DOI: https://doi.org/10.4038/jmj.v38i1.256

Original Article

Factors affecting the Phase I academic performance of undergraduate students in Faculty of Medicine, University of Jaffna.

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Abstract

Introduction: Academic performance of students in medical school is affected by multiple student factors. Understanding these determinants is essential for educators to devise interventions that can help students manage stress and improve their academic performance. The aim of this study was to identify the effects of students' socio-economic and educational factors and personal habits on Phase I (preclinical) academic performance.

Methodology: A retrospective descriptive study was conducted among the students from two consecutive batches who had recently graduated from the Faculty of Medicine, University of Jaffna. Institutional ethical approval was obtained. An online self-administered questionnaire and data extraction from faculty records were used. Academic performance was categorized into good (passed with 1st attempt) and poor (subsequent attempt). Data were analysed using the chi square test in SPSS 26.0.

Results: 224 students took part in this study with the response rate of 78.6%. 59.8% of them were female. Good academic performance rate was (71.4%). Academic performance in Phase I was significantly influenced by factors such as gender, financial issues of the family, accommodation, medium of ordinary and advance level, having study group discussions, reviewing lecture material before and after the lectures and social media usage ($p < 0.05$). Education, occupation of parents, and having medical professionals in the family, Advanced Level examination results, extracurricular activities, and exam preparation methods were not significantly correlated with Phase I academic performance ($p > 0.05$).

Conclusions: The study highlights the complex interplay of various socio-economic, educational, and personal factors affecting the academic performance of medical students. The identified factors which affect the academic performance of students should be taken into consideration when educators develop strategies to improve the academic performance of the students.

Introduction

The aim of medical education is to develop skilled physicians who possess cognitive and critical thinking abilities, along with strong interpersonal skills, to address scientific progress and societal demands (1). Academic performance is a key indicator of the success and effectiveness of an educational program (2)they may underemphasize some important domains of professional medical practice, including interpersonal skills, lifelong learning, professionalism, and integration of core knowledge into clinical practice.

Medical school is known to be a challenging and stressful period for students (3). Some of the most significant challenges medical students face include financial responsibilities, a heavy workload, pressure to succeed, relationships, and work-life balance (4)motivation

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to apply, confidence in ability to stay the course, expectations of medicine as a career, and perceived sources of information and support.\nRESULTS: There were few differences by sex or ethnicity, but striking differences by socioeconomic status. Pupils from lower socioeconomic groups held stereotyped and superficial perceptions of doctors, saw medical school as culturally alien and geared towards \"posh\" students, and greatly underestimated their own chances of gaining a place and staying the course. They saw medicine as having extrinsic rewards (money. These issues are particularly pronounced among students from lower socioeconomic backgrounds, who often underestimate their chances of getting accepted into medical school and their potential for success afterward (5).

The academic performance of medical students was significantly associated with gender differences, with better performance observed among female students compared to male students (6). This result was consistent with findings from a few studies conducted in Sri Lanka (7–9). Additionally, a study in a Saudi medical school identified age differences as a significant factor influencing academic performance, noting that older male students experienced more academic challenges than younger males in the same academic batch (6). A similar result was observed in a study conducted at the Faculty of Medicine in Colombo, Sri Lanka, which revealed that a higher number of students who passed the A/L examination on their first attempt performed better and earned higher grades compared to those who attempted the exam a second or third time (8).

The medium of teaching (English) was the significant predictor of performance at medical faculty examinations revealed by a study conducted in Sri Lanka which is consistent with a study conducted in India (8,10). A cross- sectional study result has revealed that lack of participation in extracurricular activities was negatively related to low academic performance. However, lack of time was the most stated barrier by the participants (11)739 students were admitted to the college.

However, limited research has been conducted in Sri Lanka on factors influencing medical students' performance. This study aimed to examine associations between school-level education, university academic progression, and factors related to learning and academic performance, as well as identify barriers for curriculum enhancement and students' academic progression.

Methodology

A retrospective descriptive study was carried out among two consecutive batches (39th & 40th) of Faculty of Medicine, University of Jaffna. A self- administered questionnaire was used to collect socio-demographic details, study habit pattern, factors related to learning and details of extracurricular activities. The data extraction sheet was used to gather data from the Senior Assistant Registrars office, Faculty of Medicine, University of Jaffna, including student's school level results, and undergraduate academic results.

