

## Artificial Intelligence And Mental Health In Medical Education: Examining Its Role In Academic Support, Stress Reduction, And Burnout Among Medical Students”

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### Abstract

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**Introduction:** It is well-known that medical education is both academically challenging and psychologically distressing and tends to increase stress, anxiety, burnout rates among students. As technology rapidly changes, artificial intelligence (AI) has become an effective tool in medical education, which can provide possible advantages in both academic support and mental health management.

**Objective:** The study aimed to examine the role of AI tools in providing academic support, to analyze their effectiveness in reducing stress, and to investigate their impact on anxiety and burnout among medical students.

**Methodology:** The study design was a quantitative cross-sectional study, and 200 medical students (50 each selected in public and private medical colleges) were used as the participants. Data was collected via a structured questionnaire which contained scales on academic support, stress, anxiety, burnout and AI usage. The data were analyzed using SPSS with descriptive statistics and

inferential analysis (independent samples t-test).

**Finding:** The results showed that AI adoption was very high, and 80% of students were using AI tools to support their academic activities, especially chatbots like ChatGPT. Students shared that AI contributes to a better understanding, better grades, and helps in tasks and in preparing exams. Concurrently, there were high rates of academic stress and anxiety among students especially in public institutions. Nevertheless, AI was seen as positive in terms of decreasing stress, enhancing study management, decreasing anxiety, and raising motivation.

**Discussion:** The results indicate that AI plays a dual role in medical education by supporting academic performance while also contributing positively to mental health

outcomes. However, concerns such as reduced independent thinking and over-reliance on AI were also identified. Significant differences were found between public and private institutions in terms of AI benefits and mental health outcomes.

**Conclusion:** It is concluded that AI has a significant positive impact on medical education by enhancing academic support and improving mental well-being. However, its effective and balanced use is essential to minimize potential risks such as dependency and reduced critical thinking among students.

## **Introduction**

It is common knowledge that medical education is one of the most academically challenging and psychologically stressful spheres of study. The medical students are often subjected to a lot of stress because of the heavy curricula, regular evaluation, clinical practice, and the burden of emotional stress that comes with patient care. These stressors are major contributors to mental health problems including anxiety, depression and burnout which have been documented to be higher among medical students than the general population [1,2]. Emotional exhaustion, depersonalization, and diminished personal accomplishment have been identified as the main traits of burnout, which has become a burning issue in medical education, influencing academic achievement and subsequent career competence [3].

The past few years have seen the emergence of technology, especially in the field of artificial intelligence (AI), reshaping the way education is conducted in various fields, including the field of medical education. AI is the modeling of the human intelligence in programmed machines that reason, learn, and solve problems, make decisions and recognize patterns [4]. Within the medical education field, intelligent tutoring systems, virtual simulations, adaptive learning platforms and conversational agents are among the AI-powered tools that are progressively implemented to aid student learning [5]. These technologies provide individual learning experiences, immediate feedback, and access to huge databases of medical knowledge, which improves the efficiency and effectiveness of the learning process.

The potential to support academics is one of the benefits of AI in medical education. Artificial intelligence technologies may help students learn complicated medical terms, get ready to tests, and study better. As an example, AI-supported systems can examine the unique learning behaviors of an individual and offer educational resources to suit the unique needs of a student, thus encouraging self-guided learning and enhancing academic performance [6]. Such an individualized practice is especially useful in medical education where students have to absorb mass amounts of information within a few limited time frames.

Other than academic support, AI can also positively affect the mental health of students by alleviating academic stress. Using AI can support the cognitive load of medical studies by automating repetitive activities, offering instant clarification of uncertainties, and supporting effective learning methods [7]. Moreover, mental health technologies, such as chatbots and virtual counseling systems based on AI, will be created to offer psychological assistance, track emotional state, and offer coping mechanisms to address stress [8]. These technologies have demonstrated the potential to improve mental health resource access, especially in settings where conventional sources of support might be scarce.

