Short Survey

Impact of English Language Proficiency on Academic Comprehension: A Cross Sectional Study

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ABSTRACT

OBJECTIVE: This study aims to assess the English proficiency level among first year MBBS student, look into how it affects their ability to understand academic material and identify the specific areas of language, such as reading, writing, speaking, listening, grammar and vocabulary, where students struggle the most.

METHODOLOGY: The study included 257 first year MBBS students enrolled at LUMHS Jamshoro from May 2025 to July 2025 after ethical approval letter No. LUMHS/REC/-940. A self-structured questionnaire was used and the data was collected online using google forms. The questionnaire included a B2-level English test aligned with Common European Framework of Reference for Languages (CEFR) standards. The collected data was analyzed using SPSS (version 27).

RESULTS: The test score was 7.10 indicating a moderate language proficiency, but found a significant gap between passive and active language skills. English language proficiency was not a major barrier in comprehension, with 84.5% of students reporting they understood lectures. However, 51.0% students acknowledged losing marks due to language-related errors in academic assessments. The main difficulty reported by students was in active language production skills; speaking (23.7%), vocabulary (21.0%) and grammar (11.3%). Essentially, the core academic challenge came out to be language application, not language comprehension.

CONCLUSION: The study shows that first-year medical students possess sufficient English language skills for passive comprehension but they struggle significantly with active production, which impacts academic performance. The implementation of targeted English language orientation sessions is highly recommended to address these gaps.

KEYWORDS: Academic Performance, Language, Medical Education, Limited English proficiency, communication, undergraduate.

INTRODUCTION

There are several factors affecting academic performance of undergraduate medical students such as stress of studies and examinations, emotions, psychology, self-evaluation, poor physical fitness, lack of participation in extracurricular activities, psycho-social challenges, inadequate sleep, and unhealthy food etc. However, English language proficiency is one of the most important factors determining academic performance of students, especially in medical field as it directly affects the comprehension of study material, effective communication, and examination outcomes. English language proficiency not only supports in EMI (English as medium of instruction) classrooms, but also enhances access to global medical literature, participation in international research collaborations, and improves performance in interviews and licensing examinations; therefore, it serves as a key determinant of both academic and professional advancement[1].

In many Asian countries including Pakistan, India, Bangladesh and Nepal English is the primary language of medical sciences[2]. In this context, students in non-English-speaking countries are required to comprehend and apply complex concepts in a second language, an academic demand that can significantly impact performance if students lack language proficiency[3,4]. In Pakistan, although English is the official language, it is not commonly spoken in everyday communication, creating additional challenges for medical students. The 2022 edition of *Ethnologue* lists 80 established languages of Pakistan of these 68 are indigenous and 12 are non-indigenous, English is one of these[5]. This linguistic diversity means students enter medical colleges with varied educational backgrounds, some from English-medium schools and others from non-English language schools. Therefore, many students find it difficult to communicate properly in English, which can hinder both academic performance and interpersonal interactions within the medical learning environment[6]. Medical studies relay heavily on English encompassing text books, research articles, examinations and interviews. The students with limited proficiency and language related challenges struggle

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a lot in their journey[4,7]. Many studies have shown that English plays an important role not only in determining academic performance but also carrier growth in medical field[8].

Most of the existing researches have focused generally on stress, workload, and lifestyle factors, with comparatively limited attention to the role of language proficiency as a factor affecting the academic performance of undergraduate medical students. Additionally, very little information is available about how differences in educational background, such as schooling in different languages can affect medical students' adaptation to the English-dominant medical curriculum.

This study aims to assess the English language proficiency levels of first-year medical students and examine how their proficiency influences academic comprehension. By identifying self-reported English proficiency and comparing it with academic outcomes, the study seeks to understand whether language barriers contribute to academic difficulties. We hypothesize that students with higher English language proficiency will demonstrate better academic comprehension, while those with limited proficiency may struggle to keep pace with the English-based medical curriculum.

METHODOLOGY

An online questionnaire based cross sectional study was conducted at Liaquat University of Medical and Health Sciences (LUMHS), Jamshoro. The study was conducted among all the enrolled students of the 1st year students of MBBS at LUMHS Jamshoro from May 2025 to July 2025 after ethical approval letter No. LUMHS/REC/-940 from Research Ethical committee LUMHS, Jamshoro. All the enrolled students of the 1st year MBBS at LUMHS that were willing to participate were included in the study. The students of other professional years of MBBS and other disciplines and those who were not willing to participate were not included in this study.

