



## Early Clinical Microexposure (Ecmix) (A Path From Early Clinical Micro Exposure to Early Clinical Macro Exposure (Ecmix) )

**Dr. Sandip N  
Baheti**

Associate Professor, Dept. of Anaesthesia MIMER Medical College,  
Talegaon, Maharashtra

**Dr. Darpan  
Maheshgauri**

Associate Professor, Dept. of Orthopaedics, MIMER Medical College,  
Talegaon, Maharashtra

### ABSTRACT

**INTRODUCTION:** Early clinical exposure (ECE) can be an important and efficient factor in improving motivation and can be a great help in the recall of knowledge in medical students. But this early clinical exposure may create confusion because medical science is vast and there is integral involvement of all systems. It is difficult for student to correlate

their knowledge in early stage. Early half way knowledge may prove to be dangerous. TO OVERCOME THIS DRAWBACK, WE HAVE FOUND OUT SYSTEMS:

- A. Early Clinical Micro Exposure Actual
- B. Early Clinical Micro Exposure Observational
- C. Early Clinical Micro Exposure Simulated
- A. Students were allotted patients of variable BPs in the wards and asked to feel pulse and correlate them with BP.
- B. Students were taken in the ICU to feel pulse of low BP & arrhythmias and correlate with the parameters on the monitors.
- C. Simulated patient of meralgia paresthetica was selected and students were asked to take history and examine.

Results: 80% rated it as excellent and 20% as a good and interesting way of learning.

Conclusion: A path starting from ECMIX and leading to ECMaX is judicial way of ECE.

#### AIMS AND OBJECTIVES:

- 1) Developing critical thinking and reasoning skill in STEPWISE manner by offering students opportunity of early clinical exposure to repeatedly apply their learning.
- 2) To overcome confusion which may occur due to early clinical exposure (ECE)
- 3) To observe and understand the application of basic sciences in STEPWISE manner.

**KEYWORDS : early clinical micro exposure, medical education, early clinical  
macro exposure**

#### INTRODUCTION:

Students entering the 1<sup>st</sup> MBBS course, even though having little knowledge, are very eager and enthusiastic to examine patients. Early clinical exposure maintains their enthusiasm by repeatedly exposing them to various clinical scenarios. Students always look forward to dealing with patients and learning how to take care of them. However, experience of lectures/dissections does not give them opportunity to correlate their knowledge in clinical scenario. Providing them opportunity of ECE is a good concept. ECE is new and rewarding trend in European medical school<sup>[1]</sup>. ECE can be an important and efficient factor in improving motivation and can be a great help in the recall of knowledge in medical students<sup>[2]</sup>. Early clinical experience parallel with theoretical courses can provide a framework for the beneficial and successful integration of the teaching and learning of basic sciences for medical students<sup>[3]</sup>. ECE can provide the opportunity to medical students to learn clinical skills by confronting and examining patients in their clinical courses. ECE is therefore expected to provide a dynamic learning process instead of solidity taught courses and can result in sense of preparedness<sup>[4]</sup>. ECE helps to develop positive attitude. Vaughan & Hogg (1995) defined attitude as, 'A relatively enduring organization of beliefs, feelings and behavioral tendencies towards socially significant objects, groups, events or symbols or a general feeling or evaluation (positive/ negative) about some people, objects or issues<sup>[5]</sup>'. **Studies indicate that attitudes have the highest chance of change during university studies**<sup>[7]</sup>. These attitudes can be generated for students by producing motivations and imagination of the future goals. Success and reaching goals are results of a positive attitude towards that goal or action. Various factors affect the formation and development of attitudes during life. Psychologists have studied these factors using different methods and have reached different points of views. But on the other hand, this early clinical exposure may create confusion because medical science is vast and there is integral environment of all systems. Pathology of

one organ involves others; rather it affects each cell and its metabolism. Then how will students be able to correlate them if they won't have knowledge? Won't this create confusion? Early half-way knowledge may prove to be dangerous.

It is also said that ECE will evolve communication skills but communication skills depend upon knowledge of specific subject/topic/disease about which we want to communicate. Then how will students communicate with patient and take history with half knowledge? EVEN WITH THIS DRAWBACK, WE CERTAINLY NEED ECE FOR STUDENTS. YES, WE CAN DO IT BUT WITH LITTLE FRAGMENTS OF EARLY CLINICAL EXPOSURE I.E WE CAN OVERCOME DISADVANTAGES OF ECE WITH FRAGMENTS OF CLINICAL EXPOSURE DURING FIRST MBBS – I.E EARLY CLINICAL MICRO-EXPOSURE.

