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Evaluation of Depression Among Students of Curative Medicine at Kabul: A Descriptive Cross-Sectional Analysis

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ABSTRACT

Medical students are susceptible to many psychological disorders, particularly of depressive type, since they experience a variety of stressors while pursuing their education. Globally 322 million people endure from depression. Medical students frequently experience depressive symptoms, which have a negative impact on the state of their bodily, psychological and emotional wellbeing and lead to subpar academic performance. The purpose of this study is to characterize depressive disorders among students studying curative medicine in Kabul, Afghanistan. A cross-sectional descriptive survey was undertaken among students of the curative medicine faculties from October 1, 2024, to October 30, 2024, in Kabul, Afghanistan. An equal number of students were chosen by stratified random sampling method from every educational year and medical field, From the initial to the last, with a sample size of 460. Utilizing the "Patient Health Questionnaire-9 (PHQ-9)", signs of depression were evaluated for. Version 27 of the "Statistical Package for Social Sciences (SPSS)" was used to examine the data. Out of 460 Pupils, 456 finished the questionnaire, and 71.9% of them had a depressive disorder. Among them, 144 (31.6%) and 156 (34.2%) reported mild and moderate depression, respectively, while 17 (3.7%) and 11 (2.4%) students reported moderately severe and severe depression. At 79.3%, the fourth academic year had a higher frequency of total depression. Given the high frequency of depressive disorders among curative medicine students, this study emphasizes the necessity for more research on discovering hazards and causes of mood disorders among medical students attending the curative medicine schools in Kabul.

Keywords: Curative medicine, Depression, Kabul, Mental Disorders, Students

INTRODUCTION

Undergraduate students' psychological wellness is a significant public health concern on a worldwide scale; College learners must contend with a variety of obligations from their educational institutions and household, which causes a lot of strain in the mind can cause serious illnesses and mental health issues, such as anxiety and depression (Mirza et al., 2021). As stated by WHO estimates, 322 Millions of individuals throughout the world experience depression., which is A highly significant psychiatric illness bears primary cause of disability (AlJaber, 2020). The World Health Organization (WHO) has predicted that serious sadness will be the world's top Responsible for the burden that is not disastrous by 2030 (Juanico-Morales et al., 2023). The symptoms of depression include low feeling, diminished enjoyment and fascination (anhedonia), a lack of vitality, remorse, poor self-worth, erratic sleep patterns, dietary changes, and difficulty focusing (Ngasa et al., 2017). Many factors contribute to depression, such as genetic susceptibility, extreme stressors and strains in life, substance misuse, including drug and alcohol abuse, and clinical predisposition. (Ehsan et al.). The journey from youth toward adulthood is one of the most difficult experiences in a person's life, and university students are a unique breed of people going through this essential era. Trying to blend in, maintain stellar grades, prepare for the future, and be away from parents generates anxiousness in many youngsters (Buchanan, 2012). Pre-clinical and clinical stages make up the seven-year educational course including one year of house job in Afghanistan that concludes in an M.D. (Doctor of Medicine) degree (Stanikzai et al., 2023). All throughout the medical faculty, because the materials required for clinical expertise are extensive and growing annually, students are given

increasingly complex and challenging assignments, and stress builds up as a result of failing to meet certain goals, which causes worry, worriedness, and low feeling among learners.(Hill et al., 2018). Medical students experience a great deal of stress because the medical field is the most competitive of all educational fields. Stress negatively impacts the mind as well as the body, hinders ability to memorize information, and frequently leads to absenteeism and, regrettably death` (Shah et al., 2021). A substantial body of investigations reveals that pupil of curative medicine have greater rates of worry and self-harm, and that these rates stay high after they become practitioners (Singh et al., 2010). With a median frequency of 34.8%, Multiple inquiries have revealed that the predominance and features of depression among sophomore varies, ranging from as little as two percent to an alarmingly high to almost 90 percent. For example, during their time in university, 28.6% of medical learners in United Arabic Emirates (UAE), above thirty percent of undergraduates in medicine in the Canada, Approximately sixty-seven percent of medical students in Saudi Arabia, and around ninety percent of medical students in Egypt reported having depressed symptoms. (Agyapong-Opoku et al., 2023; Ahmed et al., 2009). While these symptoms varied by academic year, they generally showed an upward trend. For example, a total of thirty percent of medical students reported having depressive symptoms, with a roughly seventeen percent rise from beginners to newly entering clinical period. Undiagnosed and mistreated, these complains tend to get worse over time, suggesting that medical students develop depression (Alharbi et al., 2018). Seventy-five percent of medical undergraduates at a private university in Lahore suffered from depression throughout their time there (Zafar et al., 2020).

