



Prevalence of depression, anxiety and stress (By DASS 42 Scoring System) among the undergraduate students of Sahiwal Medical College.

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INTRODUCTION

Mental ailment is one of the most communal psychological health complications universally.¹ Depression is a leading and common problematic through the motherland, and is likely to be the primary reason of illness burden by 2030.²

Rendering to the World Health Organization, depression is a mutual psychological illness categorized by grief or loss of attention or desire, feeling embarrassed or undervalued, sleep trouble or hunger, low vigor and deprived attentiveness.³ Anxiety is deliberated a condition of unease that is a physical reaction to a supposed threat. It can be actual or creative and induced by a person's opinions, views and moods.⁴ Overall, educational stresses develop an intellect of rivalry and

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ABSTRACT... Objective: The purpose of this study is to observe the prevalence of depression, anxiety and stress among undergraduate MBBS students of Sahiwal Medical College Sahiwal stratified by their gender, class and residences. **Study Design:** Cross-sectional Survey. **Setting:** Sahiwal Medical College Sahiwal. **Period:** 15th March, 2020 to May 15, 2020. **Material & Methods:** A validated questionnaire was distributed through Whatsapp to different students of all the five MBBS classes. The online survey was done because of countrywide lockdown due to COVID-19 pandemic. Depression Anxiety and Stress Scale (DASS-42) accomplished by 209 students. **Results:** Depression, anxiety and stress levels of temperate to severe range were found in 48.30, 59.80 and 44.40% of our study group, respectively. Depression was more prevalent in male students (62.50%) while anxiety and stress totals were greater amongst female students (69.40% and 63.60% respectively). First- and final-year students had high prevalence of depression (71.00% and 72.40% respectively) and stress (64.50% and 72.40% respectively) while first year and 2nd year students were more prevalent with anxiety (77.40% and 79.60% respectively) then the others. Hostel residents were found to be high in depression (61.50%) while day scholars were having greater prevalence rates of anxiety and stress (70.40% each). Students who were pleased with their training had lesser depression, anxiety and stress scores than individuals who were not contented. **Conclusions:** The increased prevalence of depression, anxiety and stress signs amongst college students is disturbing. This displays the necessity for major and ancillary preventive actions, by the improvement of suitable and fitting support facilities for this group.

Key words: COVID-19, Depression, DASS-42, MBBS.

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inspiration among students and inspire learning. Nevertheless, occasionally this strain results in anxiety and a sense of helplessness, which leads to stress-related ailments and damagingly disturbs both educational and non- educational performance.

Undergraduates with DAS are subject to educational hitches, dropouts, muddled affiliation with contacts and everyday associates, disappointment to handle anxiety posture, and may progress into panic disorder.⁵ This hints to absence of self-assurance, conciliates the skill to deal with difficulties of everyday life that directly distresses a student's academic performance⁶.⁷ This amplified spread can be characterized by the point that college undergraduates are thought

to formulate for their specialized jobs alongside improved educational and communal duties that lead to numerous features of DAS.

The incidence of the illness fluctuates from one nation to another as well as from one institute to another.⁸ Presently, mental health illnesses are a significant community health problem and are a main reason of incapacity around the world demonstrating one third of years of life adjusted for disability (DALYs). Amongst undergraduate students in Canada, 30% of students affected by mental ailments.⁹ Moreover, further 50% of students in the United States¹⁰, 53% of students in Australia¹¹, and 41.9% of students in Malaysia¹² have difficulties related to mental well-being. Depression, anxiety and stress were noted at 27.1%, 47.1% and 27%, respectively in a study.¹³ Yet another study identified that the stress incidence rate is 12.9%.¹⁴

Asia looks to be distressing further with DAS. A study was piloted on university medical undergraduates in India described that additional half of participants were disturbed by depression (51.3%), anxiety (66.9%), and stress (53%).¹⁵ Studies in Iran conveyed that more than one third college students were having depression. Out of total studies directed to DAS in scholars in Pakistan, the study of college students testified a substantial level (73.8%) of anxiety and depression.¹⁶ Likewise, researches directed on medical undergraduates stated a modest level of anxiety and depression.

