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PERCEPTION OF EARLY CLINICAL EXPOSURE BY I MBBS STUDENTS

Biochemistry

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ABSTRACT

Background: The National Medical Council (NMC) in its new educational reforms has made Early Clinical Exposure (ECE) sessions compulsory. Though it is being followed by all medical colleges, there are very few studies where perception of ECE in Biochemistry has been studied. **Objectives:** To determine the perception of I MBBS students about ECE in Biochemistry. **Materials And Methods:** Study design : Ambispective qualitative study, Study setting : Biochemistry Department. Subjects : I MBBS students 2022 Batch, Sampling technique : Purposive sampling, Study duration : 4 months. **Retrospective component:** ECE Reflection questionnaire were given to all students after ECE sessions. We studied 120 ECE reflections. **Prospective component :** We conducted Focused group discussion (FGD) and in-depth interviews (IDI) for 40 students. The Themes generated from reflections, Focused group discussion (FGD) and in-depth interviews were analyzed. **Results: Thematic analysis** Themes on early clinical exposure sessions emerging from Focused group discussion (FGD) and in-depth interviews were : Understanding of ECE Method – "It was helpful and exposed us to different clinical conditions", Impact on Clinical Problem-Solving - "By ECE sessions, we learnt how to encounter clinical cases", Enhancements for ECE Sessions - "taking students to wards", Diverse Learning Outcomes - "ECE sessions made complex manifestations into easily understandable topics". **Conclusion:** There was a broad understanding of ECE and perceptual shift in study topics among participants. Integration of basic sciences with clinical subjects was found beneficial, though complexities were noted. Suggestions for ECE enhancements were more interactive sessions and real-life clinical exposure.

KEYWORDS

ECE, Perception, I MBBS

INTRODUCTION

The National Medical Council (NMC) in its new educational reforms has made Early Clinical Exposure (ECE) sessions compulsory from 2019 batch in undergraduate medical curriculum. ECE is a teaching learning method for I MBBS students. Early clinical exposure can be conducted in hospital settings, class room setting and community settings. In Biochemistry, 30 hours are allotted for ECE as per NMC guidelines [1,2]. The basic purpose of ECE is to correlate basic sciences with patient care [3]. Early Clinical Exposure (ECE) is a teaching learning method which provides a clinical context and relevance to basic science learning. ECE can act as a motivation to learn. It provides an opportunity for Self directed learning, immersive learning, experiential learning, critical thinking and sensitizing students to AETCOM. Clinical context can be introduced to students through actual patients, paper cases, charts, graphics, videos, laboratory reports, Radiological investigations and field visits. Proper coordination between basic science faculty and clinical faculty is crucial for successful implementation of ECE. Every ECE session should have a defined setting, expected competency, Objectives, assessment method, reflections followed by program evaluation. Students should reflect on what did they learn from ECE experience, What are the applications of this learning and what knowledge or skills they need to develop to handle such type of situation. Assessment of ECE can be done by asking case based questions in internal assessment and summative assessment. Though it is being followed by all medical colleges in India as per NMC regulations, there are very few studies where perception of ECE in Biochemistry has been studied. So the study was taken up. In the present study, the perception of students regarding Early clinical Exposure will be studied.

Literature Review

Ewnte B et al., conducted a study on perception of ECE and its implementation at Debre Tabore University, Ethiopia. They observed in their study that ECE had a positive impact on development of student's professional knowledge, problem solving skills, motivation, active learning and community orientation. They observed heavy workload and lack of orientation were barriers in effective implementation of ECE [4]. Chun-i Liu et al., studied on impact of ECE on undergraduate student professionalism through focus group discussion. They observed in their study that ECE helped students in development of sense of medical professionalism [5]. Warker AB et al., studied ECE as a intervention study module. They observed in their study that ECE adds substantial relevance of basic sciences to clinical application [6]. Tayade et al., studied on ECE in improving attitude and professional skills in medical students. They observed in their study that ECE was an important tool in improving attitude and professional skills in medical students [7]. Tang KP et al., did a study on ECE. They observed there was a positive correlation between student learning and their clinical exposure [8]. Warker AB et al., conducted a study on ECE as a intervention study. They observed ECE adds substantial relevance of basic sciences to its clinical application [9].

OBJECTIVES:

To determine the perception of I MBBS students about ECE in Biochemistry

MATERIALS AND METHODS

Study Settings: Medical College

Study Design: Ambispective qualitative study

Study Period And Duration: 4 months

Study Participants:
Inclusion Criteria: I MBBS students of 2022 batch who provided written informed consent to participate in the study

Exclusion Criteria: Age less than 18 years

Sample Size And Method Of Calculation With Reference To Study On Which It Is Based:
120 ECE reflection forms were reviewed [8]. 40 students were selected for focussed group discussion and in-depth interviews.

