



A study of burnout among undergraduate medical students: a cross sectional study

Devesh Sharma¹, Devineni Baby Manaswini², Neeleshma Singh³, Sharon Sara James⁴, Ruchita Dixit⁵, Amol R. Patil⁶

ABSTRACT

OBJECTIVE

Medicine being an endless path and a challenging career leaves many medical students drained and burned out in comparison to their same aged peers. Recently burnout levels have become a growing concern as it not only affects the academic performance but also their personal wellbeing and future professional practice. Thus, this study aims to assess the effect of burnout among undergraduate students of medical college.

METHODS

A cross sectional study was conducted among all the professional years and interns of medical college. A pretested and predesigned (Maslach Burnout Inventory) questionnaire was used to collect data from all the participants who gave their consent in the study period of 1 month. For the analysis of data 514 completed samples were included.

RESULT

The results showed an overall burnout score of >85 (61.28%) among medical undergraduates. Interns reported the utmost levels of burnout (84%), followed by 4th year (78%), 3rd year (70%), 2nd year (58%), and 1st year (36%) undergraduates. Female students reported higher burnout levels (69.52%) than male students (52.24%). Hostellers also reported higher burnout levels (68.65%) compared to day scholars (21.96%), and committed students reported higher burnout levels (80.54%) compared to singles (47.79%).

CONCLUSION

The study highlights the negative impacts of burnout on students' mental health, academic performance, and professional decorum. We can include various coping methods such as mentorship programs, exercise, free professional counselling services and other extracurricular activities in order to decrease the burnout levels among the medical undergraduate students.

Keywords: Burnout, Medical Students, Academic Performance, Personal well being

GJMEDPH 2023; Vol. 12, issue 3| OPEN ACCESS

*Corresponding author 5. Ruchita Dixit, Professor, Department of Preventive And Social Medicine, Shri Shankaracharya Institute Of Medical Sciences, Bilhal, Chhattisgarh, India; 1. Devesh Sharma, MBBS Final Part I, Shri Shankaracharya Institute Of Medical Sciences, Bilhal, Chhattisgarh, India; 2. Devineni Baby Manaswini, MBBS Final Part I, Shri Shankaracharya Institute Of Medical Sciences, Bilhal, Chhattisgarh, India; 3. Neeleshma Singh, MBBS Final Part I, Shri Shankaracharya Institute Of Medical Sciences, Bilhal, Chhattisgarh, India; 4. Sharon Sara James, MBBS Final Part I, Shri Shankaracharya Institute Of Medical Sciences, Bilhal, Chhattisgarh, India; India; 6. Amol R. Patil, Statistician, Shri Shankaracharya Institute Of Medical Sciences, Bilhal, Chhattisgarh, India

Conflict of Interest—none | Funding—none

© 2023 The Authors | Open Access article under CCBY-NC-ND 4



INTRODUCTION

Medicine being an endless path and a challenging career leaves many medical students drained and burned out in comparison to their same aged peers [1]. According to WHO definition burnout is a syndrome conceptualized as resulting from chronic workplace/academic stress that has not been successfully managed [2].

The causes of burnout in medical students are multifactorial including high workload, comprehensive schedule, vast curriculum in defined period, tough assessments, long hours and demanding clinical rotations. Additionally, the pressure to excel academically, financial stress, and the emotional toll of patient care can contribute to burnout. If left unaddressed burnout can lead to stress, anxiety and depression and also decreased academic performance reduced empathy and even thoughts of suicide. And it can also lead to serious repercussions such as basic human errors, errors in handling needle stick injury misdiagnosis, etc. which can have a negative impact on the society as a whole.

It is important for medical school to prioritize the mental health and well being of the students providing resources and support to help students manage stress build resilience, and maintain a healthy work- life balance. Additionally it is important for medical students to prioritize self care such as getting enough sleep, eating well, and engaging in activities that bring them joy and relaxation.

AIM AND OBJECTIVES

- To estimate burnout among undergraduate medical students and interns of medical college.

METHODOLOGY

Study design: A cross sectional study design was used to fulfil the study objectives.