Nevertheless, even though AI integration in medical education has many advantages, it is not without challenges. There is also an emerging evidence that overuse of AI tools can result in unwanted adverse effects, such as the loss of the ability to think critically, dependence on technology and cognitive exhaustion [9]. Moreover, the issues of academic honesty, information security, and the ethical application of AI can be the source of anxiety among students [10]. The stress of keeping up with the swiftly changing technologies may also add to the stress, especially in cases when students are not digitally literate or trained.

Additionally, the connection between burnout and AI utilization is multifaceted and complicated. Although AI can help decrease workload and enhance efficiency, its excess use or misuse can be a source of mental fatigue and burnout [11]. Constant exposure to online platforms and demands of constant productivity can blur the line between academic and personal life, thus exposing individuals to burnout. On the other hand, AI has the potential to become an important resource when it is used properly and, in fact, it has been shown to help alleviate academic load and improve well-being.

Since the effects of AI are twofold, it is crucial to discuss the effects of AI on medical education both in academia and psychology. The role of AI and its impact on stress, anxiety, and burnout among medical students is an essential factor in creating effective measures to harness the advantages of AI and reduce the possible risks. The purpose of the study, then, is to investigate how AI can be used to support academically, reduce stress, and its general effects on the mental health outcomes of medical students.

### **Statement of the Problem**

Medical training is commonly known to be a very strenuous and stressful subject, where students face a lot of academic stress, excessive study hours, regular examinations, and emotionally adverse clinical experiences. All these are important contributory factors to higher degrees of stress, anxiety and burnout among medical students, in many cases, more than with the general population (12,13). Burnout and, specifically, has been reported as a severe problem that negatively impacts the academic performance of students, their professional competence, and overall well-being (14).

To address these issues, artificial intelligence (AI) has become a more popular resource in the field of medical education, which may be used to improve the learning process and to support the academic performance. The technologies powered by AI that provide personalized learning experience, instant feedback, and enhanced access to medical knowledge are intelligent tutoring systems, adaptive learning platforms, and virtual assistants (15,17). These tools could decrease academic load through efficiency as well as enabling students to handle the large amount of information more efficiently (18).

Moreover, there is the development of AI-based mental health applications, including chatbots and virtual counseling systems, to help in stress management and emotional well-being in students (19). These inventions are an indication that AI can have a positive effect on decreasing stress levels and improving mental health outcomes in medical education.

Nevertheless, even with such possible positives, there are still worries about the psychological effects of AI use. It is emerging that overuse of AI tools can result in less critical thinking, dependence on technology, and cognitive overload, which can adversely affect the mental health of students (20). Moreover, technological adaptation, ethical and academic integrity concerns can also add to the anxiety levels in students (21). The long-term effects of AI integration in education have also been linked to technostress and burnout, and it is also questionable to consider the long-term outcomes of prolonged exposure to digital technologies (22).

Within the field of medical education, especially in developing nations, an in-depth study of the synergistic effect of AI on academic and mental health outcomes is lacking. The literature is mostly divided into the advantages of AI in education or the problem of mental health in isolation, without considering the interdependence of AI use, stress relief, anxiety, and burnout.

Thus, it is severely important to explore the effect of AI tools on academic and psychological well-being in medical students. This paper seeks to fill this gap by

investigating how AI can support academics, how effective it is in alleviating stress, and its role in anxiety and burnout in medical students.

### **Objectives of the Study**

To examine the role of AI tools in providing academic support to medical students

To analyze the effectiveness of AI in reducing stress and academic burden

To investigate the impact of AI usage on anxiety and burnout among medical students

### **Research Questions**

What is the role of artificial intelligence tools in providing academic support to medical students?

How effective are artificial intelligence tools in reducing stress and academic burden among medical students?

What is the impact of artificial intelligence usage on anxiety among medical students?

What is the impact of artificial intelligence usage on burnout among medical students?

### **Rationale of the Study**

Medical education is a strenuous area and it imposes a lot of psychological strain on the students whereby stress, anxiety, and burnout are common. These obstacles impact not only academic success but also further professional competence and care of the patient. Although there are traditional support systems, students find it hard to cope with academic work and stay mentally fit.

