Original Research Article

Effects of Language Barrier on Academic Performance of First Year Undergraduate Medical Students in Jamnagar

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ABSTRACT

Background: Language proficiency plays a foundational role in the success of medical students, especially in multilingual countries like India, where students often come from diverse linguistic backgrounds. The transition from vernacular language-based schooling to English-medium medical education creates a significant challenge for first-year MBBS students. These students often struggle with understanding medical terminology, lectures and textbooks, all of which are primarily in English. This language barrier can impede their academic performance, communication skills and confidence, which are critical to becoming competent healthcare professionals.

Objectives: This study aimed to assess the extent to which language barriers affect the academic performance of first-year MBBS students.

Materials and Methods: This is an institution based cross-sectional study. Total 220 students participated in the study. A preformed questionnaire was given to the students. Result was obtained by the answers given by the students.

Results: A total of 220 participants responded to the survey, including 118 (53.6%) males and 102 (46.4%) females. 160 (72.7%) of the total participants had studied in Gujarati medium, 16 (7.3%) of the total participants had studied in Hindi medium, while 44 (20%) of the total participants had studied in English medium. The majority 140 (63.7%) of the participants stated that they frequently used dictionaries for their studies and 80 (36.3%) did not use dictionaries. The results indicated that most participants, more specifically 110 (50%) medical students were neither comfortable nor uncomfortable (Neutral) with the English language, followed by 74 (33.6%) who were comfortable as opposed to 36 (16.4%) who were very uncomfortable.

Conclusion: English Language Proficiency Program (ELPP) can be used at a level of medical colleges to increase the interest and academic performance of the students.

Keywords: Medical Education, Language Barriers

INTRODUCTION

In the era of globalization, English has emerged as a predominant medium for international communication, with over 1.45 billion speakers worldwide.[1] This extensive use of the language has significantly impacted the academic performance of the medical students, as its widespread adoption as the standard for medical studies has led to the predominance of English in medical education. The adoption of English as a medium of instruction (EMI) can be defined as the use of the English language to teach academic subjects in countries where the first language of most of the population is not English.[2] However, the students who have spent their whole life studying in native language, will ultimately face difficulties upon studying in English, perhaps not reaching their full academic potential or even dropping out. The transition from learning in their native language to studying complex scientific concepts and terminologies in English can pose challenges. Previous research showed that teaching and learning using the

student's mother tongue proves to be the most efficient method for acquiring and retaining knowledge across diverse scientific fields.[3]

In India, medical education is predominantly conducted in English, which poses a considerable challenge for students from vernacular-medium backgrounds who are often inadequately prepared to cope with the linguistic demands of the curriculum. A large proportion of first-year MBBS students enter medical colleges after completing their schooling in regional languages such as Hindi, Gujarati, Marathi, or Tamil. This sudden transition to English medium instruction can result in significant cognitive and emotional stress, adversely affecting students' academic performance and self-confidence.[4]

The importance of language proficiency in academic achievement has been well established in educational research. A study by Gul et al. (2022) reported that approximately 39.3% of undergraduate medical students in Karnataka perceived language as a major barrier to effective learning. Students cited difficulty in understanding the accent of faculty members and unfamiliarity with medical terminology as key challenges.[5] These communication gaps often lead to reduced classroom participation, poor comprehension of theoretical content and lower performance in examinations. Further compounding the issue is the fact that many standard medical textbooks, lectures and assessments are in English. Students with limited proficiency may not only struggle to understand course content but also find it difficult to express their understanding in written or spoken form. A qualitative study published in the East Mediterranean Health Journal emphasized that students taught in a language different from their mother tongue often face a decline in learning quality and knowledge retention.[6] The aim of this study was to evaluate the impact of language barriers on the academic performance of first-year MBBS students.

MATERIALS AND METHODS

This study was designed and conceptualized in July 2024. Then protocol of the study was submitted to institutional ethical committee for approval. After taking approval from ethical committee, data collection was started. This was a cross-sectional study carried out among the first year MBBS students in the Department of Physiology at Shri M. P. Shah Medical College, Jamnagar, Gujarat. The duration of the study was two months and the sample size was 220. Students who did not consent to be included in the study or who did not answer complete questionnaire were excluded from the study.

Data Collection

A self-administered semi structured questionnaire survey was conducted during the period from the August 2024 to

October 2024. The questionnaire was distributed online using google forms via the social media platforms like telegram, WhatsApp and through student study groups to ensure the questionnaire was answered only by the specific target group. It was distributed to all participants who have participated in the study, regardless of their age or sex. To ensure that the questionnaire was accessible to all the students, including those uncomfortable using English. It was distributed in Hindi, Gujarati and English. The questionnaire consisted of two sections: the first section contained questions regarding age, sex, native language and high school study language. The second section comprised 4 questions addressing the concerns, barriers and challenges encountered by students as well as their perceptions of medium of instruction.

