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To Study The Perceptions of First Year MBBS Students Towards Early Clinical Exposure (ECE) In Anatomy (Original Study)

[1] Dr Surekha W. Meshram, [2] Dr. Ujwal Gajbe
(M.B.B.S, M.D) Associate Professor, Dept. Of Anatomygovt. Medical College Gondia, Aharashtra, India
(M.B.B.S, M.S) Professor And Head, Dept. Of Anatomy JNMC, Sawangi Wardha, Maharashtra, India
Corresponding Author: Dr. Surekha W. Meshram

Abstract
Background: *Despite increasing attention to provide clinical knowledge to preclinical medical students with early patient exposures, little is known about associated outcomes for students. In this study we have compared two groups where one group of preclinical students was faced to traditional teaching method and other group was exposed to early clinical settings. Early clinical exposure is always one of the biggest concerns for Ist year MBBS medical students who will be going to have clinical educations in future. ECE can be an important and efficient factor in improving the learning ability of students, increases motivation among students and can be a great help in the recall of knowledge in medical students. It has been also found that early clinical exposure (ECE) for medical students has been proposed as an effective factor in reducing stress and motivating toward the rest of their education as a clinical student. This study aimed at evaluation of ECE effects on first year MBBS students while teaching applied anatomy.*
Methods: *In this study we have involved 100, medical students of first year MBBS course. All the students are divided into two groups, group A and group B. Both the groups were exposed to pretest. Then didactic lecture was taken of group B and group A was taught the similar topic on the patients, means group A was exposed to early clinical settings. Again the post test was taken of both the groups and the results of post test of both the groups were compared.*
Results: *Amongst 50 students of group A, most of the students (98%) believed that ECE improved their interest on continuation of their field of study. They believed that ECE helped them in visualizing concepts and remembering facts about their medical lessons more than those who were not exposed to clinical settings. Other important effects of ECE were stress reduction, self steam increase and gaining better attitude about further clinical activities.*
Conclusions: *According to the MCQ and questionnaire analysis, the results showed that ECE can be an important and efficient factor in improving the motivation and can be a great help in the recall of knowledge in medical students. Preclinical students received different benefits from the different experiences. Medical schools should define objectives of early clinical experiences and offer options accordingly. A combination of experiences may help students to achieve best clinical knowledge , clinical skills, and understanding the basic of medical profession and broad exposure for career decisions. The study demonstrated that students enjoyed the experience of early clinical exposure and it motivate the learning process.*
Keywords: *Medical Student; Attitude; Motivation, Early clinical exposure, clinical settings.*

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I. Introduction

Teaching applied anatomy to the first year medical students and ways to make it interesting and also enhance their learning has always been a challenge. Student's motivation and performance improve when the instruction is adapted to student learning preferences and styles (1). Various methods are being used as alternative approaches to reinforce didactic instruction to the students. Traditional medical education system have been based on the model of teaching that engage medical students in classrooms and laboratory settings for the first year of their education.(2) In the first year students are also introduce to clinical subjects coming in their second year and final year. Early clinical exposure ensures well integrated knowledge of the basic sciences, clinical sciences and social functions especially doctor-patient interaction.(3) Education system across the world now emphasizes early clinical exposure towards horizontal and vertical integration and contextual learning in the local settings. Keeping in mind the implications of ECE, Medical council of India, New Dehli, has recommended ECE in new proposed syllabus from 2015 .(4) Learning is a process involves improving knowledge, skill and attitude respectively with cognitive domain, psychomotor domain and affective domain of the student. With this view the present study was planned to study the impact of ECE on students' knowledge,

skills and attitude and the perception of students towards ECE and it is found that ECE to real clinical setting may promote socialization and strengthen students cognitive and affective learning. Implementing short term period of ECE program could influence attitude of medical students towards medical education.(5) It also boosts their confidence in their ability to succeed in medical practice and their social, emotional, professional satisfaction and problems.(6)

Aims and Objectives:

1. To bridge the gap between theoretical knowledge and practical reality for generating more competent doctors.
2. To compare the learning gain through ECE with that of didactic lecture.
3. To obtain perception of students about ECE.

II. Material And Methods

The study was carried out in Shri Vasantrao Naik Govt. Medical college, Yavatmal, Maharashtra, India. The 100 voluntary participants were taken from first year M.B.B.S. students for academic year 2014 – 2015. The present interventional study was approved by the Institutional ethical committee from Shri Vasantrao Naik Govt. Medical college, Yavatmal, India and was conducted at department of Anatomy and surgery. The students were divided into two groups by systematic random sample technique. Group A of 50 students will be taken as ECE Group, (all even roll nos.) & Group B of 50 students , Non ECE Group (all odd roll nos.). The students not willing for participation were excluded from present study. The proper instructions were given to the students before beginning of session. A pretest of both the groups was taken before the session started. Group B was trained by using traditional teaching method i.e by taking didactic lecture of the students (Chalk & Board) in Department of Anatomy. Group A was trained by early clinical exposure method. Clinical examinations of two cases of thyroid swelling were discussed with students in surgery department. The anatomy as well as physiology of thyroid was discussed along with signs and symptoms and management of thyroid swelling is also taught in detailed. The students were allowed to clinically examine the patient. At the end of session both the groups were tested. Knowledge was tested by MCQ sheet and attitude was tested by perception based questionnaire using Likert scale. This was followed by compilation and statistical analysis was done by using unpaired 't' test with the help of SPSS software , version 11.

