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Case based vs project based teaching in Paediatrics: A cross sectional perception and result based study

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Abstract

Paediatrics is a clinical subject, which is taught in IIIrd year of MBBS. According to current curriculum the subject is mainly taught in classroom setting and very less exposure to clinical application and hospital based real life situations. It makes subject very insipid and students do not understand the utilization of subject during their actual practice. Clinical application based learning involves clinical projects that incorporate complex tasks, based on challenging questions or problems that involve students in design, problem-solving, decision-making, or investigative activities; give students the opportunity to work relatively autonomously over extended periods of time; and culminate in realistic products or presentations. This study puts in an effort to find the superior of the two ways of clinical teaching. The first being the case based learning and the second being the project based learning.

Keywords: case – based, project based, medical, curriculum

Introduction

Medical curriculum in India is structured in such a way that, large part of it contains teaching through didactic theoretical lectures. Also in most of the medical schools, Pre-and paraclinical subjects are taught away from the hospital setting. This monotonous type of teaching and learning takes away the interest of the students from the subject. Also in some study, students have pressed out the need for clinical application based learning to understand the role in clinical circumstances ^[1]. In vision 2015, given by the Medical Council of India, more emphasis given to the active learning through newer teaching learning methods which involve student's participation ^[2]. Active learning enhances learning and thus generally improves the quality of medical education ^[3]. Paediatrics is a clinical subject, which is taught in IIIrd year of MBBS. According to current curriculum the subject is mainly taught in classroom setting and very less exposure to clinical application and hospital based real life situations. It makes subject very insipid and students do not understand the utilization of subject during their actual practice. Clinical application based learning involves clinical projects that incorporate complex tasks, based on challenging questions or problems that involve students in design, problem-solving, decision-making, or investigative activities; give students the opportunity to work relatively autonomously over extended periods of time; and culminate in realistic products or presentations" ^[4]. The effort toward developing active learning was based on meaningful learning which ensures understanding and applying concepts rather than memorizing only which is rote learning ^[5-10]. Meaningful learning involves the acquisition of "useful" knowledge so that it can be accessed from different starting points and has to correlate with previous knowledge with multiple representations.

This study puts in an effort to find the superior of the two ways of clinical teaching. The first being the case based learning and the second being the project based learning.

Aims and Objectives

To find the superior of the two clinical teaching methods. The first being the case based learning and the second being the project based learning.

Materials and Methods

1. Design: Interventional study

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2. Settings: Study was done in the Department of Paediatrics, Kanachur Institute of Medical Sciences, Mangalore
3. Subjects: III year MBBS Students 2018 batch.
4. The study was done from Feb 2018 to March 2018
5. Sample Size: 150 students divided into 2 groups of 75 each by stratified randomized method.
6. Intervention: Case based Vs Project based.
7. Tools: Validated Questionnaire and Validated MCQ

Inclusion Criteria

3rd MBBS students of 2018 batch

Exclusion Criteria

Those students who have not given valid consent and who

were absent for one class or for assessment.

Statistical Analysis

Statistical significance of comparison of post test scores obtained immediately by two teaching learning methods was analysed using unpaired t test. Statistical significance of comparison of post test scores obtained after 30 days by two teaching learning methods was analysed using unpaired t test. Descriptive data was expressed as percentage for perception. Mann Whitney U test was used to compare perception between two groups. Also unpaired t test was done to analyse the perception between two groups.

Results

Table 1: Pre test

Group	Pre Test	N	Mean scores	Std. Deviation	t	df	P Value
CBL	MCQ	75	2.08	2.641	0.804	85.084	0.424
PBL	MCQ	75	1.72	1.75			

Table 2: Independent T Test to Compare Between The Two Groups

	Group	N	Mean	Std. Deviation	t	df	P Value
Perception	PBL	75	38.08	7.105	-9.603	60.368	<0.001
	CBL	75	48.12	2.436			
MCQ	CBL	75	4.84	2.208	-8.062	70.971	<0.001
	PBL	75	8.48	1.075			
MCQ-After 15 days	CBL	75	2.44	1.693	-9.531	98	<0.001
	PBL	75	8.05	1.621			

Discussion

In CBL and PBL, a real world scenario with the supporting data and documents is given with open ended questions and the case content is closely aligned with the overall instructional goals and objectives. This certainly gives learner an opportunity to develop their own understanding and self-directed learning, combined with dialogue with their teachers and peers. We found that CBL was more interesting than but the success rate was more in PBL. Participants enjoyed as they were given a challenging task which they could solve independently and work on these with teachers and others. As per the feedback, adult learners were willing to learn in safe learning environment. As the students are passive learners in traditional teaching method, whereas in CBL one has to actively participate in group activity by increasing the group interaction. Team work is a principle of adult learning as well as an effective practice. Group discussion also improves better understanding of the given topic. It will motivate them to read more. Students also agreed that CBL helped them to memorize the information easily and also increased their group interaction and made clinical learning easier and enjoyable. This method also increased their sensitivity towards solving patient’s problem. It was also observed that CBL not only enhances subject knowledge but also helped the students towards good diagnosis, ideal application of pharmacological intervention, good communications, listening skills, counselling, team work and also leadership skills. But when the results were out we had a clear winner on our hands and that was PBL. The students put in their hard work to complete the tasks and that is where they win. Both CBL and PBL have their own places in Medicine teaching. They are both effective. The only difference is the results that we found. The perception scores of the students

were better in CBL whereas the results were better in PBL.

Conclusion

The perception scores of the students were better in CBL whereas the results were better in PBL. Both have their own placed and it all depends on the teachers to implement the programmes based on their style of teaching.

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