

Psychological distress, general self-efficacy and psychosocial adjustments among first year medical college students in New Delhi, India

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Abstract

First year medical students are under severe psychological distress, since they have to cope with the study demands of the medical curriculum. Living away from home and making a transition to a more independent and less supported condition can lead to distress. The present study was designed to determine psychological distress, general self-efficacy and psychosocial adjustments among first year medical college students in New Delhi. A cross-sectional study was designed and data was collected from 88 first year medical students of a government medical college in New Delhi. A pretested, semi-structured questionnaire was administered. The questionnaire consisted of socio-demographic data, Goldberg's General Health Questionnaire (GHQ-12), Schwarzer's General Self-efficacy Scale (GSES) and modified Pareek's Pre-adolescent Adjustment Scale (PAAS). According to GHQ-12, 39.7% (95% CI 29.6-50.7) students had psychological distress; it was slightly higher in female students (41.6%) than their male counterparts (38.5%). Psychological distress was greater in students when both of their parents are doctors 66.6% ($p=0.016$). There was a negative association ($r: -0.384$) between GHQ-12 scores and GSES scores. From PAAS scores, 19.3% students were found to be maladjusted towards college and 9.1% students were found to be maladjusted with teachers. Adjustment towards peers was found to be good. The prevalence of psychological distress among first year medical students was high. The causes of psychological distress among medical students should be recognized and strategies should be designed to address those issues.

Keywords: Medical students, Psychological distress, General Self-efficacy, Psychosocial adjustments, India.

Introduction

Making a transition from school to college environment can be stressful for many students.¹ Living away from home, leading a more independent and less supported life and coping with the study demands of the program can be difficult for young people. Medical school may be particularly stressful as students for the first time come into close contact with serious illnesses and death which may exert negative effect on their psychological health.²

Medical college is recognized as a stressful environment that often exerts a negative effect on the academic performance, physical health and psychological well-being of the student.³ Compared to students of other academic streams, medical students face higher stress.³ In a study conducted in the USA, 57% of undergraduate medical students were found to be under psychological stress.⁴

First year medical students are expected to learn and master a huge amount of knowledge and skills within short time.⁵ Undergraduate medical students have been the most distressed group of students compared to any other course undergraduates and this stress has serious consequences which may lead to the development of depression and anxiety.⁵

Studies on psychological problems such as stress,

Practice Points

- In the present study, psychological distress was found to be high among first year medical college students.
- Lower general self-efficacy was found to be significantly associated with psychological distress.
- Psychological distress was found to be more prevalent in female students and also when both the parents are doctors.
- Maladjustments towards college and teachers were associated with psychological distress.
- Student teacher bodies which are capable of providing primary preventive measures such as psycho educational lectures, seminars on stress management, and therapeutic techniques like crisis intervention and counseling may be setup at medical colleges.

depression and anxiety among medical students have found that these disorders are under diagnosed and under treated.⁶ Failure to detect these disorders unfortunately leads to increase in psychological morbidity

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with unwanted effects throughout their careers and lives and there have also been reports of significant psychological morbidity in young doctors.⁶ Early detection of psychological problems shortens the duration of an episode and results in far less social impairment in the long term.⁷ It is therefore important to be aware of the symptoms of psychological stress in medical students, in order to facilitate early detection and treatment of these problems.⁷

Bandura describes self-efficacy as 'beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments'.⁸ Self-efficacy has shown high correlations with self-esteem, self-regulation and optimism, as well as being inversely correlated with depression, anxiety and lower mental health status.⁸ Low self-efficacy is also associated with the use of maladaptive strategies, which in turn are associated with maladjustment towards college, teachers and peers and the coping strategies that students deploy are reflected not only in their college adjustment, but also in their overall problem behavior.⁹

Students with poor self-efficacy experience frustration and develop emotional problems such as low self-esteem as a result of repeated failures. They have difficulty in making decisions, exhibit low tolerance for frustration and poor adjustment with peers.⁹ So the present study was envisaged to examine the psychological distress that students encounter, their general self-efficacy and psychosocial adjustments adopted by them in a government medical college in New Delhi, India.