After obtaining the ERC approval from Faculty of Medicine, University of Jaffna, all the students from those two batches were invited for this study. Informed written consent was taken from the students. Data were collected for 10 months from October 2023 to August 2024. Data were entered and analyzed using SPSS software version 26.0. Chi square test was performed between academic performance, factors related to learning and sociodemographic factors. P value <0.05 was considered as significant.

Results

A total of 224 students were recruited over 10 months for the study, and the majority were female (59.8%, n=134). Mean age of the students was 27.52 (SD =1.11). Response rate is 78.6%. Majority were tamil students (53.1%, n=119) and majority of the students (75.8%, n=170) were from districts other than Jaffna (Table1). Majority of the students (71.4%, n=160) got through the phase I examination in their first attempt (Figure 1).

Table 1*: Sociodemographic features*

Characteristics	n	%
Gender		
Male	90	40.2
Female	134	59.8
Ethnicity		

Tamils	119	53.1
Sinhalese	74	33
Muslims	29	12.9
District		
Jaffna	54	24.1
Out station	170	75.8

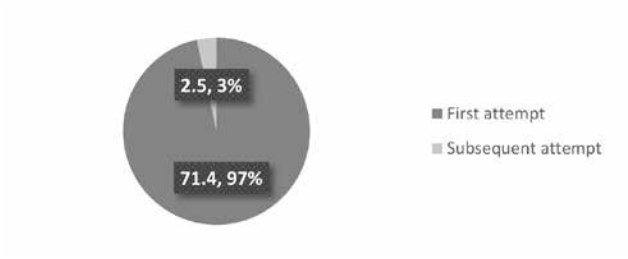

Figure 1: *Phase I academic performance*

Students gender was significantly associated with their phase I academic performance (p=0.005). 34.8% of students mentioned that issues with their accommodation interfered directly with their studies. Of these students, 60.2 % passed in their first attempt compared to 77.4 percent of who did not (p=0.0007). Social media influence was significantly associated with phase I academic performance (p=0.016).

Extracurricular activity was not significantly associated with phase I academic performance. Medium in O/L was significantly associated with phase I academic performance (p=0.001). Medium in A/L was significantly associated with phase I academic performance. (p=0.0001). A/L results was not significantly associated with phase I academic performance.

Involvement in group discussion was significantly associated with phase I academic performance (p=0.0001). Review lecture material before lecture was significantly associated with phase I academic performance (p=0.02). Review lecture material after lecture was significantly associated with phase I academic performance (p=0.01). Exam preparation method was not significantly associated with phase I academic performance. Financial issue in family was significantly associated with phase I academic performance (p=0.03). Educational level of parents and occupation of parents were not significantly associated with phase I academic performance.

Table 2: Factors influencing the pass rate in the Phase I examination

	First attempt (n=160)	Subsequent attempt (n=64)	Pearson Chi-square, p value (χ^2, p)
Gender			
Male – 90	55 (61.1%)	35 (38.9%)	7.8474,
Female - 134	105 (78.4%)	29 (21.4%)	0.005
Having accommodation issue			
Yes	47 (60.2%)	31 (39.8%)	7.3191,
No	113 (77.4%)	33 (22.6%)	0.0007
Social media influence			
Yes	59 (66.3%)	30 (33.7%)	5.6357,
No	101 (74.8%)	34 (25.2%)	0.016
Extracurricular activity			
Yes	94 (72.3%)	36(27.6%)	0.1173,
No	66 (70.2%)	28 (29.8%)	0.732
Medium in O/L			
Tamil	89 (81.6%)	20 (18.4%)	33.180,
Sinhala	30 (44.8%)	37 (55.2%)	0.001
English	41 (85.5%)	7 (14.5%)	
Medium in A/L			
Tamil	110 (82.7%)	23 (17.3%)	29.239,
Sinhala	35 (47.9%)	38 (52.1%)	0.0001
English	13 (81.2%)	3 (18.8%)	
A/L results			
3A	13(86.7%)	2(13.3%)	4.729,
2AB	84(75.6%)	27(24.4%)	0.094
<2AB	63(64.2%)	35(35.8%)	
Involve in group discussion			
Almost never	22(44.9%)	27(55.1%)	22.11,
Frequently	36(75%)	12(25%)	0.0001
Mostly	102(80.3%)	25(19.7%)	
Review lecture material before lectures			
Almost never	48(61.5%)	30(38.5%)	7.4901,
Frequently	57(72.1%)	22(27.9%)	0.02
Mostly	55(82.1%)	12(17.9%)	
Review lecture material after lectures			
Almost never	21(67.7%)	10(32.3%)	8.7511,
Frequently	43(59.7%)	29(40.3%)	0.01
Mostly	96(79.3%)	25(20.7%)	
Exam preparation method			
Review past papers	134(70.5%)	56(29.5%)	0.9273,
Study books	16(72.7%)	6(27.3)	0.628
Study handouts and lectures slides	10(83.3%)	2(16.7%)	
Financial issue			
Yes	44 (66.7%)	22 (33.3%)	4.1630,
No	116 (73.4%)	42(26.6%)	0.03
Educational level of parents			

