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Research Article

Impact of Early Clinical Exposure in improving knowledge among 1st year M.B.B.S. Students of Government Medical College, Baramulla

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ABSTRACT

Background

Early clinical exposure acting as a big link between clinical and non clinical set ups, setting up as vital and interesting teaching method, exposes students very early to the clinical set up.This pattern of teaching has been used by medical colleges worldwide to narrow up the gap between basic and clinical sciences. Medical education is growing faster towards curriculum of competency based medical education. One of the most fruitful intervention in medical teaching is the intervention by means of early clinical exposure. ECE polishes the communication skills of the students, helping them to become academically more strong. ECE is most conventional way of teaching. Students get exposed to hospital settings quite early due to early clinical exposure.

Objectives

To assess baseline knowledge of 1st year MBBS students and determine the effect of implementation of early clinical exposure in the curriculum of Anatomy for the 1st year MBBS students.

Materials and Methods

An observational, cross sectional study was conducted by the Department of Anatomy in the months of June and July 2025. The research methodology was put up with the students of 1st year MBBS batch of 2024-2025. In our study, we conducted 2 classroom based sessions and 2 hospital based sessions. Didactic lectures were conducted on Downs syndrome and inguinal hernia in the classroom in two different classes. In the hospital set up,ECE sessions were conducted where students were divided into small groups of 8-10 students. The students were asked to fill pre ECE questionnaire that was called as pre ECE because it was conducted before the start of ECE session. Then they were asked to fill post ECE questionnaire, after the completion of session. Google formswere used for the questionnaires. One of the questionnaires was pertaining to Downs Syndrome and another one was related to inguinal hernia. Questionnaire for Downs syndrome was put up twice for

the assessment of students, one assessment before ECE and other assessment was done after ECE session. Similar procedure was conducted in pre and post ECE tests for inguinal hernia. Student feedback form was given to the students to assess the benefits of ECE.

Observations and Results

It was observed that early clinical exposure had an augmented effect on development of problem solving attitude of students. It aims at improving students' knowledge, indulged them more efficiently in active learning and community orientation. ECE involves the students fully in the implementation of patient care. Analysis shows significant differences between pretest and post test scores of the students on both topics i.e. Downs syndrome and inguinal hernia.

Conclusion

Student exposure to the hospital set up, is augmented by ECE programmes. They address their health issues and various other things, hence inculcating in them, the curiosity towards teaching through early clinical exposure. ECE really acts as an effective mechanism to vane off the limitation, of Anatomy being as one of the most volatile subject, making learning of Anatomy much easy. ECE should be inculcated in the curriculum at a larger scale as it is motivational for the students. Fully trained faculty, meticulously designed programmes and strategies is a must for the success of ECE programmes. It aids in improving student knowledge, learning and their problem solving attitude. Complexities of health care can be overcome by inculcating ECE in our curriculum as it generates proficient health care personnals. It can aid high class comprehension due to good motivation.

KEY WORDS: Early clinical exposure, feedback, Anatomy, 1st year MBBS.

INTRODUCTION

Early clinical exposure (ECE) acts as a big link between clinical and non clinical set ups (1).Early clinical exposure being a vital and interesting teaching method exposes students very early to the clinical set up (2). Different variety of methods have been introduced in the medical curriculum to upgrade the medical students (3-7).This pattern of teaching has been used by medical colleges worldwide to narrow up the gap between basic and clinical sciences (8).ECE comprises many types of interactions like interaction at community level , at patient level etc,(9). Medical education is growing faster towards curriculum of competency based medical education (10). For the best outcome and to improve the teaching methodologies, one of the greatest and fruitful intervention in medical teaching is by means of early clinical exposure.ECE is one of the effective teaching tool that will act as a tension reliever for students and will improve their professional attitude (11).

ECE is an important modality that helps in polishing up the communication skills of the students, helping them to become academically more strong, hence boosting up their confidence level (12). The main goal of ECE is that students become more wise and improve their knowledge inspite of minimal or no interaction with patients. It is an interesting and conventional way of teaching (13).ECE programme exposes students to the hospital set up where they come in contact with patients. They address their health issues and various other things, inculcating in them, the curiosity towards teaching through early clinical exposure (14-17).

