

2 EARLY CLINICAL EXPOSURE AS A METHOD TO AUGMENT CONTEXT BASED LEARNING AMONG FIRST YEAR MBBS STUDENTS.

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EARLY CLINICAL EXPOSURE

Abstract-

Background First year in undergraduate medical education are hard for the academic success of medical students. Actually, during this period students have to learn only theoretical knowledge and no contact with the patient in a clinical context. This adds to more anxiety in case of students and it leads to difficult to understand the subject. Early clinical exposure is meant to help first year undergraduate to overcome their initial queries and also motivate them to develop better knowledge and awareness for the same. **Material and Methods** In this study we have done intervention in teaching learning strategy. The topics selected were Endocrine physiology and General physiology, which is mainly consisting of traditional didactic lectures along with ECE . The first year MBBS students of 200 batch were divided in two groups, in interventional group (A) and Control Group (B). The intervention of early clinical exposure with the help of ECE design module and the outcome of this intervention was assessed by MCQ pre test and post test . Analysis of the pre and post test was done in both groups. The control group was also given intervention of ECE , so that they will not be deprived of new modality. Also we have collected student's feedback with validated questionnaire towards Early Clinical Exposure which was assessed by 5 point Likert-scale. **Results** : Mean test scores of pre test and post test in intervention group improved significantly from 20.4 ± 4.17 to 30.12 ± 3.52 (p value = .0001) in intervention group .Pre test and post test scores of both the groups , interventional and control were compared and effectiveness was noted. **Summary and conclusion:** In the context of early

clinical exposure this intervention is found to be very effective . By student's positive feedback it is found to create more interest and improvement .

Key Words : Early Clinical Exposure, perception of students and faculty.

Introduction

First year of undergraduate education is hard to understand the subject by medical students.

In the traditional curricula of medical education, we know that students learn theoretical knowledge without contact with the patient in a clinical context. Moreover, in clinical fields they cannot recall important basic scientific concepts; therefore, parts of their academic education become impractical [1,2]. Students feel anxious, which is often brought on by real clinical situations. Because factors include materials to be learned, perceived lack of relevance of the two basic science years. Now a days medical education community is strongly emphasized the value of early clinical exposure for preclinical medical students. Here objectives may include, to be comfortable with patients, basic clinical skill, creative more interest and study, active learning in pre-clinical setting. Data suggest that early clinical exposure can make basic science curricula more relevant [3].

Different teaching methods have been used to introduce an Early Clinical Exposure program consisting of patients- based visit and a hospital round to learn about patients' needs and health care system to both increase students' interest and enhance their learning [4]. In this study, the first MBBS students were taught the subject physiology by means of conventional didactic lectures and with the help of clinical exposure by showing patients intervention of teaching physiology was done. This study was undertaken with the aim of study the effect of Early Clinical Exposure in the teaching physiology to the first year MBBS students and objectives were :- 1. To introduce early clinical exposure among first year MBBS students , 2. To find out effect of early clinical exposure in improving context based learning among the first year MBBS students and 3. To gather perception of students regarding early clinical exposure .

MATERIALS AND METHODS

Study Design It was a Randomized prospective Interventional study and the study was conducted in Dept. of Physiology Govt. Medical College, Nagpur. The First year MBBS students

batch 2015-2016, were selected for the study. From the batch of 200 students consents were taken to participate in the study. Students were randomly divided into two groups i.e. 100 students in each group .The intervention group (A) was given the intervention and was exposed to ECE where as other control group (B) was taught only with the conventional didactic lectures. After that cross over was done .The proposed Educational Project was approved by the Institutional Ethical Committee. **Method** :The students & the faculty were briefed about the study. A pre-test was given to intervention as well as control group and after teaching activity post test taken . Two topics selected were Endocrine physiology and General physiology chosen for the study. ECE was given in lecture hall. A post test was given to both the groups to assess the knowledge gain in that particular topic. To assess the effectively of the intervention feedback was taken from the study group of students with validated Questionnaire.

Statistical methods

Mean and P value for within the group was also taken . Comparison between two groups was done Data was analyzed in state version 10. 1. 2011. Within the group the comparison in pre test score and post test score was done by paired "t" test . Between the group comparison in change (from base line) in intervention and control group was done by unpaired "t' test . Perceptions were ranked in Likert scale and their comparison in intervention and control group was analyzed by Mann Whitney U test (ranksum test) . Mean of pre test and post test score of Intervention and Control group was calculated . And difference in mean of pre test score and post test score of same group was calculated and found significant .

Observations and results

All the students completed the sessions and gave both the pre and post test and the feedback. Mean test scores of pre test and post test in Intervention group improved significantly .

