Original Article

English Language Training to Improve Comprehension among Undergraduate Medical Students from Vernacular Language Schooling: A Randomized Waitlist-controlled Study

Gopalakrishnan Bhuvaneswari[1], Dhanavelu Gayathri Priya[2]

[1]Associate Professor, Department of Biochemistry, Government Vellore Medical College, Vellore, Tamil Nadu, India, [2]Assistant Professor, Department of Biochemistry, Government Vellore Medical College, Vellore, Tamil Nadu, India

Abstract

Introduction: Every year about 15-20% of students joining MBBS in our institution come from a background of schooling in vernacular medium of instruction. These students find it difficult to cope with the rigors of medical education that is fully in English. If an English language bridge course could be formally organized before initiation of 1st-year medical education, it could help such students understand and perform better in their medical curriculum.

Objectives: To evaluate the effectiveness of English language classes for 1st MBBS students from vernacular language schooling in improving their ability to understand and express science concepts.

Materials and Methods: 14 students from a background of schooling in vernacular medium of instruction were recruited into the study. They were randomly divided into two equal groups. Baseline language assessment was done for both groups. The intervention group attended 10 English language classes of 45 min duration in addition to regular 1st MBBS class. The control group attended regular 1st MBBS classes only. Post-test language assessment made for both groups by custom-designed written test which consists of listening skills, comprehension skills, and translation.

Results: 14 students randomized into two groups. No dropouts. Baseline, post-test, and change in score comparisons between the groups done using two-sample t-test. Baseline language performance was comparable in both groups. Post-intervention, no significant difference was found between the groups in the primary outcome language comprehension test. Mean difference between the groups in score change was 4.24%, 95% confidence interval (CI) (−15.46% to +23.94%), and $P > 0.05$.

Conclusion: It is uncertain whether a 10-day English language training program improves language comprehension among 1st MBBS students from vernacular schooling. Adequately powered studies that employ a more structured training with a longer follow-up are needed to address this knowledge gap.

Key words: Medical English, Language training, Undergraduate medical students

INTRODUCTION

English competence is an essential prerequisite in medical education, especially in countries that do not have a medical curriculum in non-English native languages.[1] Lack of adequate competence in English among medical students has been linked to significant difficulties at all aspects of medical education. Such difficulties could lead to reduced self-esteem and poor performance in their university examinations.[2] There is a potential need for provision of language-learning opportunities to these students.[3]

Every year about 15-20% of students joining MBBS in this state-run tertiary care university teaching institution come from a background of schooling in vernacular medium of instruction. These students find it difficult to cope with the rigors of medical education that is fully

Corresponding Author: Gopalakrishnan Bhuvaneswari, Department of Biochemistry, Government Vellore Medical College, Vellore - 632 011, Tamil Nadu, India. Phone: +91-9884334452. E-mail:drgbhuvana@gmail.com

Table 1: Baseline characteristics and study outcomes in participants

Variable	Intervention arm n=7	Waitlist arm n=7
Male:female	4:3	6:1
Baseline English proficiency score (mean±SD)	31.9±11.2	42±18.1
4-weeks English proficiency score (mean±SD)	58.4±15.9	64.3±6.5
Change scores (mean, 95% CI)	26.51 (6.57-46.45)	22.27 (7.87-36.67)

SD: Standard deviation, CI: Confidence interval

in English. It could take months for some to understand and express the basic concepts during assessment tests. In Indian medical education, there are no established norms to conduct formal bridge courses for such students. If such a course could be formally organized before initiation of 1st-year medical education, it could help such students understand and perform better. This study was conducted to evaluate the effectiveness of English language classes for 1st MBBS students from vernacular language schooling in improving their ability to understand and express the concepts in science.

MATERIALS AND METHODS

Study Population
Fourteen students from a background of schooling in vernacular medium of instruction were recruited into the study.

Study Period
The study period was 2 months.

Study Design
This study design was a randomized, waitlist control trial.

Intervention
Participants were randomly allocated to two groups. Random sequence was determined by flipping a coin method. Baseline language assessment was done for both groups.

The intervention group then received 10 sessions of English language training in basic grammar. Each session lasted about 45 min; the entire training spread over 3 weeks. This language training was in addition to regular 1st MBBS classes.

The control group attended only the regular 1st MBBS classes during this initial three-week intervention period. After the completion of post-test for both the groups, the control group participants received English

language training sessions similar to those provided to the intervention group. This was done primarily as a way of not denying them an opportunity to learn the basics of medical English. No assessment was done after these sessions.

Outcomes
Pre- and post-test language assessment for both the groups was done by custom-designed written evaluation which consisted of listening, comprehension, and translation skills. The test included multiple-choice, fill-the-blanks, and short passages. Maximum possible score for each test was 17 for pre-test and 22 for post-test and was converted to a 100-point scale for the purpose of analysis. Assessment was done by either of the authors. The groups were compared with each other based on the difference in mean "change in score" from pre-test to post-test.

Baseline, post-test, and "change in score" comparisons between the groups was done using two-sample t-test.

RESULTS

14 students were randomized into 2 groups. There were no dropouts. Baseline language performance was comparable in both groups (Table 1). Post-intervention, no significant difference was found between the groups in the primary outcome language comprehension test. Mean difference of "change in score" between the groups was 4.24%, 95% CI (-15.46% to $+23.94\%$), and $P > 0.05$.

DISCUSSION

To the best of our knowledge, this is the first trial in India to assess the feasibility of administering such an intervention. We have demonstrated that English language training imparted through additional sessions for medical students is feasible in the setting of a state-run tertiary care teaching institution. While reports from other countries indicate the need for training in medical English,[4-7] efficacy of interventions to achieve this has hardly been studied. Although the focus is on language training, the role of medical teachers in such interventions is critical since the ultimate long-term goal is to train better doctors.[8]

In our trial, intervention could not be proven, informal feedback from the participants was overwhelmingly positive. Inadequate sample size precludes drawing definitive conclusions about the effectiveness of the intervention.

There is scope to standardize the content of training imparted, assess outcomes using validated tools, reduce bias

by blinding outcome assessment, and improve the power of the study by recruiting participants from successive years of new entrants to the course.

CONCLUSION

It is uncertain whether a 10-day English language training program improves language comprehension among 1st MBBS students from vernacular schooling. Adequately powered studies with structured training and assessment tools and with a longer follow-up could address this knowledge gap.

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