If ECE is conducted in the classroom settings, a teacher or the expert accommodates the patient or the case scenario in the teaching programme. In hospital set up, the students are introduced to the wards with patients, to get familiar with hospital protocols and procedures.Community setting is the action on a large scale where patient exposure to students is mandatory(18).

MATERIALS AND METHODS

It is an observational, crosssectional study conducted by the Department of Anatomy in the months of June and July 2025. Proper permission was taken from Institutional Ethics Committee. The research methodology was discussed with the students of 1st year MBBS batch of 2024-2025. Proper consent form was taken from all the students. Sampling technique used was convenience sampling technique. All the students participated in our study. In our study, we conducted 4 sessions for two topics,out of which 2 were classroom based and 2 were hospital based. Didactic lecture was conducted on Downs syndrome and then on inguinal hernia. In the hospital, sessions were conducted in the wards of hospital and students were divided into small groups of 8-10 students. Students were very curious as far as the hospital session was considered.The students were asked to fill pre ECE questionnaire that was called as pre ECE because it was conducted before the ECE session. Then they were asked to fill post ECE questionnaire after the completion of session. They had to fill both pre and post ECE questionnaires for both the selected topics. Questionnaires were disseminated via google forms ensuring easy access. Students identity was not asked for their free response.

We compiled two sets of questionnaires each having 10 questions with multiple choices. One of the questionnaires was pertaining to Downs Syndrome and another one was related to inguinal hernia. Questionnaire for Downs syndrome was put up twice for the assessment of students, one was assessed before ECE and other assessment was done after ECE session. Similar procedure was conducted in pre and post ECE test for inguinal hernia. Student feedback form was given to the students to make sure whether ECE is beneficial to the students or not.

RESULTS

The students' assessment was done for ECE-I by a set of 10 questions for Downs syndrome. It was observed that students had scored more than 80% in 8 questions and there were only 2 questions where the frequency of the answer was more than 50%. The questionnaire and the percentage response was tabulated in Table 1. Similarly another questionnaire was put after session for inguinal hernia, where it was observed that students had scored more than 80% in 6 questions and more than 70% in rest of the 4 questions. The questionnaire for ECE-2 is tabulated inTable-2.

Feedback questionnaire was put up for assessment of ECE-I and ECE-2. The assessment for feedback was done on Likerts scale. The results were tabulated in Table-3 where it was observed that most of the students agreed or strongly agreed to the fact that ECE had beneficial effects on students and there was gross improvement in the assessments made.It was noted that the student population who disagreed with the ECE were meagre in number. Henceforth, we came to the conclusion that knowledge of the students was improved by

introduction of ECE.ECE proved very interactive for the students and they agreed for inclusion of more ECE sessions in their curriculum.

DISCUSSION

In our study, the assessment of the inclusion & role of early clinical exposure in medical curriculum was done. Two topics selected for ECE were inguinal hernia &Down's Syndrome. 10 MCQ's for each topic were put up and it was found that there was improvement in basic knowledge of the students post ECE sessions. There was a drastic improvement, which was attributed to the inclusion of ECE in the medical curriculum. Feedback in the form of google forms were filled up by students. Moreover, students feedback was in favour of ECE as a strongest tool in the medical curriculum. The sessions conducted via ECE were more fruitful to them. They proposed to include more such ECE sessions in the curriculum.Our study laid emphasis on ECE for building up self confidence among students & motivating them. Gupta et al in his study, laid stress on ECE that helped students to access the link between clinical and non-clinical subjects. ECE improves the basic medical concepts as well as clinical part also. The introduction of ECE embarks a great achievement in medical field because it aids the learning procedure of medical students & provides them ample time to get acclimatized with clinical set up. This clinical learning aids them in becoming a better IMG.

