

A Comparative Assessment of Stress Levels between Initial and Final Year MBBS Hostel Residents of a private medical college in Lahore

ISMAIL MAZHAR¹, QUDSIA UMAIRA KHAN², NOUMAN ASAD³, HUNNIYA BINT E RIAZ⁴, KHAWAJA HAIDER SAMI⁵, AIZA FAISAL KHAN⁶

^{1,3,4}th Year MBBS Student, CMH Lahore Medical College and Institute of Dentistry, Lahore, Pakistan

²Associate Professor Physiology, CMH Lahore Medical College and Institute of Dentistry, Lahore

⁴Final Year MBBS Student, CMH Lahore Medical College and Institute of Dentistry, Lahore, Pakistan

^{5,6}2nd Year MBBS Student, CMH Lahore Medical College and Institute of Dentistry, Lahore, Pakistan

Correspondence to Ismail Mazhar, Email: ismailmazhar8899@gmail.com Phone: +92 345 8329979

ABSTRACT

Aim: To find the emotional and environmental stress in hostel resident medical students.

Methods: The undertaken cross-sectional comparative study aims to identify and compare the responses of final and initial (2nd year) year medical students living in hostel in a private medical college in Lahore to environmental and emotional stress through a structured questionnaire. The 125 responses were analyzed through SPSS.

Results: Stress of two types faced by medical hostel students were analyzed in the study. The study showed that responses ranged from lack of medical facilities to hostel rules in environmental stress and disloyalty to extra burden of study activities in emotional stress. A comparison of responses showed that there was no significant difference between males and females as both faced similar environmental and emotional stress. Further, analysis depicted that initial-year hostellers were more sensitive to both types of stress as compared to final-year medical hostellers. Thus, finally, the results highlighted that emotional factors caused more stress as compared to environmental factors.

Practical implication: The study would help the students with an insight, realization, and identification of situations that could cause stress during hostel life experiences. This understanding could be helpful in overcoming the issues before they cause emotional or environmental stress, thus developing the capacity to cope in a productive manner. Further, this study would be helpful in arranging and providing professional mentoring.

Conclusion: It is concluded that stress is unavoidable and is likely to be experienced by medical students residing in hostels. The study focused on stress caused by environment and emotions. The results of the study suggest that it was important to realize and identify stress-causing situations for students to focus on study challenges with a healthy mind and body.

Keywords: Medical students, hostel, stress, psychological stress, mental health

INTRODUCTION

The life and personality of humans is an amalgamation of socioeconomic position of the family, the genetic legacy, and differences in opportunities and environment of receiving education. Speaking of education, hostel life provides students a reciprocal chance to learn perceptions of religion, ethics, and morals¹. Additionally, an excel in achievement of educational targets requires body and mind health. According to the World Health Organization, health is defined as a condition of ample physical, mental, and communal well-being². However, stress is an unavoidable response of the body to the demands and disturbing events in the environment resulting in sadness, worries, tension, and frustration.

It is a fact that during their education journey, students experience a wide range of overlapping psychological difficulties like stress that contribute to functional impairment. In the medical school context, a mixture of emotional and environmental stress presentations like depression and burnout are likely to occur and sadly could lead to suicide, alcohol, or substance abuse both among males and females³. Many research works suggest that gender differences occur in perceptions of stress and the consumption of resources that can help to lower the effects of stress-causing factors⁴. Despite gender differences, stress and depression are significantly high in medical students, especially for the hostellers who live away from home and whose issues are not diagnosed seriously^{5,6}. An increase in stress can lead to violent episodes or profound social neglect; low self-esteem, self-harm, and suicidal attempts⁷.

Therefore, the study undertaken focused on medical students who reside in hostels and face other stressful situations. The present study compared responses of senior and junior medical hostel students regarding their experience with various stress-creating situations. The study highlighted the issue of

whether stress was based on personal capacity of coping with situations or is enhanced by stress caused by the difficulty level of studies at medical college.

Stress: The roots of stress visibly prevail in the social system. Stress is defined as a compound, multidimensional undesirable emotion⁸.

