Case based learning (CBL), a better option to traditional teaching for undergraduate students in curriculum of Paediatrics

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ABSTRACT :

Background: In present Medical system still using traditional didactic teaching method. This method has the disadvantage of pedagogical variations and information overload causing dissatisfaction to the students. Case based learning (CBL) uses virtual 'trigger cases' to create interest in a particular area of curriculum. Learning and remembering the subject is much easier when you link it to 'real life patient cases' and get genuine feel that for how essential it is to clinical practice.

Aims & Objectives: Undergraduate medical students should learn knowledge, attitude and skills in Paediatrics through Case Based Learning.

Methods: Undergraduate students were randomly divided into two groups and subjected them to pre-test on Dengue fever. After that those groups were underwent CBL session and Traditional didactic lecture on Dengue fever. Post-test was conducted on the same groups.

Results: The pre-test results in the form of average marks of target groups were more or less of similar. Whereas in post-test there was a significance improvement in the average marks secured by the CBL group when compare to traditional didactic lecture group.

Conclusions: The present study concludes that the Case Based Learning method creates interest in the student to learn new thing. Learning and remembering the subject is much easier when you link it to real life patient cases and get genuine feel that for how essential it is to clinical practice.

Keywords: CBL, Traditional didactic lectures.

INTRODUCTION

In present Medical system still we are using traditional didactic teaching method. This method has the disadvantage of pedagogical errors and information overload that get in the way of learning. This leads to dissatisfaction to the students. So we need a method which creates an interest in the undergraduate medical students to learn Pediatrics. [1-6] Case based learning uses virtual 'trigger cases' to create interest in a particular area of curriculum. Learning and remembering the subject is much easier when you link it to real life patient cases and get genuine feel that for how essential it is to clinical practice. Learners are under graduate medical students belonging to II clinical year. We perceived the feedback from the students about the current method of teaching and also obtained suggestions regard the need of any new method to improvise further. Sensitised the students and faculty regarding the Case Based Learning (CBL) as a pilot test which revealed their interest towards CBL. Undergraduate medical students should learn knowledge, attitude and skills in Paediatrics through Case Based Learning.

OBJECTIVES:

Specific Learning objectives:

At the end of CBL session the II clinical year undergraduate student should be able to apply the knowledge attitude and skills in diagnosis and treatment of Dengue fever, to participate actively in 'Case Based Learning' session, to compare the advantages of CBL over traditional teaching.

Process Objectives:

Expecting 100 % participation from the learners in CBL and expecting more than 80 % positive response from the learners and faculty on CBL to include it in curriculum.

Outcome Objectives:

All UG students will be satisfied with the CBL method of learning. They will be able to diagnose and manage the Dengue fever individually. As a full-fledged doctors in health facility they will recognise Dengue early, manage appropriately and give health education to people to bring down public health problem.

METHODS AND ACTIVITIES:

Educational Strategies and teaching learning methods:

Content: Standard protocols and National guidelines-2014 proposed by WHO and Government of India.

Experts: Teaching Faculty of the department of Paediatrics who were sensitised regarding CBL.

Time table: Divided 56 STUDENTS of II clinical year UGs posted to Paediatrics into 2 groups as A & B.

Pre-test assessment (in the form of MCQs (10 marks), SAQs (10 marks), clinical examination(10 marks) and counselling of attendants(10 marks)) was done for both groups. Total 40 marks. Duration half an hour.

One hour CBL was taken on Dengue (without disturbing routine) for 'Group A'

One hour traditional didactic lecture was taken on Dengue (without disturbing routine) for 'Group B'

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Conflict of interest: Authors reported none

Post-test assessment was done for both groups (same as that of pre-test). Duration half an hour. Total marks 40.
After the study both groups were exchanged and taken CBL and Lectures those who were not exposed in respective group.

Assessment Method:

Pre & Post- test method of assessment. Knowledge was assessed by MCQs and SAQs. Skill was assessed by performing clinical examination Affective domain was assessed by counselling and giving health education to the patients and parents.

Organization and Implementation:

Resources:

Personnel: Teaching faculty in Paediatric department
Time: Two hour session

Facilities:Paediatric seminar hall, LCD projector, examination couch and hand-outs.