Table 1: Questionnaire on Downs Syndrome after ECE-1

Category	Sub-category
Downs syndrome is caused due to	Bacterial infe
	Chromosoma
	Viral infectio
	Lack of oxyge
Which of the following is not linked to Downs syndrome	Oily skin
	Hypotonicity
	Simian crease
	Brachycepha
IQ of person with Downs syndrome is	20-30
	40-50
	60-70
	None
Chance of offspring to have Downs syndrome _____ with maternal age .	Increases
	Decreases

	Not influence
	No correlatio
Downs Syndrome is caused by presence of three copies of Chromosome number	21
	22
	23
	36
Children with Downs syndrome have brachycephaly that means shape of back of head is	Rounded
	Flattened
	Pointed
	None
Death of person with Downs syndrome occurs due to	Respiratory I
	Ocular proble
	Skin Infection
	All of these
National Downs Syndrome Day is	March 21
	June 21
	May 21
	July 21
Disease which may result from Downs syndrome is	Cancer
	Cellulitis
	Celiac disease
	none of these
Features of Downs syndrome where fifth finger is slightly curved towards other finger is called as	Clinodactyly
	Clubbing
	Phalanges
	Dupytrens co

Table 2:Questionnaire on Inguinal hernia after ECE-2

Category	Sub-category
Which of the following is most common type of inguinal hernia	Indirect inguinal he
	Direct inguinal her
	Obturator inguinal
	Femoral hernia
Common symptom of inguinal hernia is	Severe abdominal
	A visible lump in gr
	Nausea and vomiti
	High fever
Which of the following best describes the location of direct hernia	Through femoral ca
	Lateral to inferior e vessels
	Medial to inferior e vesels
	In the umblical reg
Which of following is the first line of treatment for an uncomplicated inguinal hernia	Pain medication
	Surgical repair
	Lifestyle modificati weight loss
	Antibiotic
Which factor increases the risk of developing inguinal hernia	Chronic coughing
	Regular physical ex
	High fiber diet
	Low body weight
All of the following are contents of inguinal canal except	Iliohypogastric N
	Round ligament
	Ilioinguinal N
	Spermatic cord
The landmark used to differentiate between inguinal hernia and femoral hernia is	Pubic tubercle
	Pubic symphysis

	Femoral artery
	Inferior epigastric a
The processes vaginalis remains patent in ---------- of newborn infants	10 %
	20%
	50%
	80%
During surgery of hernia the sac of strangulated intestinal hernia should be opened at	Fundus
	Neck
	Deep ring
	Body
Which of the following does not form the boundary of hesselbachs triangle	Vas deferens
	Rectus abdominus
	Inguinal ligament
	Inferir epigastric ar

Table 3: Feedback questionnaire pertaining to students perception towards ECE

Students point of view	Strongly agree	agree	neutral	Disagreed	Strongly disagree
Was there increase in your knowledge post ECE session	50	44	2	3	1
Did ECE help you to understand in a better way	40	37	7	6	10
Was increased interaction observed during ECE sessions	56	40	2	1	1
Was teacher up to mark in delivering ECE sessions	43	44	3	5	5
Was there increase in confidence level post ECE session	47	45	5	2	1
Was there improvement in retaining power post ECE	41	54	4	0	1
Do you prefer ECE over traditional teaching	59	31	2	4	4
Should ECE be incorporated with other lectures	31	57	10	1	1
Were ECE sessions helpful in enlightening you about clinical	47	50	2	0	1

aspects of the topic					
Were ECE sessions well organised	41	51	3	3	2

CONCLUSION

ECE programme exposes students to the hospital set up, coming in contact with patients. They address their health issues and various other things, hence inculcating in them, the curiosity towards teaching through early clinical exposure. ECE helps to improvise the knowledge of medical students. Moreover, Anatomy being one of the toughest subjects, ECE really acts as an effective mechanism to vane off that limitation, making learning of Anatomy easy.Frequent classes of ECE should be added in the curriculum as it is motivational for the students. ECE programme can be a big success only if there are fully trained faculty, meticulously designed programmes and strategies. It aids in improving student knowledge, learning and their problem solving attitude. Inadequate staff, untrained staff and absence of motivation on behalf of teacher can lead to discrepancy in the ECE programme.ECE acts as a positive catalyst for the motivation of staff. Complexities of health care can be overcome by inculcating ECE in our curriculum as it generates proficient health care personnels. It can aid high class comprehension due to good motivation.

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