Study area: The study was conducted at a private medical college in central India.

Study participants: 514 medical undergraduates, of both genders including both hostellers and day scholars constituted the sample of this study.

Inclusion criteria: Medical undergraduates of all professional years and interns belonging to the age group of 17-27 years who gave their consent.

Exclusion criteria: Students who denied giving their consent and who weren't available during our sample collection period.

Data collection: The study procedure was explained to the participants and consent was taken before getting the questionnaire filled. A pretested pre-designed questionnaire form was distributed to students at the end of their lectures. (Maslach Burnout Inventory) was used [3]. It encompassed questions on emotional exhaustion, depersonalization and sense of personal accomplishment which consisted of a total of 22 questions along with a set of 3 questions analysing their intention to leave.

Statistical analysis : There were a total of 25 questions to assess the burnout among medical students. We scored each question with 1, 2, 3, 4 and 5 for response, strongly disagree, disagree, neutral, agree and strongly agree respectively. Therefore, the maximum score for the burnout in medical students was 125. The Shapiro Wilk test was used to examine the normality of score and it was observed that the score was normally distributed so Student's paired t test was used to detect the difference between average burnout scores in two different groups (Gender wise, MBBS year wise and Accommodation type). All tests were performed at a 5% predetermined level of significance.

All statistical analysis was done using R software (version 4.0.3)