A validated online self-structured questionnaire was shared among the first year MBBS students of LUMHS, Jamshoro. A total of 257 out of 360 students agreed to participate in the study, informed consent was obtained in the questionnaire. Questionnaire comprises of three sections: Section A (Demographics)which includes age, gender, prior educational background and other demographic variables. Section B (English language proficiency and academic performance) includes the questions assessing participants' English language proficiency and its influence on academic comprehension. Section C (English language proficiency assessment) this section comprised a B2-level English proficiency test aligned with CEFR standards. Data was collected electronically using Google forms and responses were kept confidential. The collected data was analyzed using SPSS (Statistical Package for the Social Sciences version 27).

The continuous data of the students such as age and total English test score was analyzed by descriptive statistics, mean and standard deviation. The categorical data of the students was analyzed as frequencies and percentage to analyze perceptions on academic performance and recommendations of students on different methods for English improvement at the start of first year MBBS.

RESULTS

The students had a mean age of 19.4 years (SD=1.160). The largest age groups were 19 years (36.2%) and 20 years (25.7%). In terms of gender distribution, males constituted a slightly higher proportion (56.4%, n=145) compared to females (43.6%, n=112) (**Table I**). Most students (89.1%, n=229) completed their prior education through the inter-mediate FSC/HSC (local board) system. The remaining students represented other systems, such as outside Pakistan (5.8%, n=15). Consistent with this pattern, English was the primary medium of instruction for the majority (85.2%, n = 219). Private schooling was predominant across all educational levels, with 71.6% of students attending private institutions during primary education, 71.2% during secondary education, and 58.8% during higher secondary education (**Table I**).

Students generally perceived themselves as proficient in English (Table: II English Proficiency and Academic impact). The highest proportion (43.6%, n = 112) rated their proficiency as "Professional working proficiency" (Level 3), mean score of M=7.32 (SD=1.930). Followed by 29.2% (n = 75) mean score was M=6.77 (SD=1.573) identifying as having "Limited working proficiency" (Level 2). Only a small fraction (2.3%, n = 6) reported having "No proficiency" (Level 0) lowest mean score at M=4.67 (SD=2.506).

English use at home was limited for many students, with 31.9% (n = 82) reporting they rarely spoke English and 29.2% (n = 75) doing so sometimes (**Table I**). However, English usage increased in academic and daily communication contexts, with 34.6% (n = 89) indicating they used it sometimes and 33.5% (n = 86) often. Usage during formal presentations (clinical, medical, or research) was less frequent, with responses concentrated around "Sometimes" (29.2%, n = 75) and "Rarely" (24.1%, n = 62) (**Table I**). More than half of the students (51.0%) acknowledged losing marks due to language-related mistakes with 40.1% (n = 103) reporting this happened sometimes and 10.9% (n = 28) frequently. Despite this, a majority expressed little difficulty in written clarity during examinations, as 33.9% (n = 87) reported "Rarely" and 32.3% (n = 83) reported "Never" experiencing such problems. The most frequently reported challenges in language use were speaking (23.7%, n = 61), Vocabulary (21.0%, n = 54), and Grammar (11.3%, n = 29) (**Table II**).

Most of the students demonstrated strong comprehension of English-based lectures, with 50.6%

(n = 130) reporting that they understood “most of it” and 33.9% (n = 87) indicating they understood “everything” (**Table II**).

The mean total English language score among students was 7.10 (SD = 1.984), with scores ranging from 2 to 10. A Kruskal–Wallis H test was employed to compare total English language scores across categories of prior education systems (Intermediate FSc/HSC (Local Board), Cambridge System O/A levels, International Student (completed previous education outside Pakistan) and others. The non-normal distribution of scores within the largest group (Intermediate FSc/HSC) led to selection of non-parametric test. Shapiro–Wilk p < .001). The results showed no significant difference in total scores among groups (H = 7.437, df= 5, p = .190).