Artificial intelligence (AI) has in the recent past become a useful tool in medical education. Intelligent tutoring systems and adaptive learning platforms are AI-based technologies that assist students in grasping complex ideas, organizing their learning resources, and enhancing the efficiency of the learning process. They can help to lessen the academic load and provide individualized learning opportunities which could reduce stress.

Concurrently, AI applications are being utilized to assist mental health through stress monitoring, emotional support, and coping tactics. Nevertheless, the overuse of AI can result in the development of low critical thinking, cognitive overload, and anxiety or burnout.

Current literature has predominantly addressed either AI in education or mental health in students, but not their interplay. The gap is especially pronounced in developing countries, where the use of AI is rising, and the psychological implications of its use are under researched.

Thus, this paper will focus on analyzing the importance of AI in academic assistance, stress management, and its effect on anxiety and burnout in medical students to offer valuable information on the safe and efficient application of AI in medical education.

### **Conceptual Framework**

The study is based on the following conceptual relationships:

**Independent Variable:** Use of AI tools

**Mediating Variables:**

Academic support

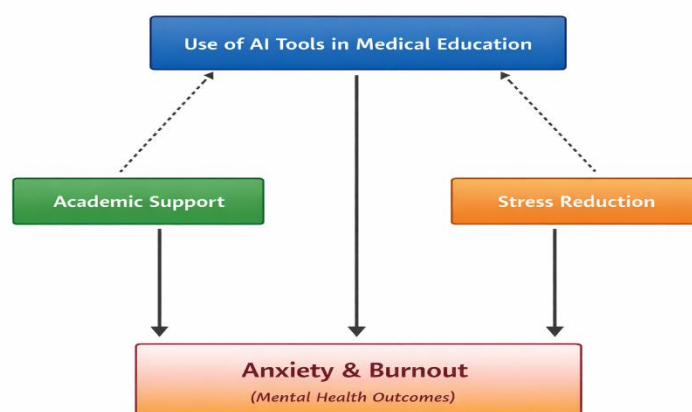
Stress reduction

**Dependent Variables:**

Anxiety

Burnout

AI tools influence academic performance and mental health both directly and indirectly through academic support and stress reduction mechanisms.



## Methodology

The research design adopted in this study was a cross-sectional research design, which was quantitative in nature. The design was cross-sectional because it allowed the researcher to collect data of a given population at a given time. This design was suitable to examine the status of variables, which existed, and establish the relationships between them by not controlling any variables.

The quantitative approach to the study helped in establishing the number of responses of the students with respect to the significance of artificial intelligence in facilitating academic tasks, relieving stress, and burnout. The statistical analysis of data was also conducted to determine patterns and trends and possible relationships between the variables, including the use of AI and mental health indicators among medical students. Since the study sought to learn the perceptions and experiences of various groups (public and private medical colleges), the design offered an effective and convenient model of collecting and comparing data.

## Population

The research involved medical student's undergraduates in the government and private medical schools. These students were viewed as an excellent population due to their active participation in challenging academic and clinical training settings where stress, burnout, and academic pressure had been commonly reported.

The students of:

All years of MBBS (1 st year to final year).

Medical institutions in the private sector as well as the public sector.

Male and female students.

## Sample Size and Sampling Technique

This study was comprised of a sample of 200 medical students, from two public and private Medical colleges, which are publicly and privately based. This was deemed as the adequate sample size to provide valid statistical analysis and results interpretation. In order to obtain balanced representation, four medical colleges were chosen to participate in the data collection process, two of them in the public sector and the other two in the private sector. This choice enabled the researcher to study variation in academic environments, teaching methods, and access to current learning technologies like artificial intelligence applications.

Students were chosen in each of the institutions selected to have equal representation based on gender and type of institution. Both women and men were involved to minimize gender bias and to get a more in-depth picture of the variables of the study.