RESULT

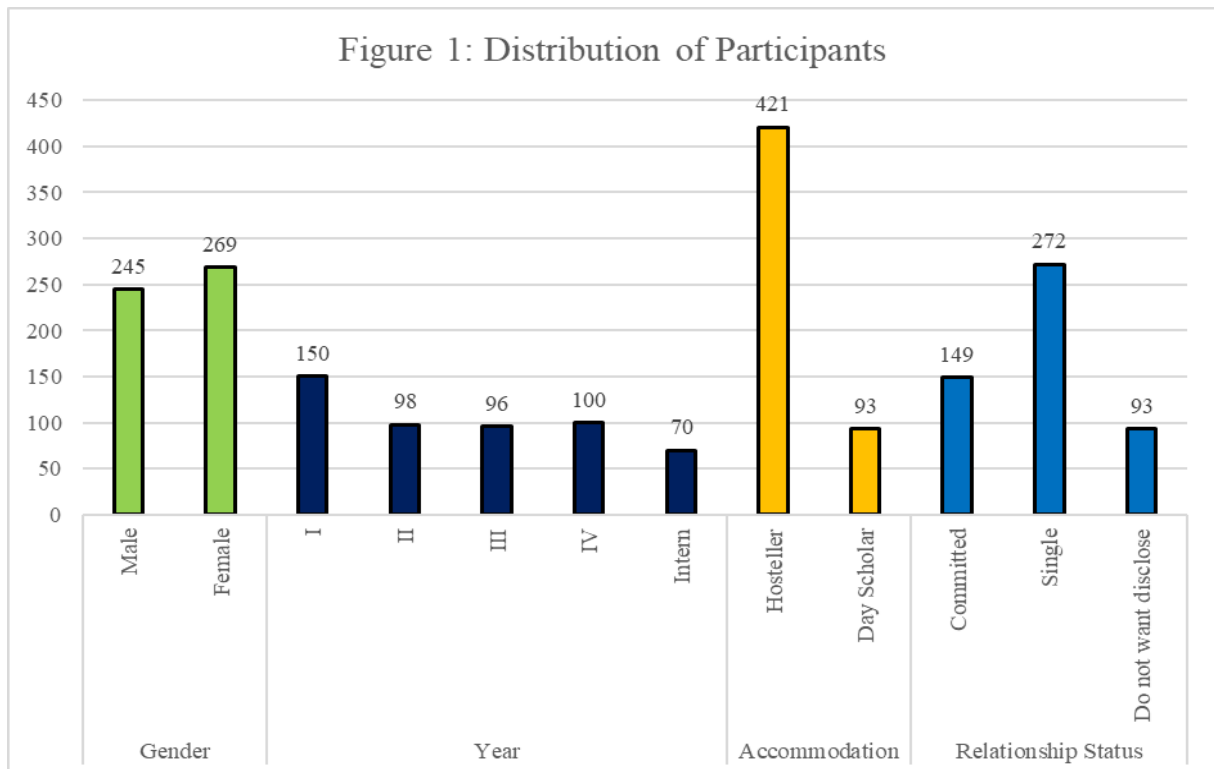
I. Demographic characteristics

Of the 514 students 245 were males (47.67%) and 269 were females (52.33%) and a total of 81.91% participants were staying in hostels and only 18.09% were day scholars. The distribution of participants in 1st, 2nd, 3rd and 4th year is 150, 98, 96, 100 respectively along with 70 interns. Out of the total sample size 272 were single 149

were committed and 93 did not want to disclose the relationship status. [Table 1 and Figure 1]

Table 1: Socio-demographical distribution of study participants (n=514)

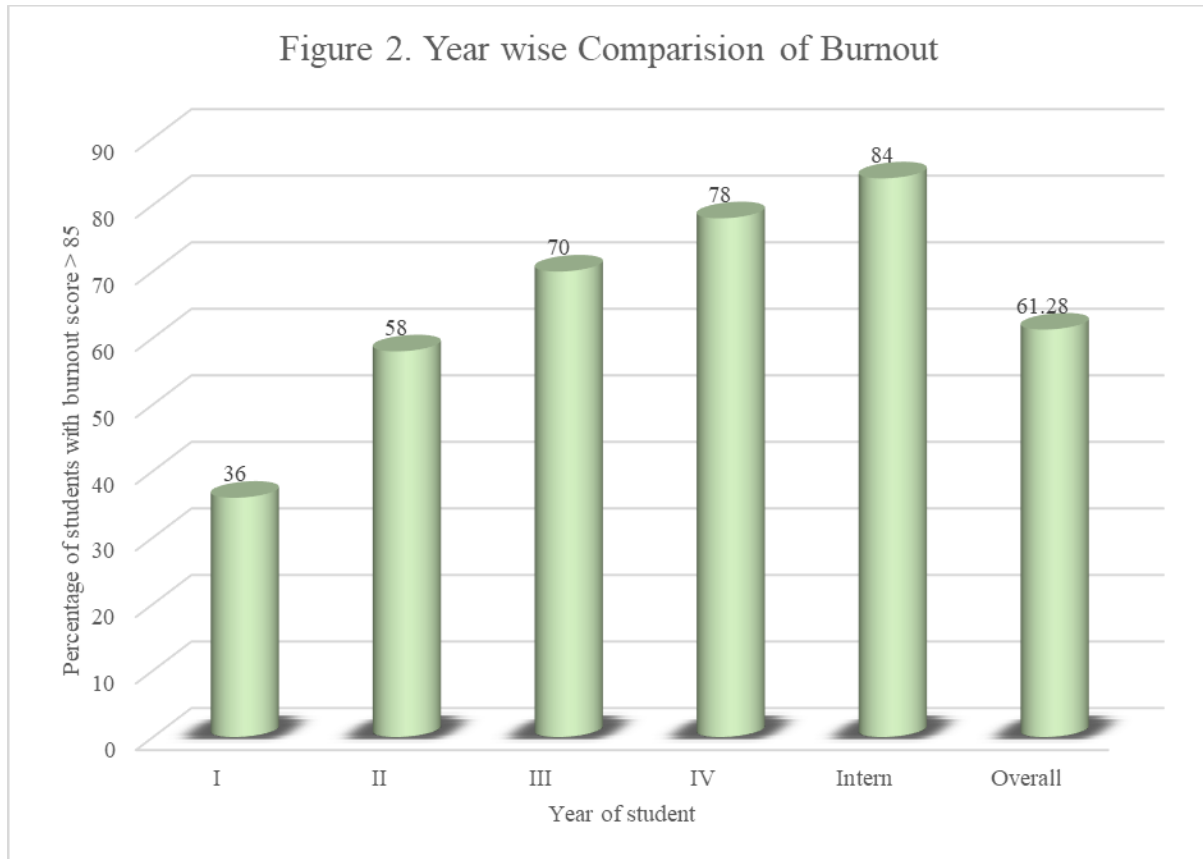
		Frequency	Percentage (%)
Gender	Male	245	47.67%
	Female	269	52.33%
Year	I	150	29.18%
	II	98	19.07%
	III	96	18.68%
	IV	100	19.46%
	Intern	70	13.62%
Accommodation	Hosteller	421	81.91%
	Day Scholar	93	18.09%
Relationship Status	Committed	149	28.99%
	Single	272	52.92%
	Do not want disclose	93	18.09%
Intend to leave medical field after MBBS	Yes	38	7.39%
	No	476	92.61%
Age (years)	Mean \pm SD	22.04 \pm 2.18	