Materials and methods

Study design

A cross-sectional and descriptive study was conducted in a government medical college in New Delhi, India in November 2012. A total of 120 first year MBBS students were included for the study. Exclusion criteria were those who were not willing to take part in the study and those not available at the time of administering the questionnaire. Finally, data was collected from 88 students.

Study tool

The questionnaire used in the study consisted of four parts, Socio demographic data, 12 item Goldberg's general health questionnaire (GHQ-12)¹⁰, Schwarzer's general self-efficacy scale (GSES)^{11,12} and Pareek's pre-adolescent adjustment scale (PAAS).¹³

Goldberg's General Health Questionnaire (GHQ-12): The questionnaire¹⁰ contains 12 items. Scores were given based on four point Likert scale as 0-strongly agree, 1-agree, 2-disagree and 3-strongly disagree. Six questions are positively phrased and the other six are negatively phrased. Scores will be reversed for the negatively phrased questions. The scale can be used from 16 years and above. Maximum score will be 36 and the scores above 12 were taken as the cut-off indicating psychological distress.

Schwarzer's General Self-efficacy scale (GSES): The scale^{11,12} contains 10 items and scores were given based on four point Likert scale as 1-not at all true, 2-hardly true, 3-moderately true and 4-exactly true. Summing up the response of all the 10 items will yield the final composite score with a range from 10 to 40. Higher the score, better the self-efficacy.

Pareek's preadolescent Adjustment Scale (PAAS): The scale¹³ consists of 40 items: home (9), school (8), peers (8), teachers (8) and general (7). Slight modifications were made in the questions for 'school' since they were administered to college students. For each area of adjustment a separate score was obtained. The total of the five scores gives the score for the total adjustment. Responses were given in terms of 'yes' or 'no'.

These scale values are positive as well as negative for different items. Scores for each sub scale are obtained by adding the scale values on the items checked by the student. The possible score range for each sub-score are home (-10 to +10), college (-10 to +6), peers (-10 to +6), teachers (-10 to +6) and general (-6 to +6). High positive scores indicate high adjustment in that area, while high negative scores indicate a high degree of maladjustment. The total adjustment score is obtained by adding scores on all the sub-scale. It ranges from -46 to +34. Though called preadolescent scale, PAAS has been used in Indian studies for adolescents of all age groups and also in young adults and it has also got acceptable level of validity and reliability and significant inter correlation between adjustments on the five areas of adjustment.¹³

Ethical issues

Permission for conducting the study was obtained from Institutional Ethical Committee. Relevant information was provided about the aims and objectives of the study and the methodology the methodology adopted. Students were assured about their confidentiality and informed written consent was obtained. In the end, different stress management techniques were taught and guidance services for personality development were provided to the students.

Statistical analysis

Data was analyzed using SPSS version 21. Chi square test was used for drawing statistical inferences and *p*-values of <0.05 were considered significant.

Results

Of 88 students who participated in the study, 34 (38.6%) students were of 18 years of age and 52 (59.1%) were males. Majority of the students belong to nuclear family, 63 (71.6%) and 40 (45.5%) students had one sibling. About the educational statuses of the student's fathers, most of them were post-graduates 40 (45.5%) and 32 (36.4%) were graduates. Among mothers, 33 (37.5%) were post-graduates and 22 (25%) were graduates. Twenty six (29.5%) students reported their parents' occupation as doctors with 15 (17.05%) students having both the parents as doctors. Forty nine

(55.7%) students came under Revised Kuppaswamy's socio economic class I.¹⁴ The median family income per month was 30,000 rupees and the median mark scored by the students in their final school exams was 80%. Table 1 shows distribution of students according to socio demographic profile.

Psychological distress

The number of students scoring 12 and above in Goldberg's GHQ-12 were 35 (39.7%, 95% CI 29.6-50.7) and found to be in psychological distress. It was slightly higher in female students 15 (41.6%, 95% CI 25.9-59.1) than that of male students 20 (38.5% 95% CI 25.6-52.9). But there was no significant difference between psychological stress and gender ($p=0.763$).

