported irregularities, including paper leaks and mismanagement. Hold individuals and institutions found responsible accountable for their actions to deter future misconduct and uphold the integrity of the examination process.[11]

By implementing these recommendations, stakeholders can work towards creating a more reliable, transparent, and equitable MDCAT process that fosters trust among aspiring medical professionals and ensures the selection of meritorious candidates for the future of healthcare in Pakistan.

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