As far as the authors' information is concerned, none of the researches mentioned the incidence of depression, anxiety, and stress between medical college undergraduates in Punjab, Pakistan. Hence, this study was aiming to evaluate the prevalence of DAP amongst MBBS medical students in Sahiwal, Punjab.

MATERIAL & METHODS

A descriptive cross-sectional research was piloted amongst undergraduate MBBS students of Sahiwal Medical College Sahiwal. Students were chosen from different MBBS classes of Sahiwal Medical College Sahiwal, Pakistan. The whole

period of this study was from 15th March, 2020 to May 15, 2020. Questionnaire was distributed among 250 medical students out of which 209 participants responded. The response rate was 83.60%.

The criteria for inclusion was that the study only included MBBS undergraduates. The undergraduates who met the criteria were involved in the research after explanation of the study purposes and the informed approval of the contributors. Graduates and post graduates were omitted from the research.

DAS were at that time measured on the DASS-42 scale. This was used and authenticated in numerous researches in the similar population^{20,25,26} and is intended to review the three chief mental zones of DAS. All the essentials of the questionnaire were socially permitted and made the assessment flexible to every culture.¹⁸ MBBS medical students of both sexes were requested to take part in the research. Data were studied using SPSS version 20.0 and it comprised of frequency of DAS and demographic features of the members participating in the study. All tests were smeared at a 95% confidence level.

The probability value <0.05 was deliberated to be significant.

RESULTS

Out of 250 students, 209 responded with the survey so our study had a response rate of 83.60%. Majority of our respondents were females (59.70%). Similarly 87.10% of the students were residents of hostels (Table-I).

DAS stages of moderate severity or beyond were established in 48.30, 59.80 and 44.40% of our study group, respectively. Depression was more prevalent in male students (62.50%) while anxiety and stress scores were more amongst female undergraduates (69.40% and 63.60% respectively). First- and final-year students had high prevalence of depression (71.00% and 72.40% respectively) and stress (64.50% and 72.40% respectively) while first year and 2nd

year students were more prevalent with anxiety (77.40% and 79.60% respectively) then the others. As far as the prevalence rates according to residence of students are concerned, hostel residents were found to be high in depression (61.50%) while day scholars were having higher prevalence rates of anxiety and stress (70.40% each). It is calculated by totaling all the groups as Moderate, Severe and Very Severe of every variant (i.e. DASS) (Table-II).

As far as the satisfaction of the students with their academic environment was concerned, 65% of the study participants thought that their academic performance had decreased since their admission at Sahiwal Medical College Sahiwal. Majority (75%) of the students were also of the view that study hours had decreased in MBBS. Seventy four (74%) of them felt the study environment as tiring and stressful. So 90% were agreed to the fact that they study more easily at home than college. But as far as the effect of this environment on depression is concerned, 69% never felt any need to take anti-depressants and 91% never consulted any psychiatrist. A major junk (72%) of the study respondents would not be taking any pills or smoking habits in near future due to study environment. Majority (76%) also gave no history of any medication related to depression, painkillers, and sleeping pills or smoking (Figure-1 – Figure-8).

According to inferential characteristics, our study found statistically significant association of depression with different classes of MBBS ($P=0.020$). Similarly, statistically substantial association was also established between anxiety and MBBS classes ($P=0.024$) (Table-VI and Table-VII).

While Stress was non-significantly associated with year of study of MBBS (Table-VIII).

Associations of DAS were not established to be statistically significant with gender (Table-III, IV and V) and residence of the respondents (Table-IX, X and XI).

Demographic Characteristics	Groups	Frequency - n (%)
Gender	Male	88 (42.1)
	Female	121 (57.9)
Age	<18	2 (1)
	18-25	207 (99)
Class (MBBS)	First Year	62 (29.7)
	Second Year	49 (23.4)
	Third Year	35 (16.7)
	Fourth Year	34 (16.3)
	Final Year	29 (13.9)
Residence	Day Scholar	27 (12.9)
	Hostel Resident	182 (87.1)

Table-I. Frequency distribution of demographic characteristics (n=209).