Likert scale was used for perceptions and preferences (1 = Strongly Agree, 5 = Strongly Disagree). All students were gathered in the classroom on the day of data collection at time of their usual lecture. Then all students were explained the purpose and procedure of the study. They were clearly informed that this was for research purpose only, their personal data will not be collected, they were free to decide whether to participate or not and they can leave the study anytime without giving any reason. After clearing doubts about the study actual procedure was started. Students were given adequate time to fill up the questionnaire. Data was analyzed by calculating the score from Likert scale. There was total 4 questions in the questionnaire.
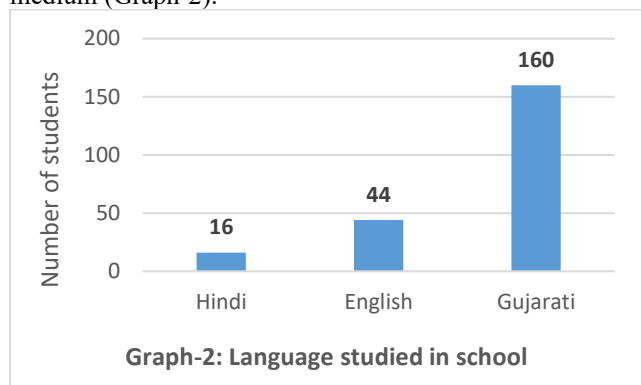
RESULTS

A total of 220 participants responded to the survey, including 118 (53.6%) males and 102 (46.4%) females (Graph-1).
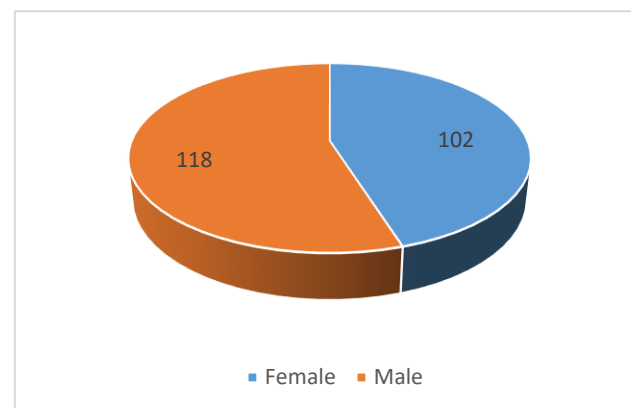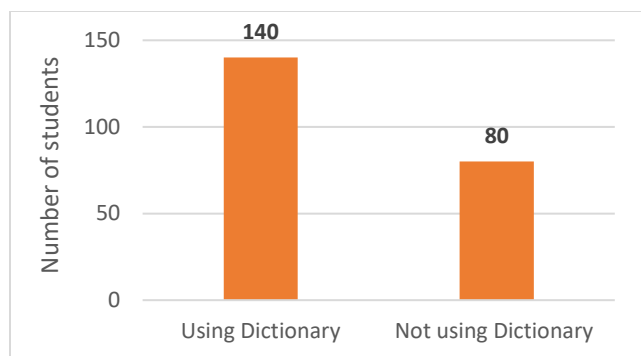

Graph-1: Distribution of participants according to gender

A total of 220 participants, 160 (72.7%) of the total participants had studied in Gujarati medium, 16 (7.3%) of the total participants had studied in Hindi medium, while 44

(20%) of the total participants had studied in English medium (Graph-2).


Graph-2: Language studied in school

The majority (140, 63.7%) of the participants stated that they frequently used dictionaries for their studies and 80 (36.3%) did not use dictionaries (Graph-3).


Graph-3: Distribution of participants according to the use of dictionary

The results indicated that 50 medical students were very comfortable with the English language, 44 were comfortable, 86 were neither comfortable nor uncomfortable (Neutral), followed by 30 were not comfortable and 10 were not comfortable at all (Graph-4).

**Graph-4: How comfortable I feel with English language**
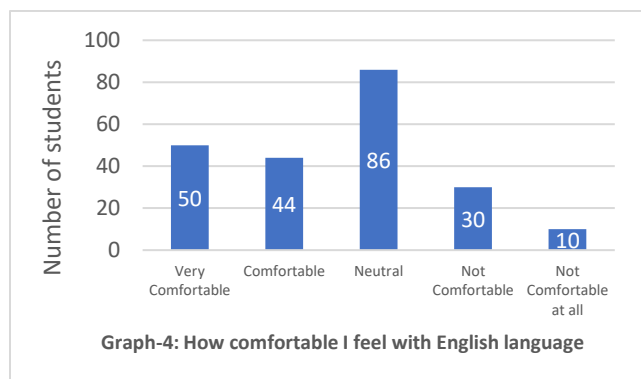
When asked if language is a barrier in medical education, 60 students strongly agreed, 27 agreed, 50 were neutral, 50 disagreed and 33 strongly disagreed (Graph-5).