Psychological distress was found to be more in students who had scored 80% or more in their final school exams than those who had scored less than 80% and the differ-

Table 1: Distribution of students according to socio-demographic profile (n=88)

Socio-demographic factors		Respondents(%)
Age in completed years	17	4 (4.5%)
	18 - 19	66 (66.7%)
	20 and above	18 (28.8%)
Gender	Male	52 (59.9%)
	Female	36 (40.9%)
Family type	Joint	24 (27.3%)
	Nuclear	64 (72.7%)
Number of siblings	0	6 (6.8%)
	1	40 (45.5%)
	2	26 (29.5%)
	>2	16 (18.2%)
Father's education	Illiterate	2 (02.3%)
	High school	14 (15.9%)
	Graduate	32 (36.4%)
	Post graduate	40 (45.4%)
Father's occupation	Doctor	26 (29.5%)
	Clerk	16 (18.2%)
	Business	12 (13.6%)
	Engineer	11 (12.5%)
	Farmer	8 (9.1%)
	Teacher	6 (6.8%)
	Others	9 (10.3%)
Mother's education	Illiterate	4 (4.5%)
	Primary school	1 (1.1%)
	High school	28 (31.8%)
	Graduate	22 (25.0%)
	Post graduate	33 (37.6%)
Mother's occupation	House wife	53 (60.2%)
	Teacher	17 (19.3%)
	Doctor	15 (17.1%)
	Others	03 (3.4%)
Socio-economic class	I	49 (55.7%)
	II	22 (25.0%)
	III	17 (19.3%)

ence was found to be statistically significant ($p=0.029$). Psychological distress was also more in students when both their parents were doctors ($p=0.016$). But there was no statistically significant difference of psychological distress with age ($p=0.322$), type of family ($p=0.790$) and number of siblings ($p=0.928$) as shown in Table 2.

Among the different socio economic classes, (Revised Kuppaswamy's classification, 2012) psychological stress was found to be more in class II with 50% (95% CI 28.8-71.2), followed by class III at 41.2% 95% CI 19.4 – 66.5) and class I at 34.7% (95% CI 22.1-49.7).

General self-efficacy

The median score in Schwarzer's GSES was 28 and this was taken as the cut-off to dichotomize the students into two groups; those scoring above the median categorized as having higher general self-efficacy and those scoring below the median categorized as having lower general self-efficacy.¹¹

The median monthly family income was thirty thousand rupees. It was found that general self-efficacy was higher in study participants whose monthly family income was higher than the median than those whose family income was lower than the median income ($p=0.019$). However, there was no significant difference of general self-efficacy with age ($p=0.904$), type of family ($p=0.231$), number of siblings ($p=0.831$) and academic achievement ($p=0.831$) as shown in Table 3.

The study participants in psychological distress were found to have lower general self-efficacy as compared to those who were not psychologically distressed and the difference was found to be statistically significant ($p=0.004$). There was negative association ($r=-0.384$) between GHQ-12 scores and GSES scores.

Psychosocial adjustments

The students' adjustments towards the psychosocial domain 'college' was low, followed by the domain, 'teachers' and 'general' which were also low. Figure 1 shows the distribution of medical students according to PAAS scores.

Among the individual psychosocial domains, 17 (19.3%, 95% CI 11.9-29.4) students were found to be maladjusted towards college, 8 (9.1%, 95% CI 4.2-17.6) students each were found to be maladjusted with their teachers and the general psychosocial domain and only 3 (3.4%, 95% CI 0.9-10.3) students were maladjusted with their home. None of them were maladjusted with peers.

Psychological distress was found to be more in those students who were maladjusted with college ($p=0.027$) and teachers ($p=0.012$).