For nearly four decades, Afghanistan has been devastated by natural tragedies, devastation of belongings, insecurity, mass displacement, turmoil in politics, battle, and famine. Each of these elements has had a substantial impact. All of these factors have had a significant impact on many facets of people's life, including the disruption of educational facilities and curricula, irregular and frequently insufficient education, and the decline of mental health as a result of people's constant trauma and tension brought on by a volatile surrounding. As a result, mental health conditions like anxiety and depression are far more common, especially among students and healthcare professionals who are under a lot of stress (Panter-Brick et al., 2008). Furthermore, the corona virus epidemic has been associated with a greater incidence of depression in pupils as a result of people putting off and neglecting mental health, especially depressive disorders (Neyazi et al., 2023). In addition, the development of economical and effective management, approaches, and measures for lowering & eradicating upcoming problems of psychic wellbeing, especially depression, has been significantly hampered by the diminished manpower and lack of high-quality data on mental health (Sayed, 2011). Medical professionals are also impacted by depression, in addition to medical students. For instance, in the province of Herat, above 70% of medical professionals reported having depressive symptoms (Mohammadi et al., 2023). 72.8% of students from Nangarhar Jalalabad's curative medical faculties reported having depressive symptoms while enrolled in medical school (Hashimi et al., 2024) . According to these findings, Melancholy amongst undergraduates at medical schools is a issue of concern that has to be thoroughly described and evidence-based interventions offered in order to successfully address these issues. No studies on depression among students of curative medicine at several public and private colleges have been carried out in Kabul, the capital of Afghanistan. In order to clarify the frequency and the intensity of depression-related conditions among present pupils in Kabul's public and private medical institutions, this study was undertaken.

MATERIALS AND METHODS

Curative medical faculty students of five medical faculties out of twenty medical faculties were the subjects of a cross-sectional investigation who were learning the faculties of curative School of Medicine in Kabul, Afghanistan, between October 1 and October 30, 2024. The approach of stratification randomly selected samples was utilized. to assign five faculties of curative medicine from a total of twenty, including four private institutions and one public institution (Kabul University of Medical Sciences (KUMS), Aryana (Kabul), Afghan Swiss, Spinghar (Kabul), and Khatam al-Nabiin). Representative samples were obtained from each of the selected faculties to ensure the validity of the findings. The sample size for this study was determined using the $n= Z^2*P(1-$

p)/d^2 formula (Pourhoseingholi et al., 2013); where *n* represents the sample size, $Z = 1.96$ corresponds to a 95% confidence level, $P = 0.5$ denotes the expected prevalence, and $d = 0.05$ represents the margin of error (precision). To account for potential non-response or incomplete questionnaires, A twenty percent adjustment was applied, resulting in a final sample size of 460 students included in the study (Pourhoseingholi et al., 2013). A nearly same number of students were chosen from each of the institutions of curative medicine. The study involved 460 students, of whom 90-95 (20%) were chosen from each university using a stratified random sampling technique. A random selection of an equal number of students (18–19) from the first, second, third, fourth, and fifth years was made.

Data was collected through an adjusted questionnaire made from previous studies and had 3 parts (Sociodemographic, Academic, information about depressive symptoms). For the purpose of easiness, the questionnaire was translated into Pashtu and Persian language. Students were requested to submit detailed information on several facets of their personal backgrounds in the sociodemographic section. These included factors including age, gender, height, weight, status of marriage, living place (Urban, rural), household fiscal status, smoking habits, and part-time employment status (if they worked a job in addition to their studies). The purpose of collecting this data was to provide a realistic depiction of the socioeconomic situation, Choices regarding lifestyle, and demographics of the students—which might affect their psychological health and inclination to depression. Additionally, details on significant life events throughout the previous three months were sought. This includes hospitalization for serious illnesses, involvement in a traffic accident, the death of a friend or family member, and chronic ailments. The ratio of weight to height in form of kg/m^2 was taken into account to find the "body mass index (BMI)" (Nihiser et al., 2007) and graded according to WHO criteria as underweight, normal weight, overweight, and obesity categories I, II, and III (Weisell, 2002). Regarding their educational history, students were requested to fill out the academic information part.