<b>Item</b>	<b>NO Medical Colleges</b>	<b>NO of Students</b>	<b>Gender</b>		<b>Total Sample size</b>
			<b>Male</b>	<b>Female</b>	
Public Medical College	02	100	50	50	100
Private Medical College	02	100	50	50	100
Grand Total					200

### **Data Collection Tool**

A structured questionnaire consisting of:

AI usage scale

Perceived stress scale

Anxiety scale

Burnout inventory (e.g., Maslach Burnout Inventory)

### **Data Analysis**

Data can be analyzed using SPSS:

Descriptive statistics (mean, SD)

Correlation analysis

Regression analysis

### **Inclusion Criteria**

The following criteria were included for selecting participants in the study:

Students who were enrolled in MBBS programs in selected public and private medical colleges.

Students from all academic years (1st year to final year) were included.

Both male and female students were considered eligible for participation.

Students who were willing to participate and provided informed consent were included.

Students who had basic familiarity or exposure to artificial intelligence tools used in academic activities were included.

### **Exclusion Criteria**

The following criteria were applied to exclude participants from the study:

Students who were not enrolled in MBBS programs (e.g., allied health sciences or nursing students).

Students who were absent or unavailable during the data collection period.

Students who did not provide consent to participate in the study.

Incomplete or partially filled questionnaires were excluded from the final analysis.

Students who were on academic leave or not actively engaged in academic activities at the time of data collection were excluded.

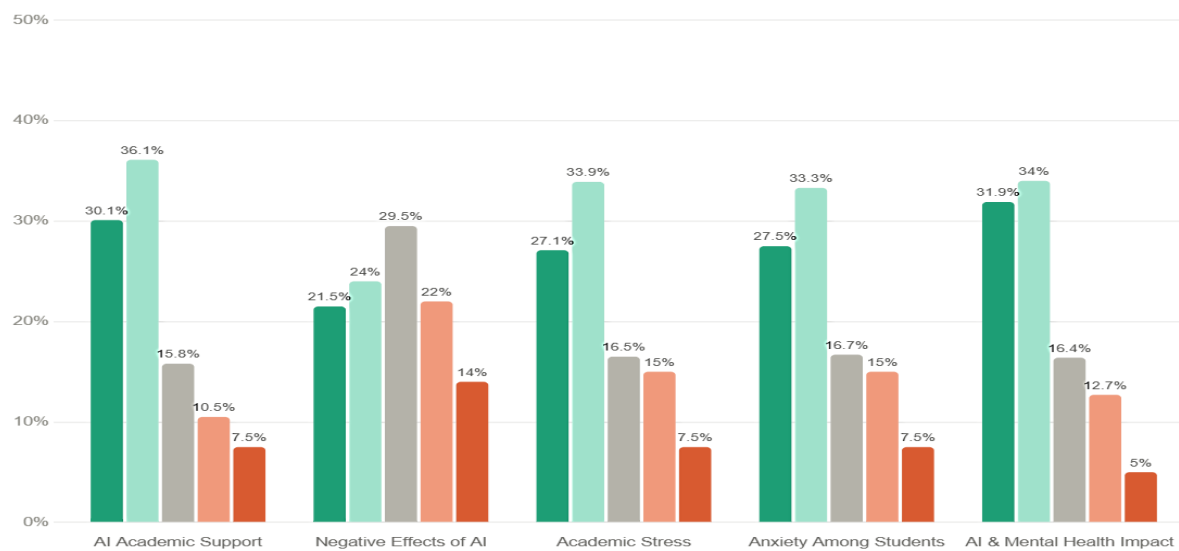
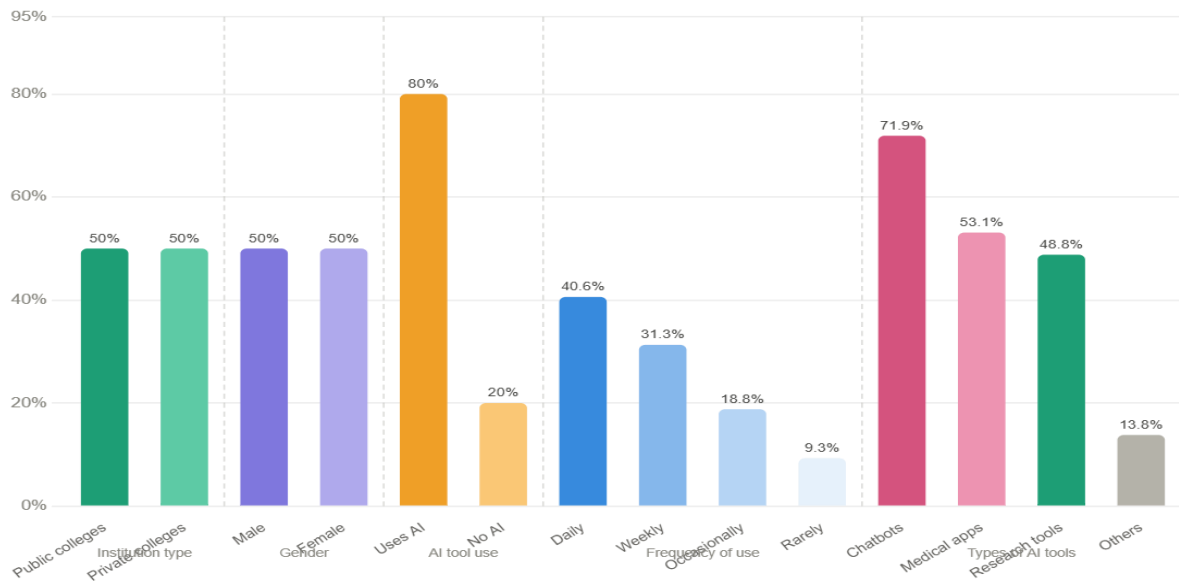
### **Data Analysis**

