

Original Research Article

Assessment of factor affecting performance of undergraduate medical students at GMERS medical college, Dharpur-Patan, North Gujarat, India: a cross sectional and descriptive study

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ABSTRACT

Background: Undergraduate medical education in India and many developing nations is facing new challenges today. Multiple stressors including academic burden, parental pressure and even psychological ailments affect medical students. Depression, burnout and stress are commonly seen in medical students. This increases psychiatric morbidity and affects performance. This study was conducted to extract the factors which are important factors for the effective learning of students and influences their performance during curriculum.

Methods: This cross sectional and descriptive study was carried out among 100 MBBS student of 2015 of GMERS medical college, Dharpur-Patan during March to April 2018. Students were administered pre-designed and structured questionnaire after obtaining their informed consent while seated in the lecture hall. Responses of questionnaires were analyzed with Epi Info 7.0 and MS Excel. Frequencies and percentages were calculated and Chi-square test was applied to find out significance.

Results: Most important factors which were affecting students' performance in our study were language problems, competent teachers, social media and campus environment. 70% students have no issue with financial status. Majority students prefer self study.

Conclusions: Identification of hidden factors affecting academic performance is very important in very early stage so they can perform better in their study in future. Language, hostel environment, teachers' attitude towards students etc are also certain important factors which help students to perform better in curriculum.

Keywords: Cross-sectional study, Academic performance, MBBS curriculum, 6th semester

INTRODUCTION

Undergraduate medical education in India and many developing nations is facing new challenges today. In spite of best teachers applied to medical students, performance of students as well as doctors in the community is perceived to have largely declined.¹ Multiple stressors including academic burden, parental pressure and even psychological ailments affect medical students, and this shows up in their performance.² Depression, burnout and stress are commonly seen in

medical students.^{3,4} Earlier studies have shown a phenomenon of "burn out" that affects medical students. This increases psychiatric morbidity and affects performance.⁵

In India, students get admission in MBBS course on merit basis through entrance examination. Every MBBS student has to undergo a period of 4½ academic years divided into 9 semesters i.e. of 6 months each for the subjects comprising the medical curriculum followed by one year of rotating internship. During this period,

students are subjected to summative assessments in which they have to score more than 50% in theory as well as practical/clinical examination to pass.⁶ Multiple factors are known to affect learning and academic performance, including personality, IQ, family background, gender, age, learning styles, methods of study, parental and peer pressure and even psychological ailments (if any).^{1,7,8} Few studies have described the factors that affect student success in undergraduate medical education. Besides other factors, students' perception and preferences among different medical specialties contribute towards the academic performance of students.^{9,10}

This study was conducted to extract the factors which are important factors for the effective learning of students and influences their performance during curriculum.

Aims and objectives

- To identify the hidden factors which affect the academic performance of undergraduate student during whole curriculum.
- To prevent, control and recommend corrective measures for future performance.

METHODS

This cross sectional and descriptive study was carried out among 6th semester MBBS student of 2015 admission batch in GMERS medical college, Dharpur-Patan during March to April 2018. Our study was registered and presented in Institutional Ethical Committee (IEC) and permission was given to conduct the study. All the 128 students of 6th semester were planned to be included in the study, out of which 100 students consented and participated. Twenty eight students did not participate due to unknown reasons. It was decided to base the study on analysis of result of self-administered questionnaires anonymously. We have taken some questions from 2010 study by Santen et al and Mandal et al.^{1,4} Questionnaires had 25 questions in English focusing on important factors associated with the performance of the students such as individual factors like problem related to language or Understanding, teacher related factors, impact of different

learning method used, factor related to learning atmosphere in campus, factors related to family issues. Before starting the study, pilot study was done to test the questionnaire among 20 Interns of the institute. After that, necessary changes were done in questionnaire. Students were administered pre-designed and structured questionnaire after obtaining their informed consent while seated in the lecture hall. Students were not allowed to discuss and talk amongst themselves while answering it.

Statistical analysis

Responses of questionnaires were analyzed with Epi Info 7.0 and MS Excel. Frequencies and percentages were calculated and Chi-square test was applied to find out significance.

RESULTS

The research population included 128 students but only 100 students participated and 28 refused to participate for unknown reason and were excluded. There were 45 girls and 55 boys. The mean age of the students was around 20.2±1.9 years old. Opinions of students regarding overall studies are displayed in Table 1 and Table 2. Nearly one third (70.0%) students had financial problem which affected their studies. Majority of students (94.0%) students agreed that they were able to concentrate and able to understand topic very well. Total 60% students agreed that social media adversely affected their studies. Nearly two third students (63.0%) agreed that hostel environment was conducive for their studies. Total 37.0% students agreed that teacher's personal behaviour affected their studies. There was no genderwise significant difference in factors affecting the study (Table 3).

Significant factors affecting students' performance were lack of effort, difficulty in understanding, addiction to smart phones or games, lack of guidance from senior students. Important factors for absenteeism from classes were found to be illness, sleepiness especially for early morning classes, or homesickness.