A nine-item "Patient Health Questionnaire-9 (PHQ-9)" was accustomed to gather data about Depressive symptoms. The named tool is a quick, accurate, and reliable standard screening tool that may be used for both clinical and research settings to detect and evaluate the severity of depression symptoms (Rahman et al., 2022). Pilot research with 50 members was undertaken prior to data collection, and the Cronbach's α reliability coefficient was determined to be 0.812. Likert items were used to structure the questions, and the choices "Not at all," "Several days," "More than half the days," and "Nearly every day" were ranked from 0 - 3, signifying the frequency of occurrence (Williams, 2014). A final score out of 27 was produced by adding together all of the items. A diagnostic algorithm was then applied to this total score, with scores between 0 and 4 being implying of none or minimal depression, of 5 - 9 being graded as mild depression, 10 - 14 as moderate depression, 15 - 19 as moderately severe depression, and of 20 and higher as severe depression. (Sun et al., 2020).

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 27.0, and the results are presented through descriptive text, tables, and multiple forms of graphical illustrations.

The conduct of this study was authorized by the Nangarhar Medical Faculty's Research and Ethics Board and Ethical board of KUMS, which ensures adherence to ethical requirements. Before beginning the study, students received comprehensive information regarding the processes, and goals of the inquiry. Prior to taking the questionnaire, each student provided their informed consent, emphasizing the value of voluntarily taking part and the confidentiality of their information.

RESULTS

Participants' Social and demographic information

In five faculties of curative medicine (KUMS, Aryana (Kabul), Afghan Swiss, Spinghar (Kabul), and Khatam Al-Nabiin), 460 questionnaires were distributed based on sample size. Ultimately, 456 surveys were correctly completed and evaluated, whereas 4 out of the distributed questionnaires had 4 partial responses that were not computed, resulting in a 99.1% response rate. The participants' average age was 23.02 with 2.86SD. Only 77 (16.9%) of the participants were married, and all were males (only males were allowed). Only 41 (9.0%) of the students held part-time jobs, although the majority of students (401, or 87.9%) lived in

metropolitan areas. The majority of the students, 408 (89.5%), had not lost a family member in the previous three months, whereas 62 (13.6%) of the participants smoked. In addition, just 36 (7.9%) of the students were admitted to the hospital for any illness during the previous three months, whereas 413 (90.6%) of the students had no chronic illnesses. The majority of participants had a lower household fiscal condition; 43.6% reported lower, and 36.2% indicated a middle fiscal state. However, just 20.2% of pupils stated their home financial situation was satisfactory. Additionally, over half (64.7%) of members had normal weight, and 88.2% of them reported not been implicated in any traffic accidents in the previous three months (Table 1)

Table 1 participants' Sociodemographic information

Sociodemographic features	n (%)
Age, years (±SD)	23.02 ± 2.86
Marital situation	
Unmarried	379 (83.1%)
Married	77 (16.9%)
Place of living	
Urban	401 (87.9%)
Rural	55 (12.1%)
Monthly income (Af)	
Low	199 (43.6%)
Middle	165 (36.2%)
Good	92 (20.2%)
Part-time employment	
Yes	41 (9.0 %)
No	415 (91.0%)
Having long-lasting disease	
Yes	43 (9.4%)
No	413 (90.6%)
Smoking	
Yes	62 (13.6%)
No	394 (86.4%)
Significant Life Event (Past 3 months)	
Death of a friend or relative	48 (10.5%)
Automobile Traffic Collisions	54 (11.8%)
Major illness hospital admission	36 (7.9%)
Body Mass Index (BMI))	
Underweight	22 (4.8%)
Normal Weight	295 (64.7%)
Overweight	112(24.6%)
Obesity Grade I	22 (4.8%)
Obesity Grade II	4 (0.9%)
Obesity Grade III	1 (0.2%)

Participants from medical institutions

A sample of 456 medical students was assigned from five medical colleges including (Kabul University of Medical Sciences (KUMS), (Aryana (Kabul), Afghan Swiss, Spinghar (Kabul) and Khatam Al-Nabiin), with same number of participants, 92 (20%) from each medical faculty and and similar number of students, 18-19 (20%) from each ranked year, of which 4 questionnaires were filled incomplete and were excluded from the study (figure 1).

