International Journal of Medical Science and Education

www.ijmse.com

Original Research Article

pISSN- 2348 4438 | eISSN-2349- 3208

EARLY CLINICAL EXPOSURE (ECE) - NEED OF AN HOUR: STUDY OF KNOWLEDGE, PERCEPTION AND ATTITUDE OF MEDICAL STUDENTS

Dr Vikram Patel [1], Dr Neha A. Patel[2*]

1. Assistant Professor, Department of ENT, 2. Tutor, Department of Community Medicine, GMERS Medical College, Valsad, Gujarat

*Corresponding author – **Dr Neha A. Patel**
Email id – dr.neha1399@gmail.com

Received: 17/10/2018 ***Revised:28/05/2019*** ***Accepted: 25/06/2019***

ABSTRACT

Background: The Medical Council of India's Vision-2015 document envisages coordinated inter-departmental efforts to provide early clinical exposure and to develop communication skills among students during the first year of Bachelor of Medicine, Bachelor of Surgery (MBBS) course. (1). In the traditional curricula of medical education, students learn theoretical knowledge without contact with the patient in a clinical context. With this background in mind the current study was planned. **Objectives:** - To study the knowledge difference after ECE, - To study the perceptions and attitude of students regarding ECE **Methods:** The study was conducted with 50 first year MBBS students posted in physiology department. They were exposed to patients of the theory they learnt in theory lectures. Pre and post test results were been noted to observe changes in their knowledge. Focal group discussions were done to find out perception and attitude of students towards ECE. Ethical approval was taken, Consent of students was obtained before entering study. Statistical analysis was done with Microsoft office excel. **Results:** There is a significant difference in knowledge of students on studying pre and post test results ($p<0.001$). Also students showed positive attitude towards ECE. **Conclusion:** ECE is not only the requirement but also demand by students.it has great impact on grasping of students.it should be included in curriculum asap.

Keywords: early Clinical Exposure (ECE), Case based Learning (CBL),Focal Group Discussion(FGD)

INTRODUCTION

Long back a century ago Abraham Flexner realized the fact that there is no clinical exposure given to medical students, they were learning all medical subjects only in classrooms. The educational change suggested by him was implemented in America. Since then timely changes were suggested in medical education system and were implemented accordingly.

The Medical Council of India's Vision-2015 document envisages coordinated inter-departmental efforts to provide early clinical exposure and to develop communication skills among students during the first year of Bachelor of Medicine, Bachelor of Surgery (MBBS) course. **(1)**

Existing medical education system in India mainly focuses on classroom and laboratory

teaching in the first year of MBBS course where students get to learn three basic science topics

namely Anatomy, Physiology and Biochemistry, hardly having any exposure to real clinical

situations, rightly termed therefore as the preclinical phase. **(2)**

In 1993, the UK's General Medical Council's (GMC) tomorrow's doctor advocated introducing students to clinical medicine early in their studies, using real clinical situations to make teaching more practical, relevant, stimulating, and reinforcing the vertical integration between the basic medical and clinical science **(3)** In 1998 a position paper from the World Federation of Medical Education (WFME) clearly recommended that "medical education must to the greatest possible extent integrate basic and clinical disciplines with a focus on key principles. Students should meet patients early on." **(4)**

Definition

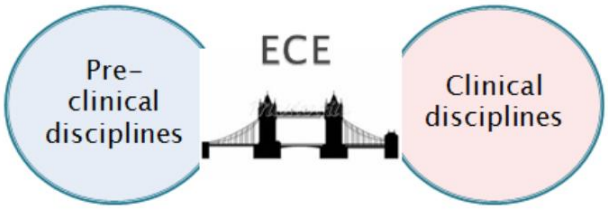
Early Clinical exposure (ECE) is a teaching learning methodology, which fosters exposure of the medical students to the patients as early as the first year of medical college. **(5)**

In ECE students can play four types of roles: **(6)**

1. **Passive Observer:** As passive observers the students only observe a complicated situation such as performance of a trocar suprapubic cystostomy for urinary retention.
2. **Active Observer:** As active observers the students observe a simple situation such as performance of indwelling urethral catheterization in a female patient with urinary retention and also record their findings using a checklist.
3. **Actor in Rehearsal:** As actors in rehearsal the students perform a task for learning such as performance of indwelling urethral catheterization in a female pelvic simulator.
4. **Actor in Performance:** As actors in performance the students can assist a resident in performing an indwelling urethral catheterization in a female patient. **(5)**

The need for Early Clinical Exposure

For generations, medical students have spent the preclinical years in classrooms and laboratories. In the traditional curricula of medical education, students learn theoretical knowledge without contact with the patient in a clinical context. Moreover, in clinical fields they cannot recall important basic science concepts; therefore, parts of their academic education becomes impractical. Traditionally, the foundation years of medical students have made them thorough in biomedical sciences but have hardly provided them with any clinical experience. ECE Act as bridge between pre-clinical disciplines and clinical disciplines **(5)**



With this background in mind the current study was planned to analyze students perceptions in more detail.