Discussion

The study identified that 39.7% of first year medical college students were under psychological distress. The results were comparable to the results of similar studies

Table 2: Distribution of students according to psychological stress and its relation with various socio-demographic factors (n=88)

Socio demographic factors		Psychological distress		p-value	Crude OR (95% CI)
		Present (%)	Absent (%)		
Gender	Male	20 (38.5%)	32 (61.5%)	0.763	0.87 (0.37-2.08)
	Female	15 (41.7%)	21 (58.3%)		
Family type	Joint	09 (37.5%)	15 (62.5%)	0.790	0.88 (0.33-2.30)
	Nuclear	26 (40.6%)	38 (59.4%)		
Number of siblings	≤ 1	19 (41.3%)	27 (58.7%)	0.928	1.14 (0.48-2.69)
	>1	16 (38.1%)	26 (61.9%)		
Both parents as doctors	Yes	10 (11.4%)	05 (05.7%)	0.016*	4 (1.23-12.91)
	No	25 (28.4%)	50 (56.5%)		
Marks in school final exams	≥ 80%	23 (52.3%)	21 (47.7%)	0.029*	2.92 (1.20-7.10)
	< 80%	12(27.3%)	32 (72.7%)		

*p-value <0.05

Table 3: Distribution of students according to general self-efficacy and its relation with various socio-demographic factors (n=88)

Socio demographic factors		General self-efficacy		p-value	Crude OR (95% CI)
		High (%)	Low (%)		
Gender	Male	24 (46.2%)	28 (53.8%)	0.515	0.68 (0.29-1.61)
	Female	20 (55.6%)	16 (44.4%)		
Family type	Joint	15 (62.5%)	9 (37.5%)	0.231	2.01 (0.77-5.26)
	Nuclear	29 (45.3%)	35 (54.7%)		
Number of siblings	≤ 1	22 (47.8%)	24 (52.2%)	0.831	0.83 (0.36-1.92)
	>1	22 (52.4%)	20 (47.6%)		
Monthly family income	≥ 30,000	28 (63.6%)	16 (36.4%)	0.019*	3.06 (1.28-7.30)
	< 30,000	16 (36.4%)	28 (63.6%)		
Marks in school final exams	≥ 80%	23 (52.3%)	21 (47.7%)	0.831	1.19 (0.51- 2.77)
	< 80%	21 (47.7%)	23 (52.3%)		