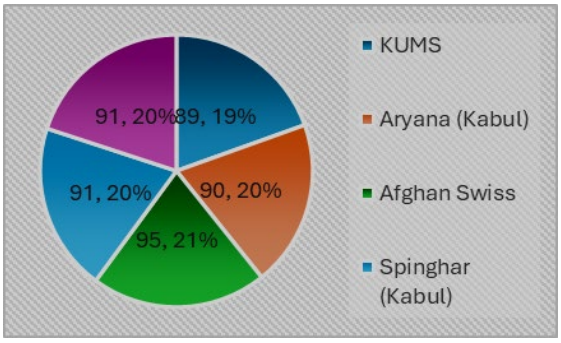

Figure 1 Number and percentage of participants from medical Institutions

Prevalence of Depressive disorders

The severity of clinical depression varied from slight to profound (overall score, greater than four), affecting 328 (71.9%) medical students. Of them, 144 (31.6%) and 156 (34.2%) reported mild depression and moderate depression respectively, while moderately severe depression, and severe depression was observed in 17(3.7%) and 11(2.4%) students respectively (Figure 2).

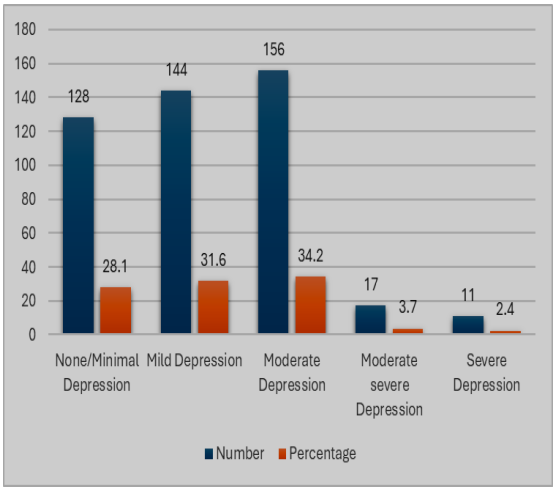

Figure 2 Frequency of depressive disorders according to severity

Students at KUMS, Aryana (Kabul), Afghan Swiss, Spinghar (Kabul), and Khatam Al-Nabiin medical institutions have varying prevalences of depressive disorders: 70.8%, 67.8%, 77.9%, 60.4%, and 82.4%, respectively. However, as Figure 4 illustrates, it was higher among students of Khatam

Al-Nabiin (82.4%) and lower among students of Spinghar (Kabul) medical institution (60.4%).

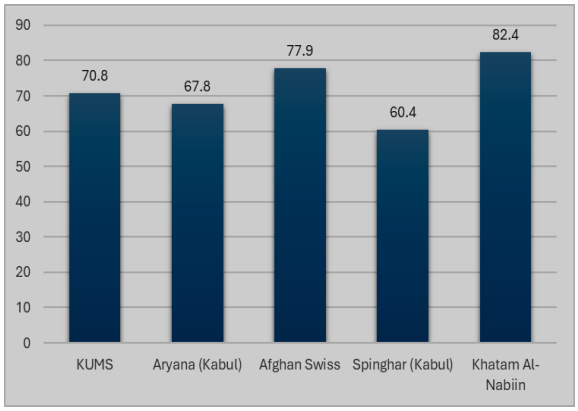

Figure 4 Percentage of depressive disorders according to different medical Institution

In the student body of medical faculties, Kabul University of Medical Sciences (KUMS) stateda a higher prevalence of moderate and severe depression, with rates of 50.6% and 4.5%, respectively. Conversely, mild depression was more prevalent among students at the Khatam Al-Nabiin medical institution, followed by those at Spinghar (Kabul) medical faculty, with rates of 42.8% and 39.6%, respectively (Table 2).