II. YEAR WISE COMPARISON OF BURNOUT

On comparing the levels of burnout among the medical undergraduates of all the professional years and interns it was found that maximum

burnout was seen in interns (84%) followed by final year students(78%),third year students(70%),second year students (58%) and first year students (36%).[Figure 2]



III. Distribution of burnout according to gender, residential status and relationship status

a) Gender wise association:

There is a significant difference in burnout among the males and females, the data shows that females experience more burnout(69.52%) than males(52.24%). (P=0.0354) [Table 2]

b) Accommodation wise association

The data suggests that hostellers experience more burnout (68.65%) than day scholars(27.96%).(P=0.0176)[Table 2]

c) Association with Relationship status

That data indicates that students who are single experience less burnout (47.79%) in comparison to the committed ones(89.54%). The levels of burnout among those who did not want to disclose their relationship status is 69.89%. [Table 2]

		Burnout Score >85	
		Frequency	Percentage (%)
Gender	Male	128	52.24%
	Female	187	69.52%
Residential Status	Hosteller	289	68.65%
	Day Scholar	26	27.96%
Relationship Status	Committed	120	80.54%
	Single	130	47.79%
	Do not want to disclosed	65	69.89%

Table2: Distribution of Burnout According to Gender, Residential Status and Relationship Status

DISCUSSION

Burnout is a growing concern among medical students as it takes a heavy toll on a person's mental and physical well being. Medical students experience higher levels of mental distress and depression than the general population and age matched peers. [4]. In our study, 514 medical students of all the professional years and interns were asked to fill a questionnaire meant to assess their burnout levels. Burnout was found to be 36% in first year, 58% in second year, 70% in pre-final year, 78% in final year followed by alarming observations among interns 84%, findings were similar in another study also [5]. The overall burnout score among medical undergraduates was seen to be more than 85. In our study the burnout levels were lowest among the first year students as they are full of commitment and optimism towards their new journey in medical profession and also because they are not exposed to the strenuous life ahead. Some of the stress factors contributing to burnout among them can be introduction to new academic pattern, anatomy dissections, exam stress etc. Similar findings were observed in other studies also [5,6]. An increasing trend in burnout levels is observed. The stressful and demanding nature of medical curriculums and schedules, coupled with the intensifying competition

among peers and challenging evaluations, are likely contributing factors. Additionally, changes in exam patterns and a shift towards competency-based learning, as well as the inclusion of clinical postings for skill development, have further compounded this issue. As students progress through their curricula, their mental health deteriorates and they experience higher levels of dissatisfaction. [7]

Most alarming observation was found among interns that is 84% which is noteworthy. The highlighting reasons could be heavy workload, long working hours with less breaks, less time for personal accomplishments and enlivening, altered sleep, worries of future, stress for appearing in post graduation entrance exams and other career related issues. Exposure to suffering of patients and deaths also contribute to their deteriorating mental peace. The findings are consistent with other study [5]. Several coping methods can be inculcated to overcome burnout levels such as mentorship programs and counseling. Although many of these services are available in large academic institutions, they are often under utilized by the graduate student population due to perceived stigma [8].



