

## Original Article

# Academic Backwardness among Students of Dhaka Medical College: A Retrospective Cohort Study

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### Abstract

**Background:** Socio-economic challenges, inadequate early education, poor teaching quality, outdated curricula, insufficient infrastructure, limited technological access, and political instability influence academic backwardness among medical students in developing countries like Bangladesh. Financial constraints and family responsibilities hinder students' focus and resources. Educational systems often rely on learning and lack well-trained faculty and modern facilities. Additionally, language barriers and psychological stress further impact student performance. Efforts to address these issues include financial aid, teacher training, curriculum reforms, infrastructure improvements, and mental health support, all aimed at creating a supportive and effective learning environment.

**Objective:** To evaluate the profile and socio-demographic characteristics in terms of students' academic performance.

**Materials and Methods:** A retrospective cohort study was conducted among students of Dhaka Medical College over six months (July 1, 2023 - December 31, 2023). All undergraduate medical students in their 3rd, 4th, and 5th years at Dhaka Medical College who had lost at least one academic year were included in the study. The sample size was 46. Data were collected using a mixed questionnaire for appropriate statistical analysis.

**Results:** Most respondents 36 (78.3%) were aged 24-26, predominantly male 26 (56.5%), unmarried 38 (82.6%), and from nuclear families 44 (95.7%) with well-educated parents. Academic performance showed that only 5 (23.8%) passed the final exam on the first attempt. The range of academic year loss was 1-5 years. Key challenges included subject comprehension difficulties 15 (32.6%), pre-exam study habits 36 (78.3%), and nervousness during oral exams 42 (91.3%), along with familial issues like illness 20 (43.5%) and financial constraints 12 (26%).

**Conclusion:** The study highlights that medical students from well-educated families face substantial academic and personal challenges, leading to significant delays in their education. This underscores the urgent need for support systems and focused interventions to address these issues effectively.

**Keywords:** Academic backwardness, Professional examination, Language barrier, Medical students

### Introduction

Academic backwardness is a significant issue among parents and teachers in today's competitive society. If a child's performance at school falls below expectations, it is considered academic backwardness.<sup>1</sup> It exists in almost every institution

and is more severe in those that provide professional education.<sup>2</sup> Academic backwardness is influenced by multiple factors, including personal, familial, and financial stressors. Admission to medical colleges in Bangladesh is highly competitive, requiring strong academic performance.<sup>3</sup> However, academic backwardness and repeated failures in professional examinations are major concerns. This academic backwardness leads to adverse emotional and social consequences for individual students and institutions.<sup>4</sup> Since the magnitude of the problem is not clearly documented in our country, this study aims to explore academic backwardness among undergraduate medical students and identify problem areas so that remedial measures can be implemented.

### Materials and Methods

A retrospective cohort study was conducted among undergraduate medical students of Dhaka Medical College

The Journal of Ad-din Women's Medical College; Vol. 13 (1), Jan 2025; p 4-8  
<https://doi.org/10.3329/jawmc.v13i1.81322>

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**Received Date :** 20 August, 2024

**Accepted Date :** 30 August, 2024

over six months, from July 1, 2023, to December 31, 2024. Students from the sessions 2015-16 to 2019-20 were included in the study. Purposive sampling was done with the following inclusion criteria: (1) students who had appeared in the 1st, 2nd, 3rd, and 4th professional examinations between May 2017 and May 2021 and (2) those who had lost at least one academic year. Students who did not provide informed written consent were excluded from the study. All information was kept confidential, and ethical clearance was obtained from the Ethical Review Committee of Dhaka Medical College.

## Results

Regarding socio-demographic characteristics, most respondents 36 (78.3%) were aged between 24 to 26 years. Out of 46 respondents, 26 (56.5%) were male and 20 (43.5%) were female. Most respondents 38 (82.6%) were unmarried, and most 44 (95.7%) resided in nuclear families. Fathers predominantly work in service 25 (55.6%) or business 15 (33.3%), with 37 (80.4%) having a graduate-level education or higher. Mothers are mostly homemakers 38 (82.6%), though 6 (13.0%) are in service and 2 (4.3%) in business, with 24 (52.2%) having graduate-level education or higher (Table 1).

