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EFFECTIVENESS OF EARLY CLINICAL EXPOSURE IN LEARNING ANATOMY AMONG FIRST MBBS STUDENTS

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ABSTRACT

Background: Early clinical exposure improves students' understanding of basic sciences, clinical sciences, and patient-doctor interactions, while also promoting self-directed learning and analytical abilities. The present study was conducted to evaluate the effectiveness of early clinical exposure in learning Anatomy among the first MBBS students.

Materials and Methods: This study was conducted among first year MBBS students during their regular ECE sessions in the department of Anatomy The students were divided into two groups of 75, A (Non-ECE) and B (ECE), using a random lottery procedure. The same faculty member in the anatomy department explained about the Thyroid gland in both groups. The students of B group (ECE) were assigned to the surgical department for the ECE session. A pretest and post test were administered to both groups through MCQs (20 Marks) using an Online assessment tool (Google Form). The students Attitudes towards ECE was obtained from the ECE group (Group B) after the completion of session using 5-point Likert scale

Results: The Post-Test score was 11.23 ± 2.32 in Group A and 14.75 ± 2.38 in Group B which was statistically significant. Qualitative data on student feedback regarding ECE programme suggests that many students felt ECE is a useful, interesting tool for learning Anatomy

Conclusion: The ECE module substantially facilitated the understanding of the topic among first-year MBBS students. The learning process was rendered more engaging, and it facilitated the correlation between the clinical applications of fundamental sciences and their practical relevance in medicine. An alternative method to reinforce didactic instruction in applied anatomy is Early Clinical Exposure.

KEYWORDS: Early clinical exposure, First professional MBBS students, perceptions.

INTRODUCTION

The significance of fundamental sciences in clinical settings has been obscured by traditional medical curricula, which have established a barrier between preclinical and clinical years of study. The Medical Council of India recently announced a series of reforms and enhancements to medical education, one of which is the incorporation of "early clinical exposure" (ECE) in the newly proposed competency-based medical education structure. ECE does not supplant fundamental and clinical sciences; rather, it contextualizes and complements them, motivating students to develop a more comprehensive understanding of the medical field [1].

A teaching model that restricts Phase I medical students to a classroom and laboratory setting for their curriculum has been the foundation of the traditional medical education system in India for the past decade. Clinical subjects are introduced only in the second year. Consequently, the MBBS curriculum has been altered to facilitate the earlier introduction of clinical exposure in conjunction with the fundamental sciences.

Students will be able to acquire knowledge of the fundamental and clinical sciences through the integration of learning activities, such as early clinical contact, clinical skills, communication skills, or task-based learning sessions [2].

It is essential for students to establish a strong connection between preclinical didactics and its relevance to clinical practice very early on. It aids in the recognition of the practical relevance of the curriculum during their preclinical anatomy courses and in the more efficient transfer of knowledge. Three Consequently, early clinical exposure (ECE) is believed to serve as a conduit between preclinical and clinical fields. Education systems worldwide are currently prioritizing early childhood education (ECE) in order to facilitate contextual learning and horizontal and vertical integration. The Medical Council of India, New Delhi, recommended the inclusion of ECE in the newly proposed syllabus from 2015 in accordance with its implications.[4] ECE is a teaching and learning methodology that encourages medical students to engage with patients as early as the first year of medical school.[5, 6]

Integrated learning courses, such as ECE, are in which students are provided with problem-based learning experiences by utilizing knowledge and skills from various disciplines to address patient cases. The integration of fundamental science with clinical science through ECE can enhance comprehension of the significance of the basic anatomy course. It offers students the chance to engage in active learning and to learn from patients and clinicians. It also facilitates a seamless transition into clinical training by providing students with an introduction to fundamental clinical skills, professionalism, and student-patient relationships [7]. The development of clinical reasoning, communication skills, and a professional attitude is significantly influenced by direct contact with patients [8].

The present study was conducted to evaluate the effectiveness of early clinical exposure in learning Anatomy among the first MBBS students.

MATERIALS AND METHODS

A prospective, nonrandomized, interventional investigation was conducted in the department of Anatomy at a Medical College after obtaining ethical clearance. 150 first-year medical students were chosen after their prior consent. A protocol on ECE was developed through departmental discussion and under the supervision of faculty. A peer-expert has validated the protocol that has been developed. Faculty of department of Anatomy sensitized about the ECE on thyroid gland.A questionnaire for student participation was created and evaluated by peers and professionals by experts and peers.