#### MATERIALS AND METHODS:

100 students of first MBBS were selected for study. Study was divided into 3 parts:

- 1) Early clinical micro-exposure actual (ECMiX actual)
- 2) Early clinical micro-exposure observational (ECMiX observational)
- 3) Early clinical micro-exposure simulated single blind (ECMiX simulated)

#### 1] Early clinical micro-exposure actual (ECMiX actual)

Usual practice of physiology practical is that- students are taught about how to take pulse and BP and then asked to take pulse BP among themselves. Drawback of this is, usually pulse and BP of all students are near normal range and there is no variation in tone, volume of pulse. So students won't get idea about feel of low/high pulse volume. Neither will they understand how the rate of release of mercury column affects accuracy of measuring BP (Ex. In Bradycardia, rate of release of mercury should be slow), nor will they notice their mistakes.

Idea of this ECMiX was to let them understand how tone, volume of pulse can be felt i.e. by exposing them to various patients with different pulse and BP. Each student was allotted 5 patients in the ward and asked to measure their pulse and BP. After teaching bedside manners, they were asked to introduce themselves to the patients and then to ask patients about name, age, occupation, residence etc (i.e. to expose them to micro-part of history taking). Students were asked to take pulse BP and to inform teachers. Teachers found out errors and during feedback, they were again taught where they went wrong and asked to measure pulse rate and BP again in second round. They were also asked to actually feel tone/volume of pulse and correlate and compare with blood-pressure.

**2] Early clinical micro-exposure observational (ECMiX observational)**

Students were taken into ICU. Patients with low blood pressure and irregular pulse were selected. Students were taught about monitors and parameters of monitors on screen. They were asked to feel pulse and observe pulse rate, oxygen saturation on screen and correlate feel of pulse with parameter on screen. They were also introduced to syringe pump in short and only function of cardio-supportive drug (ex.NTG as vaso-dilator). This made them realize how feel of low volume/low BP pulse is and also how irregularities of pulse are.

THUS, IN SHORT ECMIX OBSERVATIONAL, THEY LEARNED A LOT.

**3] Early clinical micro-exposure simulated single blind (ECMiX simulated)**

Students often show more interest in studying from patients rather than volunteers. In this part, volunteers were made to pretend as patients and taught about signs and anatomical landmarks of meralgia paresthetica. Students were not informed about the patient being a volunteer. Then students were taught about lateral cutaneous nerve of thigh and meralgia paresthetica. They were then asked to visit ward to take history and find out signs and symptoms. Since there was no multi-organ involvement, students were asked to take full history (only localized involvement of nerve was present) unlike above pulse BP measurement case where only micro history was taken. This has motivated students and developed interest.

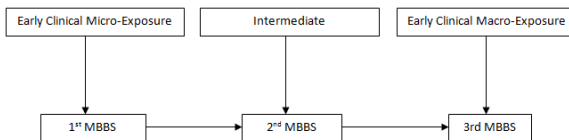
**RESULTS:**

Students were asked to rate this on five point likert scale:

- 1-Poor
- 2-Adequate
- 3-Satisfactory
- 4-Good
- 5-Excellent

80 out of 100 rated it as excellent.  
20 out of 100 rated it as good.

- 2) Students could find lacunae where they could wrong during measurement of BP
- 3) They understood feel of pulse, their correlation with blood pressure.
- 4) It has motivated students.
- 5) We could cover adequate clinical knowledge in short span.
- 6) We could cover cognitive, affective and psycho-motor domains of students.



**CONCLUSION:**

A PATH STARTING FROM EARLY CLINICAL MICRO EXPOSURE AND LEADING TO EARLY CLINICAL MICRO EXPOSURE IS JUDICIAL WAY OF ECE. THIS PATH CAN CREATE MOTIVATED COMPLETE DOCTOR WITH HIGH ATTITUDE AND HUMANITY AND EARLY MATURITY.

**LIMITATIONS OF OUR STUDY:**

- 1) A batch of students with ECE should be compared with a batch of students without ECE in same school with same teacher.
- 2) Since PG admissions are with theory exam with MCQ's, students prefer to study theory more to get their PG seats. Survey of students' attitude about this is needed.

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