**Table 1 :** Sociodemographic characteristics of the respondents

Variables		Observation (n=46)
<b>Age, years</b>	21 - 23	4 (8.70%)
	24 - 26	36 (78.3%)
	≥27	6 (12.0%)
<b>Sex</b>	Male	26 (56.5%)
	Female	20 (43.5%)
<b>Marital status</b>	Married	8 (17.4%)
	Unmarried	38 (82.6%)
<b>Family types</b>	Nuclear	44 (95.7%)
	Joint	2 (4.30%)
<b>Occupation, father</b>	Service	25 (55.6%)
	Business	15 (33.3%)
	Farmer	1 (2.20%)
	Other	4 (8.90%)
<b>Education, father</b>	Up to primary	2 (4.30%)
	SSC	3 (6.50%)
	HSC	4 (8.70%)
	Graduate & above	37 (80.4%)
<b>Occupation, mother</b>	Service	6 (13.0%)
	Business	2 (4.30%)
	Home Maker	38 (82.6%)
	Illiterate	1 (2.20%)
<b>Education, mother</b>	SSC	2 (4.30%)
	HSC	16 (34.8%)
	Graduate & above	24 (52.2%)

Among the 46 respondents, 33 (71.7%) successfully passed the first professional examination. Of these, 30 (90.9%) also cleared the second professional examination. Among those 30 students, 21 (70%) passed the third professional examination. However, among the 21 respondents who attempted the final professional examination, only 13 (23.8%) were successful (Table 2).

**Table 2:** Distribution of the respondents by their professional examination results

Variables	Passed	Not passed
First professional examination, (n=46)	33 (71.7%)	13 (28.3%)
Second professional examination, (n=33)	30 (90.9%)	3 (9.10%)
Third professional examination, (n=30)	21 (70.0%)	9 (30.0%)
Final professional examination, (n=21)	5 (23.8%)	16 (76.2%)

The table presents the number and percentage of respondents based on the number of attempts they need to pass each stage of their professional examinations.

In the first professional examination, 10 (30.3%) of the respondents passed on their first attempt. The majority 14 (42.4%) passed on their second attempt. 7 (21.2%) needed three attempts, while 2 (6.1%) required four attempts. This indicates that less than one-third of the students passed on the first attempt, suggesting that the examination posed a significant challenge for many.

In the Second professional examination, a slightly higher percentage 10 (33.3%) passed on their first attempt compared to the first exam. The majority 18 (60.0%) required two attempts, showing an improvement in success rates compared to the first exam. Only 2 (6.7%) needed three attempts, indicating that most students passed within two attempts.

In the third professional examination, only 3 (14.3%) passed on their first attempt. The majority 15 (71.4%) passed on their second attempt, making it the most common outcome.

In the final professional examination, none of the respondents passed on the first attempt. The majority 4 (80.0%) required two attempts, while 1 (20.0%) needed three attempts.

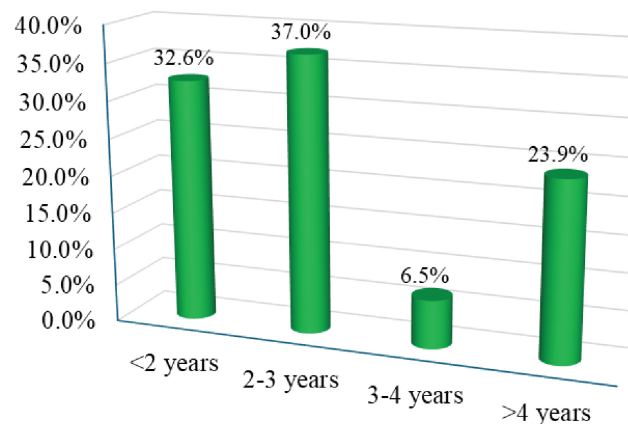
Overall, success rates on the first attempt were generally low across all professional examinations, with the second

and third exams having the highest second-attempt pass rates (Table 3).

**Table 3:** Times required to pass in professional examination by the respondents

Variables	Observation (n=46)
Times required to pass the first professional examination (n=33)	
1-time	10 (30.3%)
2-times	14 (42.4%)
3-times	7 (21.2%)
4-times	2 (6.10%)
Times required to pass the second professional examination (n=30)	
1-time	10 (33.3%)
2-times	18 (60.0%)
3-times	2 (6.70%)
Times required to pass the third professional examination (n=21)	
1-time	3 (14.3%)
2-times	15 (71.4%)
3-times	3 (14.3%)
Times required to pass the final professional examination (n=5)	
2-times	4 (80.0%)
3-times	1 (20.0%)

Figure 1 illustrates the distribution of academic years lost by respondents. The most commonly reported academic loss was 2-3 years, affecting 17 (37.0%) of the respondents. A notable 15 (32.6%) of respondents experienced a loss of less than 2 years, while a smaller proportion 3 (6.5%) faced a loss of 3-4 years. Additionally, 11 (23.9%) of respondents reported an academic loss of 4 or more years, indicating a significant disruption in their education.



**Figure 1:** Academic year lost by the respondents

Nearly one-third of the respondents 15 (32.6%) reported difficulties in understanding the subject or teachers' language, while 6 (13%) felt that the coursework was beyond their capacity. The majority 36 (78.3%) studied only before examinations, and 42 (91.3%) experienced nervousness during oral exams. Half of the students 25 (54.3%) found the teaching method boring (Table 5).