One-Way ANOVA tests were conducted separately to examine whether the type of school (Government, Private, Semi-Government) attended at different educational levels (Primary, Secondary, and Higher Secondary) had a significant effect on the Total test Score**.** The assumption of homogeneity of variances was met for Primary education, (Levene’s test, *p* = .074), allowing for the use of the Tukey HSD post hoc test. However, this assumption was violated for both Secondary (*p* = .000) and Higher Secondary (*p* = .011) levels; therefore, The Games-Howell test was applied to do pairwise comparison. The ANOVA results indicated that the type of school attended during Primary education did not significantly influence the total Score ($F(2, 254) = 1.588$, $p = .206$). In contrast, significant differences were found for both Secondary ($F(2, 254) = 8.758$, $p < .001$) and Higher Secondary ($F(2, 254) = 3.688$, $p = .026$) education. For Secondary Education Post hoc analysis indicated that Semi-government schools had the highest mean total Score ($M = 8.04$), outperforming both Government and Private schools ($p \leq .031$). Likewise, for Higher Secondary education, students from Semi-government schools ($M = 8.27$) scored higher than those from Private ($M = 7.16$) and Government ($M = 6.81$) schools ($p \leq .006$), while no significant difference was observed between the latter two groups ($p = .425$). As evidenced by its higher F-statistic ($F = 8.758$) and greater between-group variance (SS = 64.986) compared to the Higher Secondary level (SS = 28.427), the overall results showed that school type attended during Secondary education is the strongest predictor of total Score. Students across different educational levels from Semi-government schools consistently achieved the highest mean scores.

A significant proportion of students (82.5%) agreed or strongly agreed that English language proficiency plays a crucial role in medical career advancement (Agree: 49.4%, n = 127; Strongly Agree: 33.1%, n = 85 (**Table III**). The majority (74.7%, n=192) recommended introducing English language orientation sessions at the start of university programs.

Table I: Demographics and Background

Variable	Category	Frequency (n)	Percentage (%)
Age Group	17	09	3.5
	18	46	17.9
	19	93	36.2
	20	66	25.7
	21	36	14.0
	22	6	2.3
	25	1	0.4
Gender	Male	112	43.6
	Female	145	56.4
System of Previous Education	Intermediate FSc/HSC (Local Board)	229	89.1
	Cambridge System O/ A levels	8	3.1
	International Student (completed previous education outside Pakistan	15	5.8
	Other	5	2
Type of Primary Education (1-5)	Government	58	22.6
	Private	184	71.6
	Semi-government	15	5.8
Type of Secondary Education (6-10)	Government	48	18.7
	Private	183	71.2
	Semi-government	26	10.1
Type of Higher Secondary Education	Government	91	35.4
	Private	151	58.8
	Semi-government	15	5.8
Medium of Previous Education	Arabic	14	5.4
	English	219	85.2
	Sindhi	10	3.9
	Sinhala	02	0.8
	Tamil	03	1.2
	Urdu	09	3.5
Speak English at Home	Always	01	0.4
	Never	69	26.8
	Often	30	11.7
	Rarely	82	31.9
	Sometimes	75	29.2
How often do you use English for communication in your daily life?	Always	33	12.8
	Never	09	3.5
	Often	86	33.5
	Rarely	40	15.6
	Sometimes	89	34.6
How often do you give clinical, medical, or research presentations in English?	Always	17	6.6
	Never	44	17.15
	Often	59	23.0
	Rarely	62	24.1
	Sometimes	75	29.2
Do you lose marks due to language related mistakes (e.g., grammar, spelling, or Unclear expression)?	Yes, Sometimes	103	40.1
	Rarely	74	28.8
	No	48	18.7
	Yes, Frequently	28	10.9
	Not Sure	04	1.6

Table II: English Proficiency and Academic impact

Variable	Category	Frequency (n)	Percentage (%)
Self-Reported English Proficiency Level	Elementary Proficiency	16	8.2
	Full Professional proficiency	38	14.8
	Limited Working Proficiency	75	29.2
	No Proficiency	06	2.3
	Primary Fluency/ Bilingual Proficiency	10	3.9
	Professional Working proficiency	112	43.6
Do you find it difficult to express your answers clearly in written English during Exams?	Rarely	87	33.9
	Never	83	32.3
	Sometimes	75	29.2
	Often	12	4.7
In your most recent English medical or research lecture, how much did you Understand?	I didn't understand anything	07	2.7
	I understood Everything	87	33.9
	I understood most of it	130	50.6
	I Understood some parts	23	8.9
	I Understood very little	10	3.9
Variable	**Test Score**	**Frequency**	**Percentage (%)**
Total Scores of English Test	2	07	2.7
	3	07	2.7
	4	18	7.0
	5	18	7.0
	6	40	15.6
	7	43	16.7
	8	49	19.1
	9	55	21.4
	10	20	7.8

Table III: Attitude towards English learning and Perception in Career Growth

Variable	Category	Frequency (n)	Percentage (%)
Do you think an English language orientation session should be provided at the beginning of university studies?	No, it is not necessary	57	22.2
	Not sure	8	3.1
	Yes, a two-week session	107	41.6
	Yes, integrated throughout the first module	85	33.1
Do you think English proficiency affects career growth in the medical field?	Agree	127	49.4
	Disagree	15	5.8
	Neutral	27	10.5
	Strongly Agree	85	33.1
	Strongly Disagree	03	1.2

DISCUSSION

This study assessed English language proficiency and its impact on academic comprehension among first year MBBS students, while identifying the specific language skills students found most challenging. The study included first year MBBS students because they are still not used to with the academic demand of curriculum, this is also supported by previous studies[9]. By limiting the study to specific population also ensured greater consistency and reduced variability associated with different years of study or clinical exposure. This study adds to the increasing data on English proficiency in medical education by elucidating both the competencies students possess and the areas that require focused educational enhancement.