Stress and Students: Students are likely to face environmental stress like academic and institutional stress along with emotional stress like issues with family and economic stress. It is reported that a desire for academic attainment, insistence from parents, and wish and aspiration to follow higher education aspirations are some of the consistent pressures faced by the students⁹. A study explored the effect of academic stress on students' performance and found the impacts of gender, age, and educational level on academic performance¹⁰. Another study found a significant effect of academic stress on the performance of male and female students being higher in junior students.

Stress and gender: Gender differences necessarily appear in various stress levels. Females are reported to show a higher level of stress as compared to males. A research reported that women are reported to experience lasting and slight stress in daily life as compared to men and perceived more negative and uncontrollable events in their lives⁴. Another study investigated gender differences in stress and concluded that girls reported progress in confronting stress after they received positive social support.⁵ Another research depicted that males engage in strategies to gain self-control while females prefer to receive social support to help them⁶.

Stress and Professional Education: Many studies declared that college and professional students have higher stress levels. Psychological breakdowns and mood disorders are common among university students affecting the mood, behavior, and outlook of the person, along with sleeping and eating habits.

Students Stress and Medical Students: Medical students confront many factors during their academic and clinical study that could lead to high levels of stress, depression, and anxiety, thus, stress is higher for medical students⁹. Thus, factors like academic

Received on 13-12-2022

Accepted on 24-05-2023

requirements, time pressure and social adjustments, large workload, time commitment, the number of assessments, and a pressurized clinical environment add to stress. About one-third of medical students worldwide are affected by stress showing nervousness, burnout, suicidal feelings, and drug abuse⁷.

Hostel Life and medical students: Hostel life enables the students to learn to live independently while compromising, but they may face numerous problems like financial crises, adjustment matters, personal powerlessness, anguish, deviations in eating and sleep behaviors, etc. This creates emotional and environmental stress that demands more than adaptive capacity and psychological pressures.

Therefore, students' help-seeking behavior during their stay at medical school is important to avoid workplace accidents among doctors. It is also found that stressed doctors make six times more medication errors as compared to the ones not stressed. A longitudinal observational study at the Medical School of the University of Minho, Portugal, signified anxiety and burnout among medical students during medical training.¹¹ Another study on hostel medical students depicted that stress could be cured through motivation, clinical environment, workplace wellness model, integration of peer and faculty-led support, and curriculum management¹².

The above literature review suggested a paucity of studies on stress among medical hostellers in Pakistani scenario. Thus, the present study highlighted the comparison between responses of senior and junior medical hostel students regarding their experience with various emotional or environmental stress situations.

This study would benefit the students to realize their reactions to commonly faced situations that can cause stress. This would help them develop a better understanding of self as a stress-free mind is essential for smooth studying capability. The results would also help the mentors to focus on the availability of psychological help to students to study with a relieved mind for a better focus and hence better academic scores. The study could be extended by extracting data from other hostels in different colleges. The study could be planned by comparing stress levels between hostel and day scholars.

METHODOLOGY

This comparative, cross-sectional study was conducted at CMH, Lahore Medical College, from February 2022 to April 2022. Inclusion criteria were medical students consenting to undertake the study from initial and final years. Exclusion criteria were nonmedical students along with third- and fourth-year medical students. The sample size was calculated using the Cochran formula, which estimated to be 125, using a z value of 1.96 for 95% confidence level, standard deviation of 1.55, Z β of 0.84 power, μ_1 of 3.69 and μ_2 of 3.14. Purposive sampling technique was used for the research. The questionnaire was distributed after informing participants about the objective of the study. The study was approved by the College Ethical Review Committee. The structured questionnaire⁸ with 24 items measured stress through situations likely to occur in hostel life. The 5-point Likert scale against each item was never, sometimes, many times, often, and always. Data was processed in SPSS, version 23. The collected data was analyzed by applying the descriptive statistics (compare means) and the difference in ratio was measured through independent sample t-test and chi-square test at 0.05 significance level. Moreover, for validity, the questionnaire was also checked by experts in field. The reliability of the questionnaire was measured by applying Cronbach alpha.