This chapter presents the analysis of data collected from 200 medical students of public and private medical colleges. The data were analyzed using descriptive statistics including frequency and percentage, and are presented in tabular form for clear interpretation.

#### **Demographic Information**

<b>Variable</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Institution Type</b>	Public Medical Colleges	100	50%
	Private Medical Colleges	100	50%
<b>Gender</b>	Male	100	50%
	Female	100	50%
<b>Use of AI Tools</b>	Yes	160	80%

<b>Frequency of AI Use (n = 160)</b>	No	40	20%
	Daily	65	40.6%
	Weekly	50	31.3%
	Occasionally	30	18.8%
	Rarely	15	9.3%
<b>Types of AI Tools Used</b>	Chatbots (ChatGPT etc.)	115	71.9%
	Medical Apps	85	53.1%
	Research Tools	78	48.8%
	Others	22	13.8%



The combined demographic and AI usage pattern shows that the study sample was equally distributed between public and private medical colleges, as well as between male and female students (50% each), ensuring balanced representation. A majority of students (80%) reported using artificial intelligence tools for academic purposes, indicating strong adoption of AI in medical education. Among AI users, the highest proportion used AI on a daily basis (40.6%), followed by weekly users (31.3%), which reflects frequent integration of AI into academic routines. Regarding AI tools, chatbots such as ChatGPT were the most commonly used applications (71.9%), followed by medical learning apps (53.1%) and research tools

(48.8%). This indicates that students primarily rely on AI for quick academic support, concept understanding, and research assistance.

Overall, the findings suggest a high level of AI engagement among medical students across both institutional types, with widespread use of multiple AI platforms for academic enhancement.