Objectives:

Aim

To integrate knowledge of physiology with patient care system

- To study the knowledge difference after Early clinical exposure
- To study the perceptions and attitude of students regarding early Clinical Exposure.

Methodology:

A study was conducted in GMERS Medical College, Valsad in January 2017. 50 students participated on random basis were included in the present study with their consent.

Pre-test questionnaire was used to collect information about clinical application for physiology of blood (which students are presently undergoing lecture schedule). Every student (all 50) was exposed to medical ward patient. Post-test & their reaction were collected. Ethical committee permission was taken. Data entry was done using Microsoft office excel and analysis was done using MEDCALC AND MICROSOFT OFFICE .paired t test was applied

Qualitative research: to know about the attitude of students towards the early clinical exposure, focal group discussions were done after exposing them to ECE. Total 3 FGDs were done. In each FGD 10 students participate. One moderator and one reporter in each FGD was present. Results were recorded in the form of verbatim of students which later on analyzed for concluding the discussions.

Hospital visit

The students visited hospital for taking cases.

The clinical examination was done on the patients. Following cases were discussed,

A case of Sickle cell disease with symptoms and signs of sickle cell crisis with Hb level of 7 gm%

A case of Iron deficiency anaemia in pregnant women with amenorhhoea of 12 weeks with Hb level of 8gm%

A case of mild anaemia with signs and symptoms such as backache, laziness, malaise.

Total 16 patients were studied by students in groups.

Results

There were total 50 students as participants of the study. Amongst them 20 male (40%) and 30 females (60%)

Table 1: shows that there is a positive opinion of students regarding aspects of knowledge, motivation, communication skills, development of interest in the subject after exposure to clinical cases.

Table 2 states the result of paired t Test. On applying the paired t Test there was a statistically significant difference observed between pre test and post test values (p=0.001). These show that there was a recordable increase in knowledge of students after clinical exposure.

Table 1: Students' perceptions regarding ECE in learning Blood physiology

Understanding of physiology	"helped to understand the subject" "Observing symptoms and signs in patients helped in understanding the subject " "made the concepts clear"
Knowledge	"by learning case, practical knowledge increased"
Development of interest	"rather than seating in classroom its interesting to see patients" "it is better to co relate clinically what you learn theoretically"
Motivation to learn the subject	"it is booster to read the subject in deatail"
Communication skiills	" it is a lesson that how to communicate with patients" "we can learn how to deal with the patients"

Table 2 Results of pair t Test of early Clinical Exposure

	Mean Score	T value
Pre test	3.24	3.45 Df=49 P= 0.001
Post Test	7.32	

DISCUSSION

Statistically significant differences (p=0.011) were observed between the mean student-wise correct responses in the pre-CBL and post-CBL tests **(7)**

The marks obtained by each individual group in the pre and post tests were significantly

different when compared by paired Student's t-test ($p<0.05$ in each case). **(2)**

In a study by Motilali Tayde et al.,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 faculty perceptions were also found more positive towards early clinical exposure than traditional teaching mode. **(8)**

In a study by Bell K et al, real patient learning led to a rich variety of learning outcomes, of which at least some medical students showed high metacognitive awareness. Bell K observed that teaching from doctor teachers found more appreciable than other teachers.**(9)**

The paired 't' value for the comparison of pre and post test results of the study group was -0.107 This difference is highly significant. $P< 0.0001$

The paired't' value for the comparison of pre and post test results of the control group was - 0.898 This difference is not significant. $P =0.37$**(10)**

In the study conducted by M. Kar et al., paired t-test showed that the performance of the students has been significantly improved after ECE among the students in the Group A reflecting that ECE is important to increase their interest in neuroanatomy. However, in Group B students of which were exposed to ECE initially followed by traditional class were also successful to maintain their performance even after traditional class due to the sustained inspiring effect of ECE **(11)**

Study conducted by Sumitra Govindrajan et al., there was a significant increase in the post-test scores (ranging from 9.14±2.67 to 36.65±6.62) when compared to the pre-test scores (ranging from 7.94±2.31 to 28.69±6.11) for all the sessions (p value <0.001, n=144). Analysis of the open feedback showed that the program had significant impact on the cognitive, psychomotor and affective domains. "Application of basic sciences in clinical practice", "motivation to learn", "got familiar with various specialties", "insight about what the patient undergoes" **(12)**

In an Indian setting, as ours, patients (learning resource element) are not a limiting factor for learning. Early clinical exposure had been proved for integration of basic with clinical discipline. For skill learning, which is an integral part of clinical teaching learning in medical education, we had an encouraging experience. The perception gathered from students reinforced the affirmative nature of ECE, which provided holistic learning to them **(13)**

Conclusion

There is a significant increase in knowledge of students after ECE. Their attitude and perceptions were also speaking positively in support of ECE.