RESULTS

The data was analyzed through SPSS and presented in tables and figures for clarity. Initially, the data was presented in the following categories: gender, level of education, name of the hostel, environmental and emotional stress among males, females, and different levels of education. Data was collected to find out the

stress level of the initial and final years in terms of environmental and emotional factors from equal number of male (60) and female (60) hostellers. Moreover, there were an equal number of hostellers from the initial year (60) and final year (60).

The data analysis of the major environmental factor contributing to stress was lack of medical facilities (M=2.86), then hostellers responded that differences in the eating habits among the hostel fellows were also a serious cause of their stress (M=2.50), the change of taste in water also contributes to stress (M=2.40) and lack of freedom in hostel life as well (M=2.31), some other factors were also highlighted such as congested hostel rooms (M=1.89), difference in lifestyle among hostel fellows (M=1.71), skirmishes among various groups in the hostel (M=1.67), tasteless food (M=1.62) least highlighting environmental factors were, accessibility of electricity, difference in the cultures of home town and hostel, Pressure to do the things which are out of their comfort zone (M=1.61) and strict hostel rules (M=1.50)

The data further represented that the major emotional factors contributing to stress were disloyalty of hostel fellows and unwelcomed indulgence in activities (2.9), lack of financial assistance, and difficulty in building relationships with hostel fellows (M=2.6), then highlighting factors were the non-cooperative attitude of hostel fellows and difficulty in expressing their own point of view to other fellows (M=2.5) then hostellers responded that insensitive attitude of hostel warden and lack of care during sickness also adds to stress (M=2.2, M=2.1 respectively), homesickness also cause great stress (M=2.0), Negligence in support from hostel friends (M=1.9), the least highlighting factors were disturbance by hostel fellows during exams (M=1.7), doing all work by their own (M=1.1) and burden of contributing to different activities (M=1.0)

In further investigation, a comparison was made between the two types of stress and their occurring amid male and female hostel residing students. It was found that both males and females were facing the same environmental and emotional stress. Data also exhibited that emotional factors (M=76.1 for males, 75.6 for females) were causing more stress as compared to the environmental factors (M=23.1 for males, 23.5 for females). Furthermore, females were acquiring a little bit more environmental but less emotional stress than males, whereas males were acquiring a little bit more emotional but less environmental stress than females.

The comparison of the data further depicted that emotional factor (M=76.1 for initial year, 75.6 for final year) was causing more stress as compared to the environmental factors (M=24.1 for initial year, 23.1 for final year). The data also showed that initial-year hostellers faced more environmental stress (M=24.1 for initial year, 23.1 for final year) as well as more emotional stress (M=76.1 for initial year, 75.6 for final year) as compared to the final year students. Furthermore, initial-year hostellers experienced more environmental and emotional stress than final-year students.

DISCUSSION

This study was conducted to highlight the factors causing stress among medical students residing in hostels. There are many factors that may cause stress. This study focused on environmental and emotional stress. Data was collected from initial-year and final-year students to compare their stress levels. The collected data was analyzed by applying different statistics. The data of responses on factors that caused environmental stress were analyzed and presented in Table 1. Table 2 presented the data collected from responses that dealt with emotional factors responsible for causing stress among hostellers.

The results highlight that the emotional factors, with a p-value of 0.020, were seriously affecting the students' study, these factors created more stress as compared to the environmental factors. Emotional factors (M=76.1 for males, 75.6 for females) caused more stress as compared to the environmental factors. The analysis was also made on a comparison of environmental stress and emotional stress between initial year and final year hostel residents. The analysis highlighted that emotional factors (M= 6.1

for initial year, 75.6 for final year) caused more stress as compared to the environmental factors. The results are presented in Table 3.

Table 1: Environmental factors causing the stress

Descriptive Statistics	N	Min.	Max.	Mean	Std. Deviation
Accessibility of electricity for a lesser duration	120	1.00	3.00	1.6167	.73546
A different taste of drinking water than in hometown	120	1.00	3.00	2.4083	.51033
The size of the hostel room is small to facilitate learning	120	1.00	3.00	1.8917	.77564
Tasteless food	120	1.00	3.00	1.6250	.64901
Skirmishes among various groups in the hostel	120	1.00	3.00	1.6750	.66310
Strict hostel discipline	120	1.00	2.00	1.5083	.50203
Variance in the hometown and hostel culture	120	1.00	3.00	1.6167	.66337
Inadequate hostel freedom	120	1.00	3.00	2.3167	.85978
Unavailability of medical facilities in the hostel	120	2.00	3.00	2.8667	.34136
Differences in the lifestyle of myself and other hostel fellows	120	1.00	3.00	1.7167	.74680
The difference in eating habits of oneself and fellows	120	2.00	3.00	2.5083	.50203
Valid N (list wise)	120				