Table 2 prevalence of depressive disorders, covering mild to severe, in medical faculties

Medical institution	Depressive disorder	n (%)
KUMS	Mild	8(9.0%)
	Moderate	45 (50.6%)
	Moderate severe	6 (6.7%)
	Severe	4 (4.5%)
Aryana Kabul	Mild	21 (23.3%)
	Moderate	32 (35.5%)
	Moderate severe	5 (5.5%)
	Severe	3 (3.3%)
Afghan Swiss	Mild	40 (42.1%)
	Moderate	30 (31.5%)
	Moderate severe	3 (3.1%)
	Severe	1 (1.0%)
Spinghar (Kabul)	Mild	36 (39.6%)
	Moderate	16 (17.6%)
	Moderate severe	2 (2.2%)
	Severe	1 (1.1%)
Khatam Al-Nabiin	Mild	39 (42.8%)
	Moderate	33 (36.3%)
	Moderate severe	1 (1.1%)
	Severe	2 (2.2%)

Overall, the rate of depressive illness was much greater in third-year pupils who were starting a clinical period and were having new challenges with practical work (79.3%) than among second-year students who were adjusting to the fundamental sciences period (56.9%). In the remaining years of faculty, the rate was almost constant, as Figure 5 illustrates.

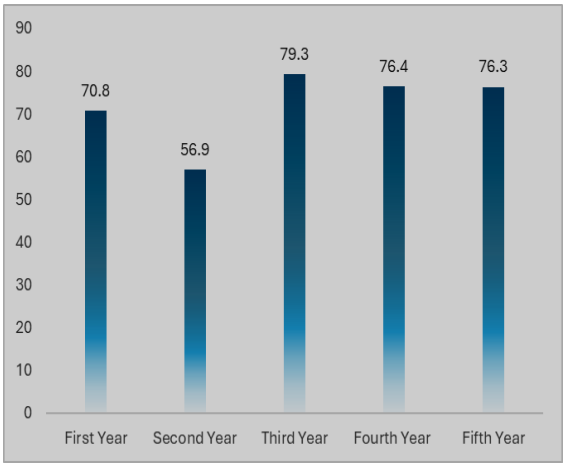

Figure 5 distribution of depressive disorders according to academic year

DISCUSSION

It is concerning that so many medical science faculty students suffer from depression as it can have a detrimental effect on their conduct, academic performance, capacity for learning, and, eventually, the standard of patient care they offer once they begin working. The "Patient Health Questionnaire-9 (PHQ-9)" was employed in this study for determining the prevalence of depression among faculty members studying curative medicine. According to this study, 71.9 % of medical pupils had depressive illness overall. Similar results were found in an investigation undertaken by Hashimi et al. among learners in Jalalabad's medical schools, where the total prevalence of depressive disorders was 72.8% (Hashimi et al., 2024). Our study's general results coincided with those of the majority of research on this issue. As per a report conducted by Zafar, 75% of medical students in Lahore had a depressive illness, seventy percent of students in a General school of medicine in Karachi had anxiety and depression, and seventy percent of students in Sri Lanka had depression (Khan et al., 2006; Mao et al., 2019; Wickramasinghe et al., 2023; Zafar et al., 2020). Our study's results nearly match the outcome of these investigations. The overall percentage of medical students who experienced depression symptoms was 60% according to a study by Faud and Maher et. al (Fuad et al., 2015), According to a report from Puducherry, India,

nearly 48.5% of a prestigious medical institution's medical students reported having depressed symptoms, and prevalence rate of 32.74% in China, which is significantly smaller than the rate seen in this research. This discrepancy could be the result of social and religious inequalities or different scales and methods of assessing depression, that need to be assessed (Kumar et al., 2017; Mao et al., 2019). In a study by Ajit Singh 49.1% of medical students were suffered from depressive symptoms, clearly states lower rate, which may be due to use of different assessment technique (Singh et al., 2010). A Kabul University of Medical Sciences (KUMS) study found that 0.65 proportion of medical students, including students from various medical fields (stomatology, nursing, pharmacy, and public health), had depression overall and was because of the university's syllabus and the conduct of its instructors, but these factors were not considered or inferred in our study as being linked to depressive disorders. Furthermore, the percentage of depression in a research conducted by Mahroon et al. at Bahrain Medical University in was 40%, which is lower than the prevalence rate in our study. This discrepancy might originate from variances in location, ethnic, ecological, and personal characteristics, as well as from the use of various instruments and analysis methods. (Mahroon et al., 2018).

According to the study's findings, 2.4% of people had severe depression, which is in line with what other studies have found. Our study's findings are similar with the findings of two other studies conducted by Hashimi et al. in Jalalabad and Ngasa in Cameroon, which revealed prevalence rates of 2.4% and 5.0%, respectively (Hashimi et al., 2024; Ngasa et al., 2017). According to Taif University research on depressive illness among pupils of medicine, the average rate of severe depression was 3.65%. This frequency is fairly similar with findings of this inquiry, suggesting that the percentage of severe depressive illness among medical learners at various institutions follows a similar pattern. The close connection between these data suggests that there may be common factors influencing sadness prevalence among these learning environments. (Zaini et al., 2017). Furthermore, 1.5% of Lahore Medicine and Dentistry College faculty members experienced serious depressive disorders, according to a study on the topic; Good learning environments and social factors may be responsible for this decreased rate; these should be further evaluated in subsequent research. (Zafar et al., 2020).