Variables	Groups	Frequency - n (%)	Total
Depression	Extremely severe	32 (15.30)	48.30%
	Severe	27 (12.90)	
	Moderate	42 (20.10)	
Anxiety	Extremely severe	52 (24.90)	59.80%
	Severe	28 (13.40)	
	Moderate	45 (21.50)	
Stress	Extremely severe	21 (10.00)	44.40%
	Severe	31 (14.80)	
	Moderate	41 (19.60)	

Table-II. Frequency of depression, anxiety and stress among undergraduate students (n=209)

PIE CHARTS (n=209)

Academic performance has improved after taking admission in medical college

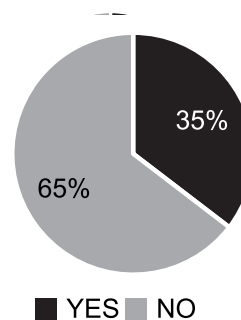
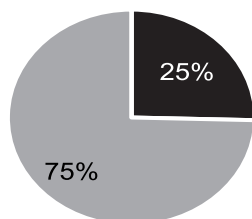


Figure-1

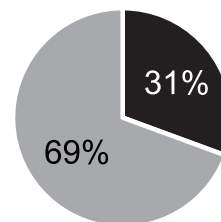
Study hours after taking admission in medical college



■ YES, The hours have increased
 ■ NO, The hours have decreased

Figure-2

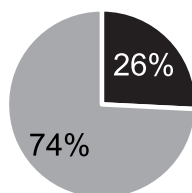
Ever felt need to take anti depressants or sleeping pills



■ YES ■ NO

Figure-5

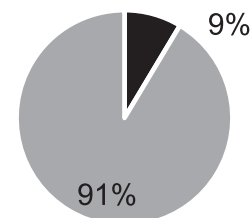
Study environment



■ RELAXING, HELPFUL
 ■ TIRING, STRESSFUL

Figure-3

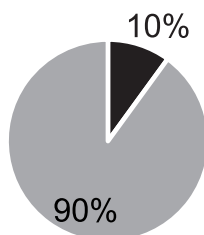
Consulted a psychiatrist after taking admission in medical college



■ YES ■ NO

Figure-6

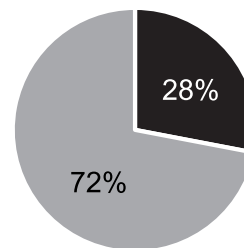
Study more easily at



■ COLLEGE ■ HOME/HOSTEL

Figure-4

Would be taking painkillers/sleeping pills/smoking because of working environment



■ YES ■ NO

Figure-7

PREVALANCE RATES ACCORDING TO DIFFERENT DEMOGRAPHIC CHARACTERISTICS

Variables	Total (n=209) n (%)	Males (n=88) n (%)	Females n=121) n (%)	χ^2	P-Value
Depression					
Extremely Severe	32 (15.30)	8 (9.10)	24 (19.80)		
Severe	27 (12.90)	14 (15.90)	13 (10.70)		
Moderate	42 (20.10)	19 (21.60)	23 (19.00)		
Mild	26 (12.40)	14 (15.90)	12 (9.90)		
Normal	82 (39.20)	33 (37.50)	49 (40.50)	6.649	0.156

Table-III. Prevalence of depression among undergraduates at Sahiwal Medical College stratified by gender (N=209).

Variables	Total (n=209) n (%)	Males (n=88) n (%)	Females (n=121) n (%)	χ^2	P-Value
Anxiety					
Extremely Severe	52 (24.90)	18 (20.50)	34 (28.10)	1.789	0.774
Severe	28 (13.40)	12 (13.60)	16 (13.20)		
Moderate	45 (21.50)	21 (23.90)	24 (19.80)		
Mild	17 (8.10)	7 (8.00)	10 (8.30)		
Normal	67 (32.10)	30 (34.10)	37 (30.60)		

Table-IV. Prevalence of anxiety among undergraduates at Sahiwal Medical College stratified by gender (N=209).

Variables	Total (n=209) n (%)	Males (n=88) n (%)	Females (n=121) n (%)	χ^2	P-Value
Stress					
Extremely Severe	21 (10.00)	6 (6.80)	15 (12.40)	4.176	0.383
Severe	31 (14.80)	10 (11.40)	21 (17.40)		
Moderate	41 (19.60)	18 (20.50)	23 (19.00)		
Mild	31 (14.80)	13 (14.80)	18 (14.90)		
Normal	85 (40.70)	41 (46.60)	44 (36.40)		

Table-V. Prevalence of stress among undergraduates at Sahiwal Medical College stratified by gender (N=209).