Table 2: Emotional factors causing the stress

Descriptive Statistics	N	Min.	Max.	Mean	Std. Deviation
Feeling of homesickness	120	1.00	3.00	2.0417	.66605
Disturbance by roommates during the examination	120	1.00	3.00	1.7333	.77496
Insufficient financial assistance from home	120	2.00	3.00	2.6417	.48152
Incapacity to express notions and thoughts with group members	120	1.00	3.00	2.5500	.64626
An insensitive attitude of the hostel warden	120	1.00	3.00	2.2167	.71224
Obligation to do all my work by myself	120	1.00	3.00	1.1750	.44273
Hostellers' secret and unwelcomed indulgence in activities	120	2.00	3.00	2.9000	.30126
Disloyalty of a hostel friend	120	2.00	3.00	2.9167	.27754
Negligence from friends when I need any support.	120	1.00	3.00	1.9833	.54976
Nobody takes my care when I am sick	120	1.00	3.00	2.1250	.71670
Unable to establish relation with hostel fellows	120	2.00	3.00	2.6417	.48152
Not receiving assistance from friends in studies	120	2.00	3.00	2.5000	.50210
Valid N (listwise)	120				
Valid N (listwise)	120				

Table 3: Comparison of environmental stress and emotional stress between initial year and final year hostel residents

Case Summary	Processing	Cases					
		Included		Excluded		Total	
		N	%age	N	%age	N	%age
Environmental stress among Initial and Final Year Hostel Residents		120	100	0	0	120	100
Emotional stress among Initial and Final Year Hostel Residents		120	100	0	0	120	100

Report		
Level of education	Environmental	Emotional
Initial Year	Mean	24.1500
	N	60
	Std. Deviation	2.05703
Final Year	Mean	23.1833
	N	60
	Std. Deviation	1.98547
Total	Mean	23.3667
	N	120
	Std. Deviation	2.02478

Further, the data was also analyzed to compare the male and female stress levels and it highlighted that females experienced more environmental and emotional stress than males. Initial-year

students experienced more environmental and emotional stress than final-year students.

The environmental highlighted factors: The data represented that the major environmental factor was lack of medical facilities (M=2.86), then hostellers responded that different eating habits among the hostel fellows were also a serious cause of their stress (M=2.50), the change of taste in water is also creating stress (M=2.40), and lack of freedom in hostel life as well (M=2.31), some other factors were also highlighted such as the congested size of rooms (M=1.89), the difference in the lifestyle among hostellers (M=1.71), skirmishes among various groups (M=1.67), tasteless food of the hostel mess (M=1.62) least highlighting environmental factors were, accessibility of electricity, the difference in the cultures in home town and hostel and strict hostel rules (1.50).

The highlighted emotional factors: The data represented that the major environmental factors were disloyalty of hostel fellows and unwelcomed indulgence in activities (2.9), lack of financial assistance, and difficulty in building relationships with hostel fellows (M=2.6), then highlighted factors were the non-cooperative attitude of hostel fellows furthermore hostellers responded that insensitive attitude of hostel warden and lack of care during sickness also causes stress (M=2.2, M=2.1 respectively), homesickness also cause great stress (M=2.0) negligence in support from hostel friends (M=1.9), the least highlighted factors were disturbance by hostel fellows during exams (M=1.7), and doing all work by their own (M=1.1).

CONCLUSION AND RECOMMENDATIONS

The study undertaken investigated two kinds of stress, environmental and emotional, among initial and final-year medical students residing in hostels. It is concluded that the students were more affected by emotional factors causing stress. It was also found that stress level was higher among initial-year students than final-year students. The initial year students were more prone to facing and had less capacity to cope and handle the surprising or routine events and factors that cause stress. However, with the passage of time, they were used to these situations with more tactics and capacities to face and handle unpleasant events. The study also concluded that female students were more sensitive to stress-causing situations as compared to male medical students.