Table no.1 showing comparison of mean of Anaemia, Thyroid & Anaemia +Thyroid pre-test & post-test within the group

	Interventional			Control		
	Pre test	Post test		Pre test	Post test	
	Mean± SD	Mean± SD	P value	Mean± SD	Mean± SD	P value
Anemia	9.84±2.62	15.12±2.32	0.0001#	8.7±3.09	13.56±2.57	0.0001#
thyroid	10.56±2.37	15±2.35	0.0001#	9.66±2.84	12.48±2.28	0.0001#

Anaemia+thyroid	20.4±4.17	30.12±	0.0001#	18.36±4.08	26.04±3.02	0.0001#
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P value - <0.05 significant, # - Paired t-test, * - Unpaired t-test

Intervention Effectiveness

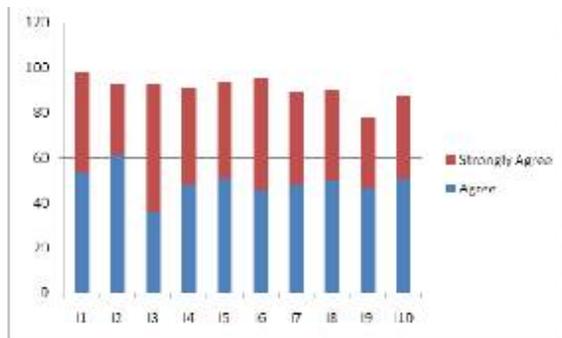
In Table No. 2 comparison of mean difference between two groups is significant. It is showing comparison of mean difference between two groups .

Variable	Interventional	control	P value
	Mean±SD	Mean±SD	
Anaemia	5.28±0.29	4.86±0.286	0.0001*
Thyroid	4.44±0.21	2.82±0.21	0.0001*
Anaemia± Thyroid	9.72±0.04	7.68±0.036	0.0001*

P value - <0.05 significant, # - Paired t-test, * - Unpaired t-test

Feedback Assessment

As we have taken rating in five point Likert scale , Figure No 1 is showing the student's perception on basis of Agree and Strongly Agree .



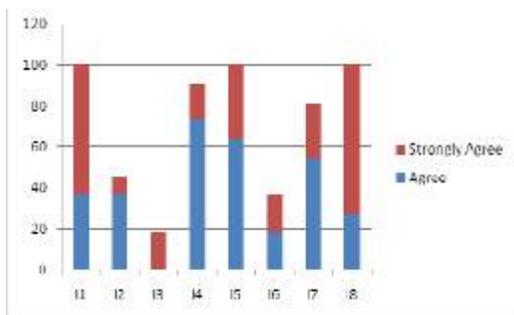
Findings with interventional & control group with the help of ranksum (Mann-Whitney) test, I1, I2, I3 & I9 were found to be significant with p value = 0.04, 0.001, 0.01, 0.001 respectively while I4, I5, I6, I7, I8 & I10 were found to be non significant.

Qualitative assessment is shown in Table No 3

1. The part liked most in this activity	<p>“Helps in learning physiology more interestingly.”</p> <p>“Enhances motivation towards learning physiology”</p> <p>“It makes our memory strong and improves concentration in class”.</p> <p>“It makes theory easy to learn and understand.”</p> <p>“They liked their active participation”</p>
2. Whether ECE should be continue	By all answer 100%was yes .

Faculty’s perception as in Figure 4 is showing in Item no 1,4,5,7,8,significant response , while Item no 2,3,6 are not significant .

Figure no. 2 showing faculty’s perception on basis of Agree & Strongly Agree



Open ended question’s from Faculty expressed their view to improve this activity by making smaller groups , and agreed that we should show cases as and when it is necessary and applicable.

Secondly the opinion given by Faculty was “ Given the 1st exposure in inception of being a clinician , thereby is advantageous .

Discussion

In the current scenario for first year of undergraduate teaching stress is on integrating the theoretical knowledge with clinical application. A very good example for above is early clinical exposure method. In the present study effectivity of ECE in learning physiology and perception of students has been studied. In this study Mean Test Score of pre test and post test in intervention group improved significantly as shown in Table no. 1 .Comparison of mean difference between mean of two groups (Interventional and Control) is highly significant. In the

present study significant difference was found in score between study and control group .This was similar to other studies on ECE also.

The faculty perceptions were also found more positive towards early clinical exposure than traditional teaching mode as in other studies .But in perception faculties mentioned about practical difficulties or preparations are required to arrange ECE. There is need of coordination with other departments , arrange patient for class room teaching , more faculty involvement needed , required patient according to the topic etc .(5) In spite of this it is perception of the author of this study that bringing the patient to the classroom is more feasible in Indian scenario. In this method of ECE co-ordination required between two departments for patient but not time consuming and neither more expertise man power required . Single patient is sufficient to expose the entire classroom .

Globally this concept has been accepted that ECE increases student interest in learning and increased recall capacity. But we have to look for feasibility also in our Indian scenario . In our Indian system strength of one undergraduate batch ranges from minimum 50 to 250 . Adopting the hospital visit method more planning and extra timings required and it is needed whatever we are teaching ,similar patient should be available in wards of hospital .It is not possible to take all the students at a time to the hospital . Otherwise there will be required not only more number of similar patients but also more expertise and man power . Same is true for community visit also .

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 (5) Therefore 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 . It also 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 and being mentored by a clinical teacher and provide the context for application of their learning in practice. (5,6),

Educational research has shown that students who are actively involved in the learning activity will learn more than students who are passive recipients. (5,7) In early clinical exposure the students actively participate in learning process .

Conclusion

ECE helps students to understand the basic concepts and integrate the basics with the applied aspects. It also helps in retain the content for long term.

ECE exposure provides learners to experience the relevance between basic science knowledge and its clinical application .

LIMITATIONS

This study has few limitations as this study was conducted at a single Medical Institute and only one method of ECE has been adopted therefore the settings may not be generalized to other Medical Institutions .

FUTURE DIRECTIONS

For successful implementation of ECE we require extensive Faculty development with ongoing support and scientifically rigorous educational research in Indian scenario.

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Conflict of interest none: