DETERMINANTS OF LOW SCORING AMONG SECOND PROFESSIONAL MBBS STUDENTS

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ABSTRACT

BACKGROUND

Students who enter the medical field are sometimes found to perform less satisfactorily at the professional examination. Their low achievement after securing the needs of admission through qualifying public examination seems something contrary to that is what generally expected. Hence, a study on this aspect of medical education is relevant to make a search on the factors that determine a poor performance by professional students in some instances. This project was done for fulfilling the need of educational research for Fellowship in Medical Education (FIME) under the MCI Nodal Centre, Medical College, Kottayam, Kerala. The study had followed the prior works upon on a similar theme. The students in their tender age are sometimes found to be helpless in their burdening environment and unable to carry out their educational objectives satisfactorily.

The aim of the study is to recognize the determinants of low scoring among second professional MBBS students in a Government Medical College in Central Kerala.

MATERIALS AND METHODS

Data were collected using predesigned and pretested questionnaire distributed among the whole batch regular second MBBS students. The analysis was done by software SPSS. The descriptive variables were expressed as percentages. Association between sociodemographic factors and low scoring were found out by chi-square test.

RESULTS

Results expected could not make out stress as a significant factor unlike other research studies. The male gender, absence of regular study plan and lack of attention and poor comprehension were some of the factors, which influenced the marks gained at the examination.

CONCLUSION

The proportion of male medical students who secured low marks signifies a gender predilection for low scoring. This should be viewed upon the aspect of decreased tendency to have a regular study plan. The factors I found out to be detrimental in low scoring among medical students were student related only.

KEYWORDS

Determinants, Low Scoring, Gender, Study Plan, Comprehension.

HOW TO CITE THIS ARTICLE: Kaithackal JB. Determinants of low scoring among second professional MBBS students. J. Evid. Based Med. Healthc. 2016; 3(101), 5562-5566. DOI: 10.18410/jebmh/2016/1150

BACKGROUND

Factors like less aptitude, enhanced curriculum over a stipulated time, worries and excess concerns both domestic and institutional that build up to either anxiety or such stressful situations can be identified in some of the students. I conducted this study to identify those determinants since it was important to be aware of them as part of the medical education. This was also essential to suggest any possible remedial measures as well.

The factors that determine poor performance among medical students are various. Some research works conducted among students have scientifically proven the correlation of certain factors with poor academic performance seen among some of them. Stress is a significant factor that adversely affects the student’s concentration and learning abilities. Stress interferes with normal sleep patterns. It may also badly affect the ability to recall or recollect what the student has learnt previously. It is reflected as the unpleasant experience in examinations. Depression, burnout and stress are seen more commonly among medical students and that has a correlation with poor performance.1,2,3 Several studies have correlated student's psychological or personality type with academic performance.1 Earlier studies have shown a strong association between poor performance in preclinical years, burnout and serious professional misconduct in later practice.4,5

Parental and peer pressure6 has been significantly related to student’s mental wellbeing and levels of stress. However, correlating this as an association with low academic achievement is significantly less. Previous studies...
had shown that there was significant number of students among the poor performers who did not aim to become doctors. The disinterest they exhibit in learning medicine is evident from their lack of deliberation and the indifference they show despite poor performance in professional examination. The dissatisfaction with the career choice that may have been forced on them could be a reason for lack of interest, lack of concentration, depression and ultimately poor academic performance.

An article reviewed viz. 7 factors affecting low academic achievement of medical students in the Faculty of Medicine, Chiang Mai University, Chiang Mai Med. Bull 2004; 43 (1): 15-23 had showed 6.6% students having low academic achievements with a male-to-female ratio of 2:1. The factors associated with low academic achievement were sorted out into three groups as follows- (1) Student related (79.3%) including low attendance in classes, male, elderly students, poor motivation in studying medicine and personality disorders; (2) Institution related (15.5%) including too many extracurricular activities that cut short effective learning opportunity, adverse attitude to the course and unfavourable relationships with teachers and friends and (3) Student’s family related (5.2%) including defects in upbringing such as overprotection and over control. Psychiatric and personality problems constituted 26.1% and 24.6%, respectively. The above quoted study was conducted in a western country among students who had probable social and cultural difference in comparison to ours. The westerners seem more free and open minded than our people who are perhaps accustomed to respond within a background of social taboos and stigmata.

In view of the varied circumstances prevailing here, I tried to search the problems students might face at medical education. There were limitations with the use of questionnaire survey in studying certain factors, which were of intimate personal nature. In some instances, I adopted an indirect or twisted way to reach at certain targeted points, which might otherwise lack representation. For example, questions regarding coping with stress provided a hint to assume the mental capability of the individual. In other words, my attempt was to probe into the determinants of low scoring to suit also with the regional difference.

MATERIALS AND METHODS
The study was conducted under coverage of ethical clearance of the Institutional Review Board. A cross-sectional study was conducted among regular batch MBBS students of 2013 admissions at Medical College, Kottayam. The total number of participants was 117. The students were sensitised by explaining them the need and purpose of the study. Informed written consent was obtained from them. Printed predesigned questionnaire that included details of their socioeconomic status, stress, curriculum, study environment, marks in forensic medicine examination, etc. was distributed among them to identify the determinants of low scoring in some of them. Questionnaire survey and data recording were done with analysis against the marks they scored at first session examination in forensic medicine after fixing 16 marks or below out of 40 as decisive. Students were classified as low scorers and average/high scorers according to whether they had secured 16 marks out of 40 or not (40% of the total marks were considered to be decisive).

The questionnaire was pretested among five students for verifying the comprehensiveness of the questions as a pilot study and they were excluded in the actual survey conducted.

Data were collected and entered into MS excel. The analysis was done by software SPSS. The descriptive variables were expressed as percentages. Association between sociodemographic factors and low scoring were found out by chi-square test.

RESULTS
Out of the 117 participants, 38 students were male and 79 were female with the parents employed in the case of 101 students and unemployed in 6 only.
Most students (90) stayed at hostel in the college premises, whereas 27 of them were day scholars. Most of the students (94%) responded that they had chosen medical profession by themselves. 81% students had attendance of above 90% in forensic medicine.

### Table 3. Family Income as per Modified Kuppuswamy Classification

<table>
<thead>
<tr>
<th>Missing System</th>
<th>1</th>
<th>.9</th>
<th>Total</th>
<th>117</th>
<th>100.0</th>
</tr>
</thead>
</table>

### Table 4. Distribution of Students According to their Stay

<table>
<thead>
<tr>
<th>Stay</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hostellers</td>
<td>90</td>
<td>76.9</td>
<td>76.9</td>
<td>76.9</td>
</tr>
<tr>
<td>Day scholars</td>
<td>27</td>
<td>23.1</td>
<td>23.1</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Table 5. Professional Choice Method

Although, choice option was given in the profession preferred other than medicine as engineering, teaching, law enforcement, barrister and any other significant majority chose the other option perhaps in a confided way response.

### Table 6. Preferred Profession of Students

<table>
<thead>
<tr>
<th>Preferred Profession</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>54</td>
<td>46.2</td>
<td>46.2</td>
<td>46.2</td>
</tr>
<tr>
<td>Others</td>
<td>63</td>
<td>53.8</td>
<td>53.8</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Table 7. Marks Secured in Forensic Medicine

<table>
<thead>
<tr>
<th>Marks</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>16/less</td>
<td>18</td>
<td>15.4</td>
<td>15.5</td>
<td>15.5</td>
</tr>
<tr>
<td>&gt;16</td>
<td>98</td>
<td>83.8</td>
<td>84.5</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>116</strong></td>
<td><strong>99.1</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>1</td>
<td>.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117</strong></td>
<td><strong>100.0</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 8. Gender Vs. Marks Distribution

<table>
<thead>
<tr>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson chi-square</td>
<td>5.490</td>
<td>1</td>
</tr>
</tbody>
</table>

A better result was observed among students who managed to cover more than 50% or 75% of the topic before examination. So, there was a relationship between the effort they put into cover/revise the topic before examination and the marks gained.
2 cells (33.3%) have expected count less than 5. The minimum expected count is 3.72.

Also, significant relationship was found between students’ performance in the examination and their level of comprehension during lectures. Those who responded a maximum comprehension of lecture context have proved to be of high score group. The less scoring found in association with students having poor/little comprehension of contextual material was significant.

No significant relationship was made out to ascribe stress as a determinant in low scoring (vide table). 1 cells (16.7%) have expected count less than 5. The minimum expected count is 2.64.

Relationship of stress as reflected on marks achievement was searched in the study and the response was crosschecked with the marks.

1 cells (16.7%) have expected count less than 5. The minimum expected count is 1.88.

Students practically responded very less regarding alcohol/drug use and cigarette habit seemingly because the questions represented a personal nature.
student related only. Stress that was a significant factor in earlier studies could not be found having significant association in the present study. The medical students are grown up young adults who are supposed to adopt self-learning practices as well.

The limitations that I noticed in my study were certain elements that crept against the self-revealing of facts by students, which were of high research value despite adequate pretest information given on, probably in a tendency to waive questions reflective of personal nature.

In view of the results noted, the following recommendations were put forth in the best interests of students’ community.
1. Best motivation and awareness among students against idle character/nature that might develop in a secluded environment as hostel and render them short of recognising the responsibilities confided with them in the medical field.
2. Parent-Teacher Associations could play a significant role in the students’ welfare activities including appropriate communications on grounds of poor academic performance, so that necessary corrective aids to the deserving ones could be initiated.
3. Teachers could make habit of taking short assessments at the end of topics they covered each time enhancing attention and alertness in the class room setup.

ACKNOWLEDGEMENT
I sincerely acknowledge the suggestions and criticism provided by Prof. Dr. Sajith Kumar, Convenor, MCI Nodal Centre, Medical College, Kottayam, for the completion of this project. I thankfully remember Dr. Geetha Devi, Asst. Professor of Community Medicine for the statistical analysis.

REFERENCES