The results of the study highly recommend that as students from far fetched areas live in hostels to pursue higher and better educational facilities, it is integral for the institution to assure a high level of comfort zone in accord with the nature of each student. It was vital to ensure medical assistance inside the hostel with medicine availability. Improving the quality of food could be an answer to many discomforts too.

REFERENCES

- Kim YS, Kim HN, Lee JH, Kim SY, Jun EJ, Kim JB. Association of stress, depression, and suicidal ideation with subjective oral health status and oral functions in Korean adults aged 35 years or more. *BMC Oral Health*. 2017; 17 (1): p. 101–110. Available from: <https://pubmed.ncbi.nlm.nih.gov/28645271/>
- Rana A, Gulati R, Wadhwa V. Stress among students: An emerging issue. *Integrated Journal of Social Sciences*. 2019; 6(2), p. 44-48. Available from: <http://pubs.iscience.in/journal/index.php/ijss/article/view/891>
- Kneavel M. Relationship between gender, stress, and quality of social support. 2020, *Psychological Reports*. 2020; 0(0), p. 1–21. Available from: <https://pubmed.ncbi.nlm.nih.gov/32635816/>
- Lee CS, Dik BJ. Associations among stress, gender, sources of social support, and health in emerging adults. *Stress and Health: Journal of the International Society for the Investigation of Stress*. 2017; 33(4), p. 378–388. Available from: <https://pubmed.ncbi.nlm.nih.gov/27762485/>
- Liaqat H, Usama KC, Abeer A, Jibrán MS, Syed AR, Ammar KC, Akash K, Ghazala U. Deranged Mental Homeostasis in Medical Students: Evaluation of Depression, Anxiety and Stress among Home and Hostel Students. *Acta Psychopathologica*. 2017; 3(1: 2): p.1-6. Available from: <https://www.primescholars.com/articles/deranged-mental-homeostasis-in-medical-students-evaluation-of-depression-anxiety-and-stress-among-home-and-hostel-studen-104222.html>
- Adrados AR, Martínez SF, Pascual BM, Gonzalez-de-Ramos C,

- Fernández-Eliás VE, Clemente-Suárez VJ. Psychophysiological stress response of physiotherapy last year students in his final degree dissertation. *Physiology & Behavior*. 2020; 222: 112928. Available from: <https://pubmed.ncbi.nlm.nih.gov/32422163/>
7. Chandra P. A Study of Stress among Hostellers. *International Journal of Science and Research*. 2019; 8 (2): p. 314-319. Available from: https://www.ijsr.net/get_count.php?paper_id=ART20195041
 8. Grace SA, Kwaku D A, Salifu MM, Yeboah R, Priscilla CM. Gender Differences in Stressors and Coping Strategies Among Teacher Education Students at University of Ghana. *Journal of Education and Learning*. 2020; 9 (2): p.123-133. Available from: <https://files.eric.ed.gov/fulltext/EJ1248297.pdf>
 9. Redondo LF, Tornero-Aguilera JF, Ramos-Campo DJ, Clemente-Suárez VJ. Gender differences in stress- and burnout-related factors of university professors. *Bio Med Research International*. 2020: p. 1-9. Available from: <https://www.hindawi.com/journals/bmri/2020/6687358/>
 10. Bischoff LL, Otto AK, Hold C, Wollesen B. The effect of physical activity interventions on occupational stress for health personnel: a systematic review. *International Journal of Nursing Studies*. 2019; 97: p. 94–104. Available from: <https://pubmed.ncbi.nlm.nih.gov/31234106/>
 11. Silva V, Patrício C, Inês P, Ricardo F, Ana PS, Manuel JC, Nuno S, João JC, Pedro M. Depression in medical students: insights from a longitudinal study. *Silva et al. BMC Medical Education*. 2017; 17, 184:2-9. Available from: <https://pubmed.ncbi.nlm.nih.gov/29017594/>
 12. Moir F, Yelder J, Sanson J, Chen Y. Depression in medical students: current insights. *Advances in Medical Education and Practice*. 2018; 9: p. 323–333.