III. Observations & Result:

Table 1) List of variables measurement scale & Method

No.	Variable	Measurement	Measurement method
1.	Knowledge	MCQ	Score
2.	Attitude	Questionnaire	Score

Table 2) Statistical analysis

Scores	Group A ECE Group Mean+/-SD	Group B Non ECE Group Mean+/-SD	Value of 't'
MCQ			
Questionnaire	46.34+/-1.572	20.52+/-2.082	

As the calculated value of the test is greater than table value, hence null hypothesis was rejected. Therefore, there was found statistically significant difference in the knowledge, skills and attitude of students of two groups namely ECE Group and Non ECE Group.

IV. Discussion

In this study significant difference was found in score between two groups. The students exposed to early clinical exposure session benefited more than traditional learning exposed group. The students perceptions were also found more positive towards early clinical exposure than traditional teaching mode. Recently a lot of medical colleges as well as universities in many parts of the world are actively involved in 'vertically integrating program' to give clinical knowledge to the first year medical students . The rapid change in priorities in health care system is giving rise to corresponding rapid changes in the content and process of medical education.(7) According to many medical education experts the goals of medical education should be student oriented in which there should be complete development of students in knowledge, skills as well as attitude. Learning is the active process going on inside the student's mind and teachers main role is to facilitate positively this learning process to develop a future competent and skilled doctor .(8) A good communication skill is the key of successful medical profession.(9) Bell K et al stated that real bed side learning led to a fruitful learning outcomes of medical students showing high meta cognitive awareness of students. It is also found that

programs that provides first year medical students with early clinical experiences have become popular because such programs decreases the gap between the so called preclinical basic sciences years and the clinical postings which generally exposed by the medical students in the later years of medical school. Early clinical exposure and the accompanying knowledge and skills development, does not replace the basic and clinical sciences, but rather enriches and contextualizes that learning and offers a wider variety of teaching and learning methods.
Some of the key issues in designing a clinically relevant basic science course are:
1. Early clinical exposure can facilitate medical students rapport with patients, increase their motivation and self confidence, while helping them establish their taught knowledge. In general, this course can teach medical students how to accept their role in clinical practice (10).
2. Identifying clinically relevant core content and principles of understanding.
3. Developing critical thinking and reasoning skills by offering students opportunities to repeatedly apply their learning in the clinical context of patient care.
4. Encouraging students to critically think about problems of health care evaluate and incorporate new information which is a skill that they will use for the rest of their professional lives. .
4. Providing opportunities for students to be sensitized to the broader context of health and health care in India and encouraging them to reflect on their role in addressing issues of health care.
5.The purpose for early clinical exposure in the 1st year is to learn basic clinical skills , enhance their motivation and prepare them towards the purpose for which they entered the profession, enable students to correlate what they are learning in basic sciences by learning basics clinical skills and observing relevant disease abnormalities , encourage students to learn the professional behavior of a doctor by observing the medical teacher. (11) Early clinical exposure contribute to students satisfaction with medical student. Spencer J et al found direct contact with patients can be seen to play a crucial role in the development of clinical reasoning, communication skills, professional attitudes and empathy. (12) Many students commented that ECE made the learning more enjoyable and "anything clinical" helpful them to understand the topic in depth, increased their interest for the subject and motivated them to read more. It strengthened their learning and made it more real and relevant to clinical practice. It helped students learn about the structure and function of the healthcare system, and about preventive care and the role of health professionals. It supported the learning of both biomedical and behavioral/social sciences and helped students acquire communication and basic clinical skills. There were outcomes for beneficiaries other than students, including teachers, patients, populations, organizations and specialties. Educational research has shown that students who are actively involved in the learning activity will learn more than students who are passive recipients. (13) In early clinical exposure the students actively participate in learning process, increased their sensitivity towards patient problem and need.

V. Conclusion

From the above interventional study we found that early clinical exposure was better learning methodology than traditional teaching for medical students . But it was found that ECE consumes more manpower, infrastructure, time and requires extra efforts on their part. There was also some difficulties to over co-ordination with clinical department. There must be some level of training may be required before implementation of ECE in curriculum. Early clinical exposure was introduced as a teaching learning intervention for first year medical students. The study demonstrates that students clearly enjoyed the experience and perceived that it was valuable. The ECE program is an alternative approach to reinforce didactic instruction in applied anatomy. This approach is adaptable to other topics of anatomy and to other basic science subjects as well . Many students expressed a desire and need for ECE to be continued in teaching anatomy for future groups of students and also to be extended for teaching other topics also.

Future Direction:

The apparent benefits of ECE include exposure to the health care system, instilling the qualities of a patient-centred humanistic physician and increasing motivation for classroom learning . ECE forms a crucial part in the initiation of students into medicine. During a time when students often spend long hours in the classroom, it serves to remind students why they want to be physicians . Most students benefit from active learning strategies over the traditional lecture format . In view of the good/excellent rating of the program by the students, ECE is planned to be implemented in teaching applied anatomy for future groups of students, incorporating their suggestions. An objective analysis of the effectiveness of this approach could be made by comparing students' performance with and without the ECE program.

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