Sampling Technique And Method Of Recruitment:
Purposive sampling

Study Tools: Questionnaire and audio recorder

Study Variables: Age, gender, residency

Data Collection And Measurements:
ECE Reflections of I MBBS students were analysed by Biochemistry faculty. Focussed group discussion (FGD) and in-depth interviews (IDI) were also conducted.

Description Of Study Procedure:
The study is a Ambispective qualitative study. It has two components, Retrospective component and Prospective component.

Retrospective Component :
After every ECE session, a questionnaire was given to the students to fill. The questionnaire included the following three questions:
1. What did you learn from this experience?
2. What are the applications of this learning?
3. What are the knowledge or skills do you need to develop so that you can handle this type of situation?

We studied responses from the students to these questions. These were qualitatively evaluated.

Topics for ECE were Diabetes Mellitus, Nephrotic syndrome, Atherosclerosis and Iron deficiency Anemia in Pregnancy.

Prospective Component:
We randomly sample 40 students from the attendance rolls to conduct a focussed group discussion (FGD) and in-depth interviews (IDI).

The key questions asked were as follows:
- Do you understand by the concept of ECE learning method?
- Did your perception about a particular topic change by this method? How?
- Do you think the knowledge acquired by the basic sciences classes will help in solving the clinical problems introduced to you during the ECE classes?
- What do you think can improve the engagement in these ECE sessions?

Statistical Analysis Plan:
The discussions during FGD and IDI were transcribed, with quality checks carried out by another researcher experienced in qualitative data analysis. Transcripts were deidentified and thematically coded by two researchers. We used qualitative data analysis software, NVivo. The major and minor themes were identified and reported from these codes.

RESULTS: Thematic analysis

Table 1 : Themes On Early Clinical Exposure Sessions Emerging From Focused Group Discussion (FGD) And In-depth Interviews

Medical Condition	Learning Outcomes	Application of Learning
Atherosclerosis	Causes, complications, clinical aspects	Importance of early diagnosis and clinical application
Diabetes Mellitus	Types, complications, treatment of Diabetes	Early diagnosis, understanding classification and symptoms
Iron Deficiency Anemia in Pregnancy	Types, effects, complications, management in pregnancy	Appropriate treatment for anemia, role of nutrition
Nephrotic Syndrome	Causes, pathophysiology, diagnosis, management	Managing complications, dietary considerations, treatment approaches

Table 2: Summary Of Learning From The "Reflections" On Early Clinical Exposure Sessions

Theme	Codes	Specimen Examples
Understanding of ECE Method	- Awareness; Perception Shift	"It was helpful and exposed us to different clinical conditions" (Response 1), and "ECE helped us to understand case-based experiences" (Response 2)
Impact on Clinical Problem-Solving	- Integration of Basic Sciences; Application	"By ECE sessions, we learnt how to encounter cases" (Response 2) and "I was able to know the clinical aspects based on the topics" (Response 5)
Enhancements for ECE Sessions	- Interactive Methods; Diverse Topics	"Making classes more interactive, taking the students to clinical ward" (Response 1) and "group discussions and group activity" (Response 3).
Diverse Learning Outcomes	- Knowledge Gain; Skill Development	"ECE session made the complex manifestations into easily understandable topics" (Response 6)
Emotional Feedback	- Engagement; Motivation	"Felt more engaged and motivated"
Contradictions and Inconsistencies	- Varied Responses; Conflicting Views	"Yes. It was also confusing a little bit" (Response 25)

DISCUSSION

In our study, we observed students found ECE very useful and got motivated to study which was in accordance with the findings of study done by Ewnte B et al., [4]. Maheshwari K U in her article mentioned early clinical exposure helps the students to understand the clinical basis of all the medical disorders taught in the first phase of the curriculum and also to apply the basic concepts learnt in the first year subjects which were similar to findings in our study [10]. Sharad Kumar et.al., did a study on ECE in basic sciences and observed that basic sciences were well understood through ECE sessions, they also observed that students were able to correlate basic sciences with clinical subjects through ECE which was similar to findings of our study [11]. Miglani AK et.al., in their study on ECE observed ECE helped students in understanding first year subjects and it could be considered as an integrated teaching method which were similar to findings of our study [12].

CONCLUSION

- There was a broad understanding of ECE and perceptual shift in study topics among participants.
- Integration of basic sciences with clinical subjects was found beneficial, though complexities were noted.
- Practical application of theoretical knowledge in specific medical conditions like "Iron Deficiency Anemia in Pregnancy", "Atherosclerosis", "Nephrotic Syndrome", and "Diabetes Mellitus" was well appreciated
- Suggestions for ECE enhancements: more interactive sessions and real-life clinical exposure

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