*p-value <0.05

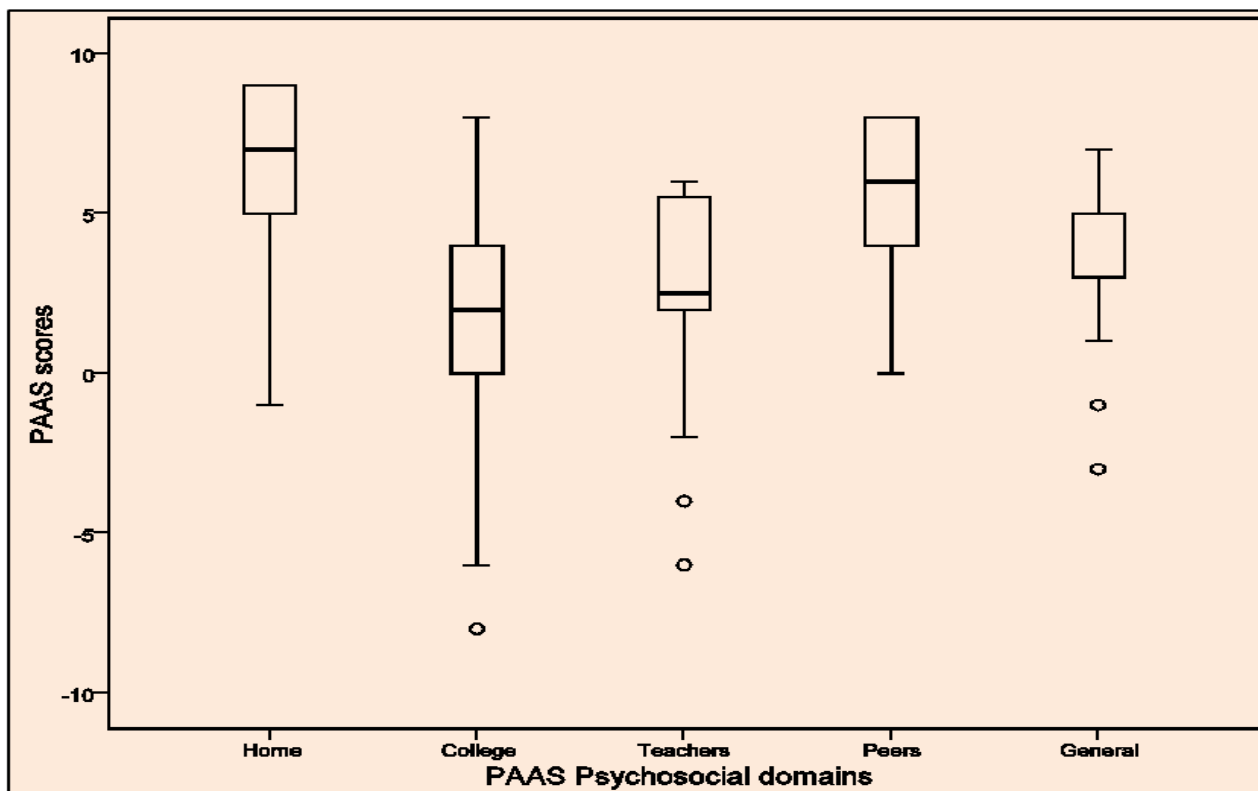


Figure 1: Distribution of medical students according to PAAS score

conducted among medical students in Malaysia¹⁵ (41.9%) and England¹⁶ (31.2%). The findings show a relatively higher prevalence of psychological distress in both male and female medical students than the studies conducted among similar age group students belonging to other academic streams¹⁷ and also in general population.¹⁸ In this study it was found that gender was not associated with stress. Stress was also not associated with students' age, socio-economic status, family type and number of siblings.

In the present study, students who performed well in their school final exams perceived more psychological distress than the rest. The same was reported by a study conducted among medical college students in Pune, India.¹⁹ Similarly psychological distress was found to be high when both the parents were doctors. Sreeramareddy *et al.*²⁰ also reported similar findings from Nepal.

An interesting finding in the study was the presence of negative association between psychological stress and general self-efficacy. The finding was consistent with the results of a similar study done in Malaysia.¹⁵ This is due to the fact that high in general self-efficacy can manage and control themselves when they are exposed to negative events or stressful situations and students who were low in general self-efficacy feel inefficient about themselves when facing with stressful situations. They give up easily and feel depressed, anxious and frustrated. The study also came up with positive association between high general self efficacy and family income. Those students with higher income feel confident of facing problems than those with lower income.

The study results show that maladjustment towards college was seen in 19.3% and maladjustment with teachers in 9.1% students. Psychological distress was found to be significantly associated with college and teacher maladjustments. These findings show that those students who find it difficult to cope up with the college, teachers and academic curricula are experiencing more psychological distress.

But adjustment towards peers was good. In both male and female students, this good level of peer adjustment is due to students spending most of their time together and strong peer bonding. Medical Council of India (MCI) has suggested a foundation course of two months duration at the beginning of medical curriculum to prepare the students to cope with the pressure while studying medicine.²¹

Small sample size was a major limitation of this study and therefore association of psychological distress with various factors have to be interpreted with caution. Also, the generalization of the study results is limited by the characteristic of the sample, which was recruited from a single government medical college in Delhi.

Conclusion

The psychological distress was high among first year

medical students. Lower general self-efficacy was the main cause of distress. Maladjustments towards college and teachers acted as additive factors. By identifying the symptoms of psychological distress among first year medical college students, suitable actions can be undertaken at an earlier stage to prevent psychological morbidity among medical students and young doctors.

Screening at the time of entrance and further evaluation of positive cases by a psychiatrist can establish baseline data. Student teacher bodies and counseling services should be setup which is capable of providing primary preventive measures such as psycho educational lectures, seminars on stress management, and therapeutic techniques like crisis intervention and counseling. Students should increase their social interaction and develop good relations with seniors and faculty members. Campuses should be made more students friendly, encouraging extracurricular activities.

Funding

No funding was obtained.

Acknowledgement

We are grateful to Dr. Saudan Singh, Head of the Department in Community Medicine, VMMC and SJH, New Delhi for his assistance throughout in conducting the study.

Competing Interest

The authors report no conflict of interest. The study was presented at the 11th South East Asian Regional Scientific Meeting of the International Epidemiological Association (IEA-SEA-RSM-2013) held at Pokhara, Nepal from 26-29 September 2013.

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