Variables	Total (n=209) n (%)	1 st Year (n=62) n (%)	2 nd Year (n=49) n (%)	3 rd Year (n=35) n (%)	4 th Year (n=34) n (%)	Final Year (n=29) n (%)	χ^2	P-Value
Depression								
Extremely Severe	32 (15.30)	14 (22.60)	6 (12.20)	3 (8.60)	4 (11.80)	5 (17.20)	26.62	0.020
Severe	27 (12.90)	5 (8.10)	8 (16.30)	5 (14.30)	2 (5.90)	7 (24.10)		
Moderate	42 (20.10)	18 (29.00)	12 (24.50)	5 (14.30)	2 (5.90)	5 (17.20)		
Mild	26 (12.40)	7 (11.30)	8 (16.30)	4 (11.40)	3 (8.80)	4 (13.80)		
Normal	82 (39.20)	18 (29.00)	15 (30.60)	18 (51.40)	23 (67.60)	8 (27.60)		

Table-VI. Prevalence of depression among undergraduates at Sahiwal Medical College stratified by class (N=209).

Variables	Total (n=209) n (%)	1 st Year (n=62) n (%)	2 nd Year (n=49) n (%)	3 rd Year (n=35) n (%)	4 th Year (n=34) n (%)	Final Year (n=29) n (%)	χ^2	P-Value
Anxiety								
Extremely Severe	52 (24.90)	22 (35.50)	14 (28.60)	5 (14.30)	6 (17.60)	5 (17.20)	29.01	0.024
Severe	28 (13.40)	8 (12.90)	7 (14.30)	4 (11.40)	3 (8.80)	6 (20.70)		
Moderate	45 (21.50)	12 (19.40)	13 (26.50)	8 (22.90)	3 (8.80)	9 (31.10)		
Mild	17 (8.10)	6 (9.70)	5 (10.20)	3 (8.60)	1 (2.90)	2 (6.90)		
Normal	67 (32.10)	14 (22.60)	10 (20.40)	15 (42.90)	21 (61.80)	7 (24.10)		

Table-VII. Prevalence of anxiety among undergraduates at Sahiwal Medical College stratified by Class (N=209).

Variables	Total (n=209) n (%)	1 st Year (n=62) n (%)	2 nd Year (n=49) n (%)	3 rd Year (n=35) n (%)	4 th Year (n=34) n (%)	Final Year (n=29) n (%)	χ^2	P-Value
Stress								
Extremely Severe	21 (10.00)	10 (16.10)	5 (10.20)	1 (2.90)	3 (8.80)	2 (6.90)	17.99	0.324
Severe	31 (14.80)	12 (19.40)	4 (8.20)	7 (20.00)	3 (8.80)	5 (17.20)		
Moderate	41 (19.60)	13 (21.00)	11 (22.40)	5 (14.30)	4 (11.80)	8 (27.60)		
Mild	31 (14.80)	5 (8.10)	9 (18.40)	6 (17.10)	5 (14.70)	6 (20.70)		
Normal	85 (40.70)	22 (35.50)	20 (40.80)	16 (45.70)	19 (55.90)	8 (27.60)		

Table-VIII. Prevalence of stress among undergraduates at Sahiwal Medical College stratified by class (N=209).

Variables	Total (n=209) n (%)	Day Scholars (n=27) n (%)	Hostel Resident (n=182) n (%)	χ^2	P-Value
Depression					
Extremely Severe	32 (15.30)	4 (14.80)	28 (15.40)	2.278	0.685
Severe	27 (12.90)	4 (14.80)	23 (12.60)		
Moderate	42 (20.10)	6 (22.20)	36 (19.80)		
Mild	26 (12.40)	1 (3.70)	25 (13.70)		
Normal	82 (39.20)	12 (44.40)	70 (38.50)		

Table-IX. Prevalence of depression among undergraduates at Sahiwal Medical College stratified by residence (N=209).