Table 1: Opinions of students regarding overall studies in medical college.

Questions	Always (%)	Most of time (%)	Sometime (%)	Never (%)
Are you motivated to participate in class?	20	22	43	55
Study regularly and revise topic after class?	13	14	50	33
How often do your seniors help in your study?	15	35	44	06
How often do mobile help in your study?	14	36	46	04
Do the percentages of your exam affect your stress level?	25	16	26	33
How often does the idea of your future carrier affect your study?	12	24	36	28

Table 2: Opinions of students on basis of Likert scale.

Questions	Strongly agree (%)	Disagree (%)	Unsure (%)	Disagree (%)
Are you unable to concentrate because of unrecognized reason?	05	28	32	35
Is hostel environment conducive to your study?	14	49	22	15
Frequently extracurricular activities affect your study?	08	37	24	31
Use of mobile adversely affects your study?	22	38	15	25
Are you able to concentrate and understand the topic?	31	63	05	01
Are you trouble by sleeplessness due to stress of study?	12	21	22	45
Relationship problem affect your study?	09	11	09	71
Language problem adversely affect your study?	05	14	23	58
Do you feel pressurize because of your family expectation?	05	13	14	69
Do you think exercise, yoga, and meditation help in your study?	22	47	19	12
Do you think homesickness affect your study?	16	18	22	44
Time table of your collage hour suitable for your learning?	03	23	26	48
Teacher's personal behaviors affect your academic study?	10	27	16	44
Do you think body shaming affect your study?	02	07	31	60

Table 3: Gender wise comparison of opinions of students on important aspects of study in medical college.

Opinions	Male (%)	Female (%)	χ^2 value (df)	P value*
Mobile use in a day				
2 hrs	25 (25)	20 (20)	2.07 (02)	0.35
2-4 hrs	19 (19)	11 (11)		
>4 hrs	11 (11)	14 (14)		
Financial status affects study				
Yes	21 (21)	17 (17)	0.002 (01)	0.96
No	34 (34)	28 (28)		
Appetite during exam				
Increased	18 (18)	20 (20)	1.46 (02)	0.48
Decreased	20 (20)	14 (14)		
Normal	17 (17)	11 (11)		
Unhappy without any reason				
Yes	11 (11)	10 (10)	0.07 (01)	0.78
No	44 (44)	35 (35)		
Most effective method of learning				
Lecture	08 (08)	07 (07)	0.57 (03)	0.9
Practical	06 (06)	03 (03)		
Tutorial	10 (10)	08 (08)		
Self study	31 (31)	27 (27)		

*p value less than 0.05 is considered as significant.

DISCUSSION

Performance of medical students is affected by multiple factors including academic burden, parental and peer pressure and even psychological disease. In the present study, factors causing low academic performance were individual in 48.7% students while study from Haryana medical college reported that low academic performance in individual 55.4% students.⁸ In the present study, significant individual factors affecting students' performance were found to be related to lack of effort,

difficulty in understanding, addiction to smart phones or games, not being regular in studies or not revising the topics taught. Few other factors identified peculiar to institution were lack of guidance from senior students and lack of facilities due to location of college in remote areas. Important factors for absenteeism from classes were found to be illness, sleepiness especially for early morning classes, or homesickness. Hostel environment was found to be conducive for learning by 63.0% and non-conductive by 32.8% in the present study. While 52.8% UG students from Taiwan medical college

perceived conducive hostel environment for learning and non-conductive by 30.8% students.¹¹

In present study, 9.0% students were affected by family and financial problems. However, Mandal et al reported lower proportions of students were affected by family and financial problems (5.0%).¹ A study from northern Taiwan documented that online search for subject helped to improve scores while social media contributed to poor students' examination performance same as our study.¹¹ According to Reddy et al study of majority of the students (92.3%) were affected by smart phone and social media.¹⁰ A study of Ibrahim et al revealed that students nearly two third students (65.0%) suffered from insomnia due to exam stress which was higher than our study (33.0%).¹²

English is the well known cause of difficulty in understanding and expression during viva and theory exam. According to our study, 19.0% students were facing language problem which was higher to the study conducted by Mandal et al (14.0%).¹ According to study of Lumb et al timetable was found to be well suited by 59.5% students while 26.4% students agreed for timetable in our study.¹³ According to study by Manickam et al, 23.5% students were affected by teacher which was lower than the present study (37.0%).¹⁴

CONCLUSION

Personal attitude of students is most significant factor that affects academic performance. Teacher play important role as a facilitator by providing proper guidance and feedback to the students. Teaching, learning method used influence the performance of the students. Correctable environmental factor like availability of facilities of recreation, food, and hostel environment also affect academic performance.

Recommendations

Counselling should be provided to the students having problem with a lack of interest or issue with the time management. Special language classes can be held for students having difficulty with language. Feedback should be given to students with appreciation for good performance. Teaching methods should be more interactive and clinically more oriented. Environmental issues can be corrected by provision of facilities of sports and healthy recreation.

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