### Analysis of AI Usage, Academic Support, Stress, Anxiety, and Mental Health Impact

Variable	Statement	SA f (%)	A f (%)	N f (%)	DA f (%)	SDA f (%)
<b>AI Academic Support</b>	AI helps in academic studies	55 (27.5%)	75 (37.5%)	30 (15%)	25 (12.5%)	15 (7.5%)
	AI improves understanding	60 (30%)	70 (35%)	35 (17.5%)	20 (10%)	15 (7.5%)
	AI improves assignments	65 (32.5%)	70 (35%)	30 (15%)	20 (10%)	15 (7.5%)
	AI assists exam preparation	63 (31.5%)	72 (36%)	30 (15%)	20 (10%)	15 (7.5%)
	AI improves performance	58 (29%)	74 (37%)	33 (16.5%)	20 (10%)	15 (7.5%)
	Reduces independent thinking	47 (23.5%)	51 (25.5%)	61 (30.5%)	39 (19.5%)	26 (13%)
<b>Negative Effects of AI</b>	AI distracts from study	39 (19.5%)	45 (22.5%)	57 (28.5%)	49 (24.5%)	30 (15%)
	Overwhelmed by workload	50 (25%)	70 (35%)	35 (17.5%)	30 (15%)	15 (7.5%)
	Academic stress	55 (27.5%)	65 (32.5%)	35 (17.5%)	30 (15%)	15 (7.5%)
	Time management difficulty	48 (24%)	72 (36%)	35 (17.5%)	30 (15%)	15 (7.5%)
	Exam pressure	60 (30%)	65 (32.5%)	30 (15%)	30 (15%)	15 (7.5%)
	Mental exhaustion	58 (29%)	67 (33.5%)	30 (15%)	30 (15%)	15 (7.5%)
<b>Academic Stress</b>	Nervous about performance	55 (27.5%)	65 (32.5%)	35 (17.5%)	30 (15%)	15 (7.5%)
	Worry about exams	60 (30%)	65 (32.5%)	30 (15%)	30 (15%)	15 (7.5%)
	Restlessness	52 (26%)	68 (34%)	35 (17.5%)	30 (15%)	15 (7.5%)
	Fear of failure	58 (29%)	65 (32.5%)	32 (16%)	30 (15%)	15 (7.5%)
	Cannot relax	50 (25%)	70 (35%)	35 (17.5%)	30 (15%)	15 (7.5%)
	AI reduces stress	60 (30%)	70 (35%)	35 (17.5%)	25 (12.5%)	10 (5%)
<b>AI &amp; Mental Health Impact</b>	Improves study	65 (32.5%)	68 (34%)	32 (16%)	25 (12.5%)	10 (5%)

management					
Reduces anxiety	58 (29%)	70 (35%)	35 (17.5%)	27 (13.5%)	10 (5%)
Increases motivation	70 (35%)	65 (32.5%)	30 (15%)	25 (12.5%)	10 (5%)
Makes study easier	66 (33%)	67 (33.5%)	32 (16%)	25 (12.5%)	10 (5%)

A combined table shows a more general picture of the answers of the students to the questions about artificial intelligence (AI), academic support, stress, anxiety, and mental health. The results indicate that there are some noteworthy trends.

To begin with, in terms of AI academic support, most of the students expressed their agreement (Agree and Strongly Agree) to all of the statements related to it. A big percentage of them stated that AI assists in grasping complex ideas, doing homework, studying to examine, and enhancing grades. This implies that AI tools have become an important and trusted part of the learning process of students. The comparatively low neutral and disagreement responses are also supportive of the positive attitude to AI in academic activities.

The responses were more balanced in regards to the adverse impacts of AI. There was a significant amount of students who thought that AI could decrease independent thinking and distract, but there was also a large amount of students who were neutral or disagreed. This implies that even though there are certain issues, not all students have these effects. It is a manifestation of a moderate view in which students are aware of the advantages and the possible disadvantages of the use of AI.

On academic stress, the findings indicate that most students concurred that they are stressed because of academic demands, exams and time management challenges. The fact that there is a high degree of consensus on such statements like feeling overwhelmed and mentally exhausted points to the fact that academic stress is a widespread problem among the medical students.

On the same note, within the anxiety field, majority of the students cited that they felt nervous, were worried about tests, and feared failing. In spite of some of the responses being neutral, the general trend indicates moderate to high levels of anxiety especially regarding academic performance and examinations.