Variables	Total (n=209) n (%)	Day Scholars (n=27) n (%)	Hostel Resident (n=182) n (%)	χ^2	P-Value
Anxiety					
Extremely Severe	52 (24.90)	5 (18.50)	47 (25.80)	2.391	0.664
Severe	28 (13.40)	6 (22.20)	22 (12.10)		
Moderate	45 (21.50)	6 (22.20)	39 (21.40)		
Mild	17 (8.10)	2 (7.40)	15 (8.20)		
Normal	67 (32.10)	8 (29.60)	59 (32.40)		

Table-X. Prevalence of anxiety among undergraduates at Sahiwal Medical College stratified by residence (N=209).

Variables	Total (n=209) n (%)	Day Scholars (n=27) n (%)	Hostel resident (n=182) n (%)	χ^2	P-Value
Stress					
Extremely Severe	21 (10.00)	3 (11.10)	18 (9.90)	5.318	0.256
Severe	31 (14.80)	2 (7.40)	29 (15.90)		
Moderate	41 (19.60)	7 (25.90)	34 (18.70)		
Mild	31 (14.80)	7 (25.90)	24 (13.20)		
Normal	85 (40.70)	8 (29.60)	77 (42.30)		

Table-XI. Prevalence of stress among undergraduates at Sahiwal Medical College stratified by residence (N=209).

Used to smoking or taking
sleeping pills/pain killers

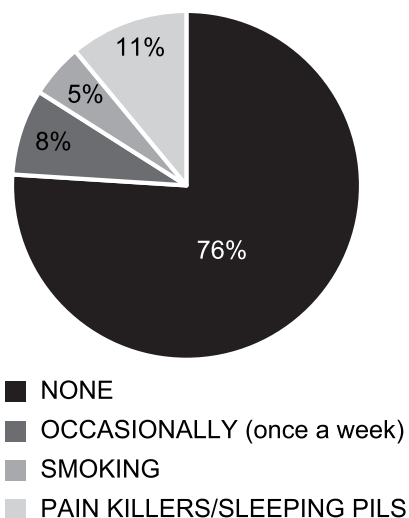


Figure-8

DISCUSSION

The research demonstrated that there is a pronounced deal of DAS amongst MBBS medical undergraduates in different classes in Sahiwal Medical College Sahiwal, Punjab. This research is in parallel to additional researches accompanied formerly in Pakistan and other nations. By comparing, the present research was piloted precisely for MBBS students.¹⁷ Depression in the preceding studies as well as at present has been assumed with the maximum rates of illness as well as anxiety and stress in medical teaching internationally¹⁸ and so it was a motivating theme for researchers. This study put a spotlight on mental illnesses with DAS among students of MBBS in Punjab, Pakistan. Similarly, the response of the members was 83.60%, thus authenticating the research results. Incidence rate of depression is 48.30%, anxiety 59.80% and stress 44.40% which is higher than that of a

previous study.¹⁹

The Statistically significant association of depression with MBBS class in our study was in contrary to previous studies done on the same topic.^{20,21} Similarly the statistically significant result of anxiety with MBBS class was also in opposite to that found previously by Dehlin et., al.²²

The great incidence of depression and stress in 1st year undergraduates can be attributed to burden of study and to fear of unknown while they enter the new institution after intermediate. First year MBBS students at Pakistan generally feel unable to cope with choice of right study material for their studies.²³ As far as the high prevalence rate of depression and stress is concerned with Final year MBBS students, it can be attributed to increase in demand of understanding of clinical subjects like Medicine, surgery and Pediatrics which require sound knowledge and excellent clinical skills as well.²⁴

CONCLUSION

Nearly two third of the MBBS undergraduates were established to agonize from DAS. A critical necessity is needed to launch precautionary plans and pinpoint mental health elevation for medical undergraduates in Pakistan. To assist medical students, continuous alterations should be created between different learning atmospheres as learning requirements modify with the amplified academic load.

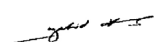

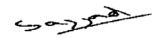



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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Raees Abbas Lail	Conception and design of work, results compiling.	
2	Nauman Aziz	Supervision and revising it critically for important intellectual content.	
3	Hafiza Swaiba Afzal	Help in biostatistics.	
4	Sajjad Hussain Sabir	Final approval of the version to be published.	
5	Tooba Waseem	Analysis and interpretation.	
6	Iqra Qamar	Write-up of the article.	
7	Nabeel Bhatti	Help in Data analysis.	