The mean total English language score was 7.10 (SD=1.984), with scores ranging from 2 to 10, indicates that the students generally demonstrated a moderate to good level of objective proficiency. This is consistent with the students' self-reported level of English language proficiency, as majority described themselves as possessing "Professional" or "limited working proficiency". These findings suggest that students' self-perceived English proficiency is a good indicator of their ability to perform well academically[10]. Importantly, English proficiency appeared to support strong academic comprehension. The majority of students reported understanding "most of it" (50.6%, n=130) or "everything" (33.9%, n=87) in their most recent English medical or research lecture. This tells that students understand the lecture content initially. The findings, however, suggested a possible disconnect between understanding and implementation. More than half of the students (51%) acknowledged losing marks due to language-related mistakes. This highlights that while passive skills like listening are strong, active production skills, such as grammar and writing, may present difficulties that that negatively impact academic performance. Students are more comfortable in receiving information in English than producing it, which is a common imbalance between active and passive language skills. Providing targeted language support can help alleviate these difficulties and improve students' language proficiency[11].

When questioned about specific areas of difficulty, students most frequently reported challenges in speaking (23.7%, n=61), vocabulary (21.0%, n=54), and grammar (11.3%, n=29). This aligns with the observation that English usage is less frequent in contexts demanding active production, particularly during formal presentations (clinical, medical, or research), which were reported as being done "sometimes" (29.2%, n=75) or "rarely" (24.1%, n=62). Furthermore, the limited use of English at home ("rarely": 31.9%, n=82; "sometimes": 29.2%, n=75)

suggests a lack of consistent, informal practice, which is vital for fluency in spoken and active language. Similar results from a study done in Bangladesh, found that students' proficiency in spoken English was significantly low[12].

One of the most notable findings of the study was the influence of prior schooling on English proficiency. There was no significant effect of type of school attended during primary education on the test score, however, there were notable variations for secondary and higher secondary education. The students who attended semi-government schools outperformed those who attended private and government schools, they achieved higher mean score at secondary and higher secondary. The school type attended during secondary education came out to be the strongest predictor of total test score. These findings collectively indicate that English proficiency is the culmination of years of structured language education. Strengthening English instruction at the secondary level, therefore, may provide the most sustainable long-term improvement in language outcomes among medical students.

The vast majority of students (82.5%) agreed or strongly agreed that English language proficiency plays a crucial role in medical career advancement. Similar results were found from studies where most of the students believed that English proficiency is an important factor for their future success as medical profession[12–14]. Given this awareness and the identified difficulties, the majority (74.7%) recommended introducing English language orientation sessions at the start of university programs.

CONCLUSION

This study evaluated English language proficiency of first-year MBBS students and its academic implications. Overall students demonstrated a moderate to good level of English proficiency (mean 7.10), which is largely consistent with their self-assessment. English language proficiency was not a major barrier to the comprehension of academic content (lectures or medical material); with the vast majority understanding "most of it" or "everything". However, its active application poses challenges, as mark loss due to language mistakes was acknowledged by over half the students. The most frequently reported areas of difficulty were speaking (23.7%), vocabulary (21.0%), and grammar (11.3%). This indicates a greater need to improve active language production skills.

The strongest indicator of the English test score came out to be the type of school attended during secondary education, highlighting the influence of early schooling on academic success, those who attended semi-government schools performed the best.

Recommendation: Given the strong student perception that English is crucial for career growth (82.5% agreed or strongly agreed), the majority recommendation to introduce English language orientation sessions at the start of the program should be strongly considered to address the identified weaknesses in speaking, vocabulary, and grammar.

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Data Sharing Statement: The corresponding author can provide the data proving the findings of this study on request. Privacy or ethical restrictions bound us from sharing the data publicly.

AUTHOR CONTRIBUTION

Muhammad Amin: Concept for the study
Kashaw Kumar: Data collection
Kertee Goswami: Data analysis
Chanchal Kumari: Acquisition of data
Pushpa Goswami: Final approval

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