Graph-5: Language is a barrier in medical education
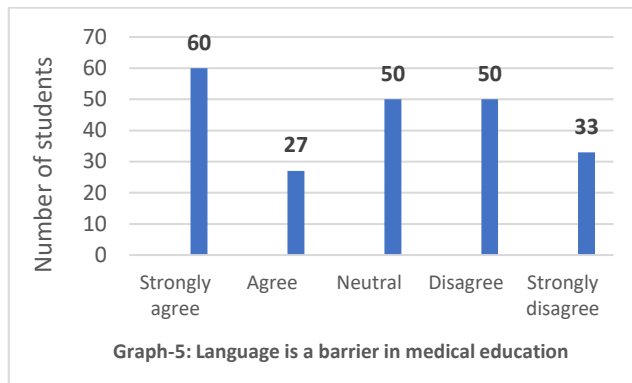
55 students strongly perceived that English as a medium of instruction had an impact on evaluation (Graph-6).

Graph-6: English as a medium of instruction has an impact on evaluation
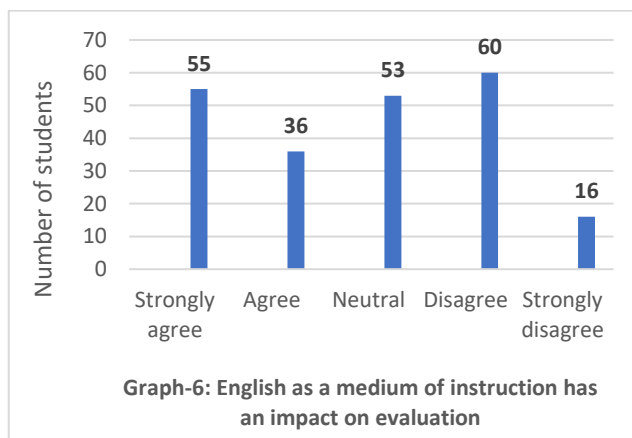
Surprisingly, only 10 students strongly perceived difficulty in English study material (Graph-7).

Graph-7: I face difficulty with English study material
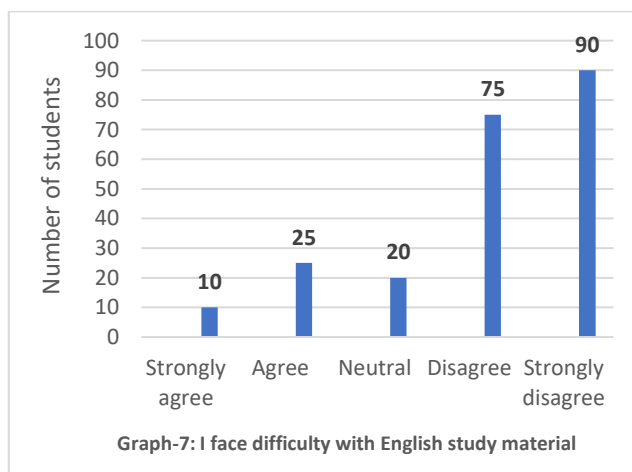
DISCUSSION

Current study showed effect of language barrier on academic performance of the first-year medical students.

The results of the questionnaire survey aimed at evaluating the attitudes of medical students towards English as a medium of instruction in a non-English speaking country. Whereas most countries worldwide utilize their native languages as the primary medium of instruction, the implementation of English in medical education has notably increased in recent years. It also opens doors to international opportunities for medical students, including research collaborations, exchange programs, conferences and employment prospects in English-speaking countries, thereby broadening their career options.

A study conducted by Ruya Almushwat et al which was done in department of community & Family medicine, university of Tripoli Libya on 20 participants who were the medical students.[7] In that study it was found that most participants, more specifically 36.1% medical students were neither comfortable nor uncomfortable with the English language, followed by 26.6% who were comfortable as opposed to 5.9% who were very uncomfortable.[7]

The majority 80.5% of the participants stated that they frequently used dictionaries for their studies and 19.5% did not use dictionaries. Moreover, it was found that only 7.7 % of participants faced considerable difficulty due to language barriers in their studies while 33.1% participants experienced minimal difficulty.[7]

When asked whether the use of medium of instruction impacts students' performance in exams, tests, and assignments, the results showed consistency across responses. Specifically, 46.2% participants did not believe that medium of instruction interfered with their performance on exams and coursework, while 34.3% participants felt that medium of instruction affected their performance in assessments.[7]

 Limitations: This study is conducted at a single center on limited number of students. So, findings of this study cannot be generalized.

CONCLUSION

This article aims to address the concerns and barriers faced by medical students regarding the use of English as a language of medical education. Highlighting these concerns and perspectives is essential for fostering an inclusive and supportive learning environment that enables medical students to excel in their education and future practice. Considering the students' suggestions may facilitate the development of potential strategies and solutions that educational institutions can implement to alleviate the challenges encountered by medical students in English-medium medical education.

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