**Table 5:** Academic reasons stated by the respondents

Reasons	Yes	No
Difficulties in understanding the subject	15 (32.6%)	31 (67.4%)
Difficulties in teacher's language	15 (32.6%)	31 (67.4%)
Studies beyond capacity	6 (13.0%)	40 (87.0%)
Habit of study at exam time	36 (78.3%)	10 (21.7%)
Slow in writing	19 (41.3%)	27 (58.7%)
Nervousness in oral examination	42 (91.3%)	4 (8.70%)
Boring teaching method	25 (54.3%)	21 (45.7%)
Long class hour	12 (26.1%)	34 (73.9%)
Poor language skill	13 (28.3%)	33 (71.7%)
Biasness of teacher	16 (34.8%)	30 (65.2%)
Bad behavior of classmate	14 (30.4%)	32 (69.6%)
Political interference	22 (47.8%)	24 (52.2%)
Failure to adjust in new environment	28 (60.9%)	18 (39.1%)
Disliking medical education	12 (26.1%)	34 (73.9%)

About 28 (61%) of students struggled to adjust to a new environment, and nearly half 22 (47.8%) faced issues related to political interference. Other challenges included bias from teachers 16 (34.8%), disruptive behavior from classmates 14 (30.4%), poor language skills 13 (28.3%), dislike for medical education 12 (26%), and long class hours 12 (26%) (Table 5).

Regarding familial and personal issues, 20 (43.5%) cited a family member's illness as a significant concern. Additional problems included neglect from family members 16 (34.8%), involvement in romantic relationships 13 (28.3%), household responsibilities 13 (28.3%), adverse home environments 12 (26%), financial constraints 12 (26%), tutoring commitments 10 (21.7%) and family disputes 9 (19.6%). About 5 (11%) students who got early marriage, all were female (Table 6).

**Table 6:** Familial reasons stated by the respondents

Familial reasons	Yes	No
Adverse home environment	12 (26.1%)	34 (73.9%)
Engagement in household activities	13 (28.3%)	33 (71.7%)
Family dispute	9 (19.6%)	37 (80.4%)
Financial constraints	12 (26.1%)	34 (73.9%)
Engagement in family occupation	10 (21.7%)	36 (78.3%)
Ill health of family member	20 (43.5%)	26 (56.5%)
Negligence of family member	16 (34.8%)	30 (65.2%)
Busy in tuition	10 (21.7%)	36 (78.3%)
Love affair	13 (28.3%)	33 (71.7%)
Early marriage	5 (10.9%)	41 (89.1%)

## Discussion

Respondents faced the most difficulty in passing the final professional examination, followed by the first professional examination. The first professional examination represents the students' first experience with high-stakes assessment, where they must face both internal and external examiners. Nervousness during oral examinations was a significant factor contributing to academic backwardness, consistent with findings from a study by *Miah et al.*<sup>3</sup> The final professional examination assesses overall knowledge, skills, and attitudes, requiring proper self-motivation and guidance to overcome previous academic setbacks.

Most respondents required two attempts to pass professional examinations, while a few required four

attempts to pass the first professional examination. The majority of students experienced an academic loss of 24 months, with a range of 12 to 60 months. Globally, medical schools are under pressure to reduce student failure rates. A study conducted by *Baars et al.* found that out of 1,819 students, 267 failed to pass the first-year medical curriculum within two years.<sup>5</sup>

*Miah et al.* also reported that factors contributing to academic backwardness among medical students include poverty, illness of parents, inability to face viva exams, failure to adjust to a new environment, difficulty understanding subjects, marriage and pregnancy, lack of interest in medical education, love affairs, teacher partiality, and political interference.<sup>3</sup> In the present study, the top five academic challenges were nervousness in oral examinations, last-minute study habits, failure to adjust to a new environment, dissatisfaction with teaching methods, and political interference.

## Limitations

One limitation of the study is its exclusive focus on students from Dhaka Medical College, Bangladesh, which may restrict the generalizability of findings to all medical students in Bangladesh. Moreover, relying on self-reported data could introduce bias and inaccuracies regarding academic and personal challenges. Additionally, the study's design limits its ability to establish causal relationships or track changes among the surveyed students over time.

## Conclusion

This study demonstrates that medical students from Dhaka Medical College, despite coming from well-educated families, encounter significant academic and personal challenges, leading to substantial delays in their education. Only a small percentage pass the final exam on the first attempt, with primary issues including subject comprehension difficulties, exam-related anxiety, and familial problems such as illness and financial constraints. These findings highlight the necessity for improved support systems and targeted interventions.

## Recommendations

Further studies are needed, including all the public and private medical colleges to adopt appropriate strategies.

## Acknowledgement

The authors are thankful to the office staffs of students'

section of Dhaka Medical College, Dhaka for their support for this research.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

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