

STUDY OF PERCEPTION OF CLINICAL BIOCHEMICAL KNOWLEDGE OF FIRST MBBS STUDENTS AFTER EARLY CLINICAL EXPOSURE, IN A TERTIARY CARE HOSPITALDr. T. Vidhyalogini*¹ and Dr. Arvind Thangarasah²

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ABSTRACT

Background: Biochemistry is traditionally taught through lectures, which causes many students to lose interest in the fundamental sciences. We therefore suggested to assess first-year MBBS students' perceptions of their clinical biochemistry knowledge following early clinical exposure in a tertiary care hospital as a requirement in a competency-based learning programme AIM: Correlate knowledge gained through early clinical experience and raise awareness of its quality as an active learning strategy. **Study Design:** A questionnaire based study is done on students from the first MBBS. **Materials & Methods:** In this study, first-year medical students (n=150) were enrolled. Following a typical didactic session, a specific questionnaire was developed about the case of diabetes mellitus, a clinical condition connected to carbohydrate metabolism, and its form was distributed to all 150 students. A writing test was given, and the results were validated. Then, all 150 students received initial clinical exposure to the diabetes mellitus case. A second exam was given, and the results of the pre- and post-early clinical exposure were compared to gauge the students' level of information acquisition. The validity and reliability of the questionnaire were checked and confirmed before to starting the study's main phase. To compare the test's reliability, statistical analysis was performed using SPSS software, version 21. **Conclusion:** In spite of the well-established traditional teaching methods, students' learning interests have been increased by early clinical exposure teaching learning methods. The curriculum will be strengthened and integrated using this ECE approach. Additionally, it will support the problem-based learning strategy. As a result, this study will emphasise the value of early clinical exposure as a method for integrating learning medicine.

KEYWORDS: ECE-First MBBS students-diabetes mellitus-integration.**INTRODUCTION**

In order to provide Phase I MBBS students with the chance to learn through clinical application, the medical council of India developed an early clinical exposure programme in 2019. The learning exercises are combined in this manner.

It increases the knowledge of pupils without diminishing the significance of conventional basic science courses. Obtaining a doctorate is a very difficult task. Their exposure during the first few years of medical school will affect how they learn in the upcoming years.

Early clinical exposure has been the subject of several research and articles, and both medical faculty and medical students currently perceive a much higher level of knowledge in this area. Students complain that biochemistry is a challenging topic since there are so many metabolic pathways and enzymes.

As a clinically oriented laboratory science that aids doctors in screening, diagnosing, treating, and following up, early clinical exposure is essential in biochemistry. ECE should therefore inspire and enhance students interest in learning biochemistry.

MATERIALS AND METHOD

This study involved 150 first-year medical students from Chennai's Bharath Medical College and Hospital (n=150). Due to 11 absentees on the same day, only 139 of the 150 pupils participated. All 139 students provided their informed consent.

In order to better understand the situation of diabetes mellitus, an unique questionnaire with 30 questions was developed. The questionnaire was developed based on the subtopics of categorization and interpretation of diabetes mellitus using random, fasting and postprandial measurements of serum blood sugar levels, how to interpret DM by performing glucose tolerance test,

diabetic risk percentage of glycosylated haemoglobin, urine blood sugar level, ketone bodies, diabetic ketoacidosis, about the cardinal diagnostic features and acute and chronic complications of DM, and after a routine didactic lecture questionnaire form was given to all the 139 students.

A writing exam was administered, and the results were confirmed. The same 139 students were then exposed to the case of diabetes mellitus early in a clinical setting the following day. To evaluate the quality of the knowledge the students had learned, a retest was administered, and the results of the pre- and post-early clinical exposure tests were compared.

The validity and reliability of the questionnaire were checked and confirmed before the study's main phase got started. On the first and second days of the exam, corresponding authors assisted in facilitating it for 139 students. All authors made corrections to the paper. Marks from the pre- and post-ECE tests were reviewed and recorded into an excel spreadsheet.

All of the authors engaged in the study collected and compared references from other studies. To compare the test's reliability, statistical analysis was performed using SPSS software, version 21.

Statistical analysis: Result Details & Calculation

	Mean(SD)	Median	Range	P-value
Pre test	12.52(5.53)	12	1 to 29	<0.001*
Post test	17.14(5.85)	17	3 to 30	

Results: The average score of students who took the test before the early clinical exposure was conducted was 12.52, with a standard variation of 5.53. However, the mean and standard deviation for the students who took the test following the early clinical exposure are 17.14 and 5.85, respectively. The findings demonstrate that early clinical exposure improves one's impression of expertise.

The P-Value is < 0.001. The result is significant at $p < .05$.

By normal standards, the association between the two variables would be considered statistically significant.

DISCUSSION

A teaching-learning approach called Early Clinical Exposure (ECE) encourages medical students to interact with patients as early as their first year of medical school. The objectives of ECE are to give basic science instruction social context and significance. The results include increased medical knowledge, development of a few fundamental clinical skills, and internalisation of a variety of attitudes.

Building a solid foundation for learning clinical subjects begins with the learning opportunities provided during the preclinical period. Numerous research have been conducted to investigate the effectiveness of ECE. Regarding the acceptance and satisfaction of ECE among students, their findings are corroborative. In the current study, the students' favourable reaction to ECE was noted.

Along with factual learning, ECE increases the ability to use clinical reasoning.^[2,3,4] Our unique teaching-learning methodology achieved positive learning results through active learning through early clinical exposure. The T-L method described here has shown to be an appealing and practical strategy to ease the teaching and learning process for biochemistry.^[5]

By comparing students' comprehension and adapting clinical education procedures to new situations, the challenge for health professions education is to find strategies to improve the quality of clinical education. Early clinical experience will undoubtedly be significant in this context.^[6]

Fundamentally, it is "A teaching and learning methodology that fosters exposure of medical students to patients (actual human contact) as early as the first year of medical college, in a social or clinical context that enhances learning of health, illness or disease, and the role of the health professional".^[7]

Early clinical experience from the foundation course is required, per MCI.^[8] The IMG (Indian Medical Graduate) idea dictates that students should be competent and serve as the community's first point of contact, with the necessary knowledge, abilities, attitudes, values, and responsiveness.^[9] According to studies, the most effective teaching strategy for enhancing attitudes and professional skills in the existing system of medical school in India is early clinical exposure.^[10]

CONCLUSION

Students who took the test following early clinical exposure performed better on the questionnaire-based test related to the case of diabetes mellitus than those who took the test after a standard didactic lecture.

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