Early clinical exposure was introduced as a teaching learning intervention in endocrine physiology 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 endocrine physiology.

This approach is adaptable to other medical physiology **(14)**

It helps to improve understanding, develop problem solving skills & increases interaction. Retention of knowledge is better due to integration of basic science and clinical science and development of self-directed learning skills. The students get a feeling of being in a medical institute. It helps to develop attitude and professionalism. It is a better learning methodology than traditional teaching alone.

Value of ECE can be explained in one line by Benjamin Franklin's words of wisdom: "Tell me and I forget, teach me and I may remember, involve me and I learn." **(15)**

REFERENCES

1. Medical Council of India. www.mciindia.org/tools/announcement/MCI_booklet.pdf. www.mciindia.org. [Online] 2011-2012.
2. PIYALI DAS, SUBHRADEV BISWAS, RAMJI SINGH, SANHITA MUKHERJEE,.Effectiveness of early clinical exposure in learning respiratory physiology among the newly entrant MBBS students. 1, Kolkatta : Journal of Advances in Medical Education & Professionalism, 2017, Vol.5.
3. GENERAL MEDICAL COUNCIL, Tomorrow's Doctor: Recommendations on Undergraduate Medical Education GMC. London : 1993. GMC.
4. EDUCATION, WORLD FEDERATION FOR MEDICAL ,International standards in medical education: Assessment and accreditation of medical schools' educational programmes.. 549 – 558., s.l. : Medical Education, 1998, Vol. 32.
5. chinmay shah,Early clinical exposure- Why and how? 5(1), bhavnagar : Journal of Education Technology in Health Sciences, 2018, Vols. january-april. 2-7.
6. Dornan T, Boshuizen H, King N, Scherpbier A.,Experience-based learning: a model linking the processes and outcomes of medical students' workplace learning. 41, s.l. : Medical Education, 2007;, Vols. 84-91.
7. Srabani Nitish Bhattacharya, Aniruddha Arjun Malgaonkar, Sundaram Kartikeyan.Early clinical exposure to first year medical students through case-based learning in endocrine physiology. 6, s.l. : International Journal of Research in Medical Sciences, June 2016 Page 2355, Vol. 4. 2355-2358.
8. Dr.Motilal C.Tayade , Dr. Noorin Bhimani , Dr. Nandkumar B. Kulkarni.The impact of Early Clinical Exposure on First M.B.B.S. Students. 4, s.l. : International J. of Healthcare and Biomedical Research, , July 2014, Vol. 2. 176-181.
9. Bell K, Boshuizen HP, Scherpbier A, Dornan T. When only the real thing will do: junior medical students' learning from real patients. 11, Med Educ. 2009, Vol. Nov 43. 1036-43..
10. Dr. Sushama Prakash Dhonde ,Dr. Pratap Jagtap, Dr. Gajanan J. Belwalkar, Dr. NitinNagane, Mrs.Vaishali S. Bhanda. Early Clinical Exposure: A Tool To Learn Biochemistry: A Small Group Study. . 5 Sept–Oct,76-80, s.l. : NJIRM, 2015, Vol. 6.
11. Maitreyee Kar, Chinmaya Kar, Hironmoy Roy, Parmod Goyal,Early clinical exposure as a learning tool to teach neuroanatomy for first year

MBBS students . 5 (38-41), s.l. : International Journal of Applied Basic Research, Year : 2017, Vol. 7.

12. Sumitra Govindrajan et al. Impact of a Comprehensive Early Clinical Exposure Program for Preclinical Year Medical Students. 2, June 2018, Vol. 4. 133-138.
13. Rawekar A, Jagzape A, Srivastava T, Gotarkar S.Skill Learning Through Early Clinical Exposure: An Experience of Indian Medical School. 1, s.l. : J Clin Diagn Res, 2016 Jan, Vol. 10. JC01-4..
14. Solomon Sathishkumar, Nihal Thomas, Elizabeth Tharion,Nithya Neelakantan, Rashmi Vyas. Attitude of medical students towards Early Clinical Exposure in learning endocrine physiology. s.l. : BMC Medical Education , 2007.
15. http://www.goodreads.com/quotes/21262-tell-me-and-i-forget-teach-me-and-i-may.

How to cite this article: Patel V., Patel N.A, Early clinical exposure (ECE) - Need of an hour: Study of knowledge, perception and attitude of medical students. Int.J.Med.Sci.Educ 2019; 6(2): 27-31