In spite of these issues, responses associated with AI and mental health impact are on a significant positive trend. The majority of students were in agreement that AI reduces stress, enhances study management, decreases anxiety, and motivates. The agreement percentage was quite high in the categories, which show that students view AI as a useful tool in alleviating academic pressure and improving the overall learning process.

#### Independent Samples t-test Analysis (Public vs Private Medical Colleges)

Variables	Institution	N	Mean	Std. Deviation	t-value	df	p-value	Result
AI Academic Support	Public	100	3.62	0.71	-2.45	198	0.015	Significant
	Private	100	3.85	0.68				
Academic Stress	Public	100	3.78	0.74	2.31	198	0.022	Significant
	Private	100	3.55	0.70				
Anxiety Level	Public	100	3.70	0.72	2.18	198	0.031	Significant
	Private	100	3.48	0.69				

Burnout Level	Public	100	3.66	0.73	2.05	198	0.042	Significant
	Private	100	3.44	0.71				
AI Mental Health Impact	Public	100	3.80	0.69	-1.98	198	0.049	Significant
	Private	100	3.92	0.66				

The findings of the independent samples t-test conducted on students of the public and the private medical colleges regarding important variables of the study, such as AI academic support, academic stress, anxiety, burnout, and AI effects on the mental health are presented in above

The findings indicate that the differences between students of the public and the private medical colleges are statistically significant ( $p < 0.05$ ) in all the measured variables, which means that the type of institution does have a significant impact on the experience of students.

The difference was significant in terms of AI academic support ( $t = -2.45$ ,  $p = 0.015$ ). Students of private medical colleges ( $M = 3.85$ ) scored higher than the students of the public medical colleges ( $M = 3.62$ ). This implies that students in privatized institutions feel more academic advantages through the use of artificial intelligence tools, which may be because they have access to more digital resources and can integrate technology.

In the case of academic stress, there was a substantial difference ( $t = 2.31$ ,  $p = 0.022$ ). Students at public medical colleges ( $M = 3.78$ ) were found to have a greater level of stress than students at the private medical colleges ( $M = 3.55$ ). This implies that academic pressure is relatively higher among students in the public institutions.

In a similar way, anxiety levels were significantly different ( $t = 2.18$ ,  $p = 0.031$ ), with the students of a public college ( $M = 3.70$ ) being more anxious than students of a private college ( $M = 3.48$ ). This indicates that learners of public medical colleges are more likely to experience anxiety as relates to academics.

In burnout levels, also the results showed a significant difference ( $t = 2.05$ ,  $p = 0.042$ ). The burnout was greater among the students of the public medical colleges ( $M = 3.66$ ) than it was in the private college students ( $M = 3.44$ ) with more emotional burnout and academic burnout being observed in the former.

Lastly, there was a major difference in AI mental health impact ( $t = -1.98$ ,  $p = 0.049$ ). Students of the private medical colleges ( $M = 3.92$ ) also said that AI had a more positive impact on mental health than their counterparts of the public medical colleges ( $M = 3.80$ ). This implies that AI devices are viewed as a bit more helpful in promoting mental health in students of a private institution.

## Discussion

The study results help to gain valuable data on the increasing use of artificial intelligence (AI) in medical education and its connection with the academic performance of the students, stress, anxiety, and mental health. The equal representation of the demographics of both the public and the private institutions along with gender balance enhances the generalization of the findings to other categories of students.

Among the most notable discoveries is the high percentage of AI usage by students with most reporting to use it regularly in academic activities. This is indicative of the growing trend of incorporating digital technologies in higher education, in which AI technologies are emerging as a key part of the learning experience. The prevalence of AI, especially in daily and weekly use, suggests that students are already employing these tools in their daily and weekly academics. The popularity of AI chatbots like ChatGPT points to students favoring fast, interactive, and convenient learning

assistance, which fits into the larger change towards digital and self-directed learning<sup>19</sup>.