Support:

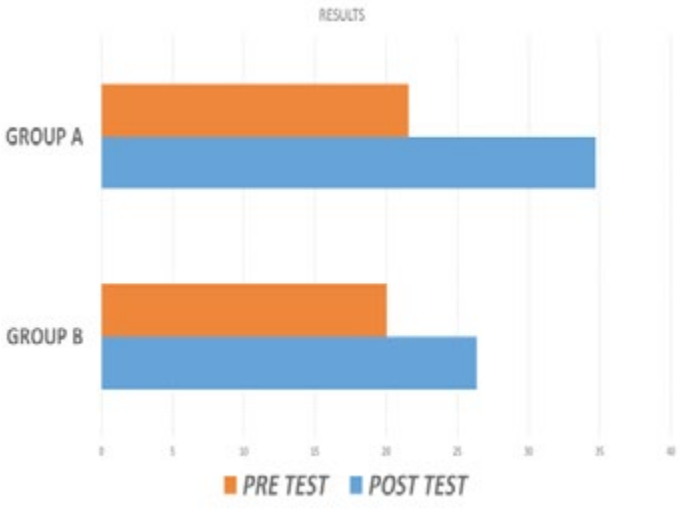
Obtained permission from HOD and the College Academic Council to conduct this project
Taken the informed consent from the II clinical year students posted to Paediatrics. Funding was not required.
Barriers: Resistance from faculty was managed by sensitisation. Plan to implement CBL in Phased manner in Paediatric teaching.

RESULTS:

The pre-test and post-test marks which obtained by the both groups are depicted in the table.
The first 28 undergraduate students of the II Clinical year pooled in Group A (CBL group) who underwent pre-test on Dengue fever got an average marks of 21.57. After 1 hour of CBL session they were undergone post-test and secured an average of 34.71 marks. The remaining 28 undergraduate II clinical year students pooled in Group B (Traditional lecture group) wrote pre-test on Dengue fever and got an average marks of 20.04. After 1 hour of didactic lecture they have written post-test and scored an average of 26.36 marks.

Roll No	GROUP A	
	Pre test marks 40	Post test marks 40
29	22	38
30	21	34
31	23	37
32	23	35
33	21	35
34	26	34
35	11	34
36	25	33
37	15	30
38	27	38
39	23	36
40	21	35
41	17	36
42	24	34
43	28	37
44	22	37
45	22	32
46	21	38
47	24	31
48	19	30
49	20	34
50	21	35
51	20	35
52	26	35
53	23	37
54	23	35
55	24	33
56	12	34
Average	21.57	34.71

Roll No	GROUP B	
	Pre test marks 40	Post test marks 40
57	12	25
58	23	26
59	21	29
60	24	31
61	25	32
62	23	28
63	26	29
64	24	25
65	21	24
66	24	32
67	21	25
68	23	34
69	18	21
70	10	12
71	11	13
72	13	25
73	28	31
74	15	20
75	28	33
76	25	30
77	21	28
78	13	23
79	15	28
80	25	30
81	12	21
82	23	28
83	10	23
84	27	32
Average	20.04	26.36



DISCUSSION:

In the present study, the basic knowledge of the II clinical year undergraduate student on Dengue fever was reflected in the pre-test. In both groups the average pre test marks are more or less similar i.e. 21.57 and 20.04. But after the class on Dengue Fever in 2 methods, the group belonging to CBL group performed well in post-test by getting average of 34.71 marks compared to Traditional teaching group who got only 26.36 average. The gain in knowledge in CBL group in the form of average marks is 13.14 but in Traditional teaching group it is only 6.32.

CONCLUSION:

The present study concludes that the Case Based Learning method creates interest in the student to learn new thing. Learning and remembering the subject is much easier when you link it to real life patient cases and get genuine feel that for how essential it is to clinical practice.

Evaluation and Feedback:

Outcomes	Evaluation Question	Indicators	Data source	Data collection method
All UG students are satisfied with the CBL method of learning	How well were the students satisfied with CBL?	80 %	UGs	Written feedback
They are able to diagnose and manage the Dengue individually	How precisely students could be able to diagnose and manage Dengue?	More than 80 %	UGs	DOPS

a) Indicator Matrix for Outcome Evaluation

Evaluation Question	Indicators	Data source	Data collection method
How many UGs are participated in CBL session?	56	II clinical year UGs posted in Paediatrics	Attendance, feedback Student evaluation questionnaire
How many faculty are involved?	2	Teaching Faculty	Teacher Evaluation questionnaire
How many CBL sessions	1	UGs	Pre & Post test

b)Indicator Matrix for Process Evaluation

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