Secondary education	104(68.4%)	48(31.6%)	2.0959, 0.147
Higher education	56(77.7%)	16(22.3%)	
Occupation of parents			
Skilled work	92(80.0%)	23(20.0%)	2.1422, 0.143
Professional	63(62.3%)	38(37.7%)	

Discussion

The primary objective of this study was to identify the socio-economic factors, educational factors, and personal habits that influenced the students' academic performance in Phase I. We identified some statistically significant factors, as well as some non-significant factors that had been found significant in previous studies.

Gender has been shown to have significant association with academic performance. In our study, female students have been out performing male students. A study conducted in university students in Bangladesh and a study conducted among medical students in Japan showed that gender influences academic performance whereas Christopher found that the influence of gender and academic performance was not statistically significant (12-14).

In our study, social media influence was found to have a significant association with academic performance. Jie Shen and Alshanqiti also found that excessive social media consumption may negatively impact academic performance (15-16).

Educational level of parents was not shown to have significant association with academic performance. Salahuddin & Talukder found that the father's educational qualification did not have any influence on academic performance but the mother's educational qualification had a positive influence on it (17). Another study showed that educational status of parents had a perceived influence on students' attitudes toward studies ,although it did not have a statistically significant impact (18).

Financial issue shown to have significant influence on academic performance in our study. But in Salahuddin & Talukder study revealed family income did not have any influence on academic performance of medical students (17). However, occupation of parents not shown to have significant impact on academic performance.

Medium in O/L and A/L shown to have significant influence on academic performance. Those who studied in English medium shown to have improved academic performance compared to students studied in Tamil/ Sinhala medium. Salahuddin & Talukder also found that previous medium of study had little influence in academic performance (17). In this study, most students got >2AB in their advance level examination, even though this results not shown to have statistically significant association with academic performance. There is no much studies related to this.

In our study, medical professional in the family not shown to have significant influence in academic performance. But Alfayez, Salahuddin & Talukder, Salem shown to have presence of medical professional in the family had positively correlated with the student's academic performance (6,17, 19)

In this study involvement in extracurricular activity not shown to have statistically significant association with academic performance. Even though some studies suggest consistent involvement in extracurricular activities during medical school was a significant facilitator of improved learning outcomes and academic performance among medical students (1,20).

Our study shows, accommodation issue has a significant impact on students' academic performance. In another study, stated that type of living situation had an insignificant impact on medical students' academic performance (18). In this study, majority of the students' have the involvement in group discussion and that shown to have significant impact on academic performance.

Conclusion

This study identified several factors significantly influencing Phase I academic performance, including gender, family financial issues, accommodation challenges, study group involvement, reviewing lecture material, and social media usage. The findings

suggest that these factors should be considered by educators when devising strategies to support students and improve their academic outcomes. Importantly, factors such as parental education, occupation, presence of medical professionals in the family, and exam preparation methods were not significantly correlated with academic performance. These results contribute to a better understanding of the multifaceted influences on medical students' academic performance, highlighting the importance of targeted support for identified stressors such as financial difficulties and accommodation issues.

Recommendation

Based on the findings of this study, it is recommended that institutions enhance student support services by providing financial aid, scholarships, and counselling for students facing economic challenges and accommodation difficulties, which significantly impact academic performance. Efforts should also be made to promote effective study habits, such as group discussions and regular review of lecture materials, through academic programs and peer-support systems. Given the impact of the medium of instruction, providing language support for students transitioning from non-English backgrounds could improve their academic outcomes. Further research is needed to explore the long-term effects of these factors.

Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgement

I am grateful to the undergraduate students in the Faculty of Medicine, University of Jaffna, who participated in this study.

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