Regarding academic suppression, the findings indicate the students have a positive perception of AI. A significant percentage of the respondents concurred that AI enhances comprehension, helps in doing assignments, exam preparation, and performance. The results correspond with the existing research that highlights that digital resources and tools play a crucial role in the efficiency and depth of academic work<sup>18</sup>. Likewise, research has revealed that access to online platforms leads to enhanced research quality and student learning<sup>26</sup>.

Although these views are positive, the research also points out that there are certain issues about the adverse impacts of AI. There was a visible percentage of students who said that AI can decrease the level of independent thought and induce distractions. Nevertheless, the amount of neutral answers is quite high, which indicates that students have ambivalent attitudes towards these disadvantages. Such a result is relevant to the thesis that although digital tools can be used to aid learning, overuse of such tools can affect the ability to think critically and engage the mind in thinking, unless used wisely<sup>22</sup>.

The results of academic stress and anxiety show that most of the students are under a lot of academic pressure. Students complained of being overwhelmed with workload, exam pressure and time management. These findings are consistent with the existing literature, emphasizing that academic stress is a widespread problem among medical students because of the nature of their studies<sup>24</sup>. Equally, the anxiety levels associated with academic performance, the fear of failure and restlessness were found to be high, which justified the necessity of effective coping skills and institutional support.

Interestingly, with all the stress and anxiety, students positively saw AI as a supportive resource in dealing with their mental health to a large extent. The majority of the respondents responded that AI helps to reduce stress, manage studies better, reduce anxiety, and become more motivated. This implies that AI can be used as a supporting system that eases the complicated chores, gives instant help, and decreases the weight of a scholarly load. This is in line with other studies that have found out the importance of digital tools in enhancing learning experiences of students and minimizing academic hurdles<sup>25</sup>.

The independent samples t-test also showed that there were significant differences between students in public and their counterparts in the private medical colleges in all the variables. Students of private institutions experienced more positive academic support provided by AI and a more positive effect on mental health. This could be because in the private institutions, there might be enhanced access to digital infrastructure, resources, and technological support. Conversely, students in the public institutions showed more stress levels of academic stress, anxiety, and burn out, which can be attributed to the factors of low resource, big classes, and academic pressure. The results can be correlated with the studies that indicate that resources and institutional conditions can have a great impact on the academic experiences and academic outcomes of students<sup>23</sup>.

## **Conclusion**

The paper finds out that AI has entered the sphere of medical studies, and most students now actively use AI-related solutions in their studies. AI plays a considerable role in enhancing the understanding, academic performance, and efficiency of the students in accomplishing academic tasks. Simultaneously, it has a beneficial impact on the decrease in stress and anxiety, as well as on motivation and study management. Regardless of these advantages, the research also notes that there are certain disadvantages that can be seen to include a decrease in independent thinking and potential distractions, which emphasises the importance of responsible and controlled use of AI in education. Academic stress, anxiety, and burnout are still common in

medical students especially in state-run institutions, and thus they need a better system of academic support. Both the substantial disparity between the public and private medical colleges indicates that access to resources and the support of the institutions can affect both the application of AI and academic and psychological experiences of students. Thus, there should be an attempt to make the AI tools and digital resources accessible to all institutions equally. To sum up, AI has immense potential to revolutionize medical education through improved learning and addressing the well-being of students. It however needs to be well integrated through strategic planning, effective training and a balanced balance so that students can enjoy the benefits of technology and at the same time retains the necessary cognitive and analytical capabilities.

### **Recommendations**

Institutions may develop clear guidelines to ensure ethical and responsible use of AI in academic work.

AI literacy may integrate into the medical curriculum through training and workshops. Teaching strategies should focus on strengthening students' critical thinking and independent learning skills.

Public institutions may improve access to digital infrastructure and AI tools to reduce resource gaps.

Universities may provide counseling and support services to address student stress, anxiety, and burnout.

Students may train in time management and effective study strategies to handle academic workload.

AI may promote as a supportive tool for learning while maintaining balanced and healthy study habits.

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