The students were divided into two groups of 75, A (Non-ECE) and B (ECE), using a random lottery procedure. The same staff from the Anatomy Department taught both groups about the thyroid gland. It covered general anatomy, laparoscopic structure, development, and clinical anatomy using conventional methods (black board and chalk piece, microscopic slides - H & E stained, embryology models, X-rays, etc.). Students from the B group (ECE) were assigned to the surgical department. The teachers from the General Surgery department educated the students about the patient's clinical evaluation including the thyroid gland. Students were shown the cardinal indicators of thyroid gland problems. The pretest and posttest were conducted in both groups utilizing MCQs (20 marks) and an online evaluation tool (Google Form). After the session, a 5-point Likert scale was used to assess students' attitudes regarding ECE.

Statistical analysis: data were compiled and statistically analyzed using unpaired “t” test with the help of SPSS version 21. p value < 0.05 was considered statistically significant

RESULTS

Baseline comparison of pre-test scores between Group A and Group B scores shows that the groups were comparable with no statistical significance. There was a statistically significant difference present between the post-test scores of Group 1 and Group 2 as shown in Table 1.

TABLE 1: COMPARISON OF MEAN MCQ SCORES

test	Group A (Non-ECE)	Group B (ECE)	p value
pretest	10.12 ± 2.12	10.75 ± 2.31	0.63
Post test	11.23 ± 2.32	14.75 ± 2.38	0.002*

*Significant

Qualitative data on student feedback suggests that large number of students felt that ECE is a useful, interesting tool for learning Anatomy as shown in Table 2

TABLE 2: FEEDBACK RESPONSES

Sl.no	Study questions	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1	Early clinical exposure effectively stimulate clinical orientation	1 (1.3%)	1 (1.3%)	4 (5.3%)	32 (42.7%)	37 (49.3%)
2	ECE Should be reserved for selective topics in subjects	0 (0%)	15 (20%)	19 (25.3%)	24 (32%)	17 (22.7%)
3	It will help me to solve the question confidently	1 (1.3%)	8 (10.7%)	2 (2.7%)	38 (50.7%)	26 (34.6%)
4	ECEwas useful for better understanding of the topic	2 (2.7%)	2 (2.7%)	3(4%)	36 (48%)	32 (42.6%)
5	I would like more topics to be covered by this method	2 (2.7%)	2 (2.7%)	10 (13.3%)	34 (45.3%	30 (40%)
6	ECE would not be much beneficial to my studies	34 (45.3)	41 (53.7)	10 (13.3%)	3 (4%)	2 (2.7%)
7	I felt very excited to visit hospital	1 (1.3%)	1 (1.3%)	2 (2.7%)	30 (40%)	41 (54.7)
8	I developed interest in the topic	1 (1.3%)	2 (2.7%)	4 (5.3%)	24 (32%)	44 (58.7%)

DISCUSSION

Students often feel dissatisfied with theoretical classes on topics in the basic medical sciences [9].ECE consists of active, experiential learning from patients alongside practicing physicians, designed to be the "beginning of a life time of learning focused on the patient" [10].ECE was initially established in 1993, when the Medical Council of the United Kingdom's "Tomorrow's Doctor" recommended that clinical medicine be introduced to students early in their education. Real-world clinical situations were suggested as a way to make instruction more relevant and exciting. It was also implemented to strengthen the vertical integration of fundamental medical and clinical sciences [11]. The current study was conducted to assess the efficiency of ECE among phase I medical students in Anatomy, and it was found that ECE was extremely successful in conveying in-depth information about the clinical significance of the subject of interest.

In our study, we found that post-test scores were more in the Group B (ECE group) when compared with Group A (Non-ECE group) which was statistically significant. The ECE-trained students benefited more than the control group. These findings are consistent with prior research by Motilal et al. [12], who found that

students exposed to ECE in the form of case-based discussion on the issue of breast cancer performed well.

Our study found that ECE was beneficial and sparked interest in the topic. Chari S et al. and Baheti SN et al. reported that ECE boosted student motivation and positive responses [13,14]. Dorman T et al. and Littlewood S et al. found that early experience not only helped medical students learn and establish a positive attitude toward their studies, but it also made their learning more relevant and affected their career decisions [15, 16]. Rawekar et al. [17] also found that the students had provided positive comments on ECE, comparable to our study.

CONCLUSION

The ECE module substantially facilitated the understanding of the topic among first-year MBBS students. The learning process was rendered more engaging, and it facilitated the correlation between the clinical applications of fundamental sciences and their practical relevance in medicine. An alternative method to reinforce didactic instruction in applied anatomy is Early Clinical Exposure.

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