Mild and moderate depressive disorder prevalences in our study were 31.6% and 34.2%, orderly. The outcomes of other investigations are in line with this prevalence. For example, an assessment of medical faculty students in Jalalabad found that the rates of mild and moderate depression were around thirty and twenty nine percent, orderly (Hashimi et al., 2024). Similarly, a research at a medical institution in Saudi Arabia revealed that 24.5% of medical students had moderate depression and 30.4% had mild depression (Alharbi et al., 2018). Additionally prevalence of mild and moderate depression among students were reported 30.3% and 36.2% by a study in Liaqat national medical college, Pakistan (Mahroon et al., 2018). This demonstrates that mild to severe depression is an important problem among medical students worldwide, most likely as consequence of comparable learning environments. Many studies have examined the frequency of mild to moderate depression among medical students in different regions. Likewise, mild and moderate depression prevalence rates were forty and fourteen percent at Nepal Medical College, 22.6% and 24.4% at Alexandria Medical University, almost 36% and 22% at Taif, and nearly 35 % and 26% at Cameron, correspondingly (Adhikari et al., 2021; Ibrahim & Abdelreheem, 2015; Ngasa et al., 2017; Zaini et al., 2017). According to a study conducted in Malaysia by Maher D. Faud Fuad, mild and moderate depression were present in 22.7% and 24.6% of medical students, respectively (Fuad et al., 2016). The findings of our study closely match the outcomes of all the previously cited research. A number of reasons related to academic pressure, a hostile learning environment, monetary worries, private issues, and living obstacles may contribute to the likely comparable outcomes of low to moderate depression in graduates of medical schools.

Overall, 77.3% of clinical-level students in this study had depression, with 79.3% of third-year students having the condition, which was in line with yet another research's observations about the rate of depression among clinical-level students (Ngasa et al., 2017). The findings of this study showed that first-year students had an elevated prevalence of severe depression. Compared to the rates seen in previous research, these rates are significantly lower. According to a research done

in America, first-grade pupils were more than fifth-grade (resident) learners to suffer from severe depressive symptoms (Goebert et al., 2009) This disparity might be explained by variations in scales or measurement techniques and different teaching ways. In research of depressive illnesses among undergraduates in Jalalabad the students of fourth year had higher rate of depression (74.2%) (Hashimi et al., 2024), which may be due to different educational facilities and teaching conditions, need further investigation.

This study has a number of noteworthy drawbacks. First, individuals may overreport or understate depressive symptoms as a result of erroneous a sense of self or social attractiveness bias. The absence of diagnostic evaluation and the use of descriptive techniques could also be factors in this bias. Third, because depression frequency might range among various racial and cultural groups, the study might not fully take cultural variances into consideration. Fourth, because only male institutions were chosen due to Afghanistan's present restriction on female students attending higher education, the frequency of depression in this study was limited to male students. Consequently, it was not possible to compute the gender-specific depression distribution.

CONCLUSION

The primary objective of this investigation was to describe the prevalence of depressive illnesses with their distribution according to educational and sociodemographic variables. We observed that a substantial proportion of curative medical faculty students in Kabul city had depressive conditions, which suggests that clinical screening and assessment for depression in students is necessary.

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We would like to sincerely thank the medical faculty at Khatam Al-Nabiin, Afghan Swiss, Spinghar (Kabul), Aryana (Kabul), and KUMS for their important assistance and collaboration during this study. We also want to express our appreciation to the pupils at these prestigious universities, whose enthusiastic involvement was essential to accomplishment of this study project.

CONFLICT OF INTEREST

Each author contributed significantly and promisingly to the study. Every author made a significant contribution, whether it was in choosing the study's topic and title, planning the project and its procedures, carrying out the research, gathering data, assessing and comprehending the findings, or helping in any of these areas. They participated in the paper's development, critical review, and revision; they approved the final version for publication; They took charge of every step of the process and selected the publication to which the paper was submitted.

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