Association of burnout with the various parameters

a) Gender

Burnout was seen more in females as compared to males due to their gender and also greater social expectations of empathy from them .

b) Accommodation wise association

It was seen more in hostlers than day scholars due to lack of family support and care , more peer pressure ,lack of nutritious and healthy dietary meals.

c) Association with Relationship status

Burnout is seen more among the committed students than singles. The reasons can be due to same age and similar professional stressors ,uncertainty about the future, fear of commitment, insecurity and trust issues, unable to invest enough time for each other due to poor work life balance.The high burnout levels can be overcome by certain coping methods such as mentorship programs, free professional counseling services along with a proper schedule which can help students to have personal accomplishments for enlivening their life.

LIMITATIONS

Though our study is one of very few studies conducted among medical undergraduates it has certain limitations. It is a cross-sectional study therefore there no was assessment of the subject's history and there no follow up

period and our study focuses at the present case scenario only. We also acknowledge that our study could not consider the possibility of other confounding factors such as psychological and motivational aspects ,interpersonal relationships, socio economic status, smoking and alcohol consumption which may have had significant influence on the academic performance of the students.

CONCLUSION AND RECOMMENDATIONS

In conclusion there is an increasing trend of burnout as the students progress from the initial years of the medical school towards becoming doctors.As burnout may detrimentally affect the proficiency of the students and the quality of care provided to patients, further research is needed to identify effective solutions to address distress in trainees[9].We recommend various coping strategies such as changing the lifestyle which includes exercise and a proper diet free professional counseling , services mentorship programs and other extra curricular activities.[10]

ACKNOWLEDGEMENT

We would like to give special thanks to the Dean of our institute for supporting this study and the students for their enthusiastic participation in the study.



REFERENCES

1. . Fares J , Al Tabosh H , Saadeddin Z , El Mouhayyar C , Aridi H. Stress , burnout and coping strategies in preclinical medical students . North American journal of medical sciences . 2016 Feb;8(2):75.
2. World Health Organization. Burn-out an "occupational phenomenon": International Classification of Diseases.
3. . Maslach C , Jackson SE , Leiter MP. Maslach burnout inventory. Scarecrow Education ;1997.
4. Dyrbye LN , Thomas MR , Huschka MM , Lawson KL , Novotny PJ , Sloan JA , et al. A multicenter study of burnout , depression , and quality of life in minority and nonminority US medical students. Mayo Clinic Proceedings , 2006;(11):1435-42
5. Noori Ahmadabadi, M., Parsaei, A., Sherafati, A., Karimi, H., Mortaz Hejri, S., Pazooki, B. Determining the Prevalence of Burnout Among Medical Students Using Maslach Burnout Inventory: A Cross-sectional Study. Journal of Iranian Medical Council, 2022; 5(1): 48-55. doi: <http://dx.doi.org/10.18502/jimc.v5i1.9569>
6. Philip, S., Molodynski, A., Barklie, L. et al. Psychological well-being and burnout amongst medical students in India: a report from a nationally accessible survey. Middle East Curr Psychiatry 28, 54 (2021). <https://doi.org/10.1186/s43045-021-00129-1>
7. Kjeldstadli K , Tyssen R , Arnstein F , Erlend H , Gude T , Gronvold N , et al . Life satisfaction and resilience in medical school- a six year longitudinal , nationwide and comparative study . BMC Medical Education.2006:6:48-51
8. Dyrby LN , Eacker A , Durning SJ , Brazeau C , Moutier C , Massie FS , et al. The Impact of Stigma and Personal Experiences on the Help-Seeking Behaviors of Medical Students With Burnout. Academy of Medicine. 2015;90(7):961-9.
9. Dyrbye LN , West CP , Satele D , Boone S , Tan L , Sloan J , Shanafelt TD. Burnout among US medical students , residents , and early career physicians relative to the general US population . Academic medicine . 2014 Mar 1;89(3):443-51.
10. S Chang E , Eddins-Folensbee F , Coverdale J . Survey of the prevalence of burnout , stress , depression , and the use of supports by medical students at one school . Academic Psychiatry . 2012 May;36:177-82.