



Application Of Case Based Learning (Cbl) Method To Enhance The Understanding Disease Effectively In UG Students Of Rognidan

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INTRODUCTION:

CBL i.e. Case based Learning is a problem solving developing skill. This can be carried out in a large group of students. When we teach any disease in Rognidan along with the theoretical lecture, the practical demonstration of case with clinical examination and showing the symptoms on patient is equally important. The impact of CBL, in learning a disease is more effective.

Case based learning is very important teaching tool which can make teaching more effective in the clinical subject like Rognidan. In medical colleges students must apply the basic principles of clinical examination to various clinical situations. When students are first time exposed to a clinical subject of Rognidan in third year BAMS, they find a little difficult to understand the disease properly, i.e. theoretically and clinically. Practical application of basic principles of rogi pariksha vidhi plays an important role in understanding the disease. CBL method can make teaching more interesting, practical oriented and self directed. The students can improve their interpersonal and decision making skills. They can be confident in understanding the disease theoretically as well as clinically which can be useful in diagnosis of the patient. Because clinical visualization with lectures can be best memorized.

CONTEXT OF THE STUDY

For the purpose of understanding the disease theoretically as well as clinically to the students of Rognidan and developing their interest in the subject, CBL plays an important role. It could help in developing students diagnostic skill

AIM

To apply the CBL method to understand the disease (Osteoarthritis-sandhivata) effectively in undergraduate students of Rognidan.

Objectives

1. To apply CBL method in teaching diseases in Rognidan subject.
2. To develop students interest in clinical subject.
3. To develop interpersonal and problem solving skills in students.
4. To increase the confidence of students which will help them in diagnosing the disease.

MATERIALS AND METHODS

After attending a training in advanced faculty development course which had detailed session on developing and designing CBL, the study was planned to assess the feasibility of CBL.

1. Inclusion criteria

A batch of 31 students of third year BAMS of Rognidan in Y.M.T. Ayurvedic medical college was included in this study.

2. Proper informed consent was taken from the students.
3. Dean permission was granted to carry out the study.
4. Sensitization of the third year undergraduate students and faculty members for CBL was done.

5. One topic of sandhivata (Osteoarthritis) was selected for lecture and CBL.

6. In two lectures the theory part of disease including etiopathology, symptoms, clinical examination, laboratory investigations, differential diagnosis, prognosis etc about sandhivata and osteoarthritis respectively was taught. In third lecture one exam of 25 marks was taken which included 11 MCQs of one mark each (11 marks), 3 SAQs of 3 marks each (9 marks) and 5 marks for bed sided exam to assess their affective and psychomotor skill.

8. In fourth lecture CBL was performed on the actual case of osteoarthritis.

9. In the fifth lecture again the same test was repeated.

10. Feedback of students and faculty members was taken by giving them properly designed feedback form.

11. The marks were calculated in percentage and the score of the test before and after CBL was observed and compared for final conclusion.



A lecture in the classroom on sandhivata topic



CBL on actual case of sandhivata topic

Observation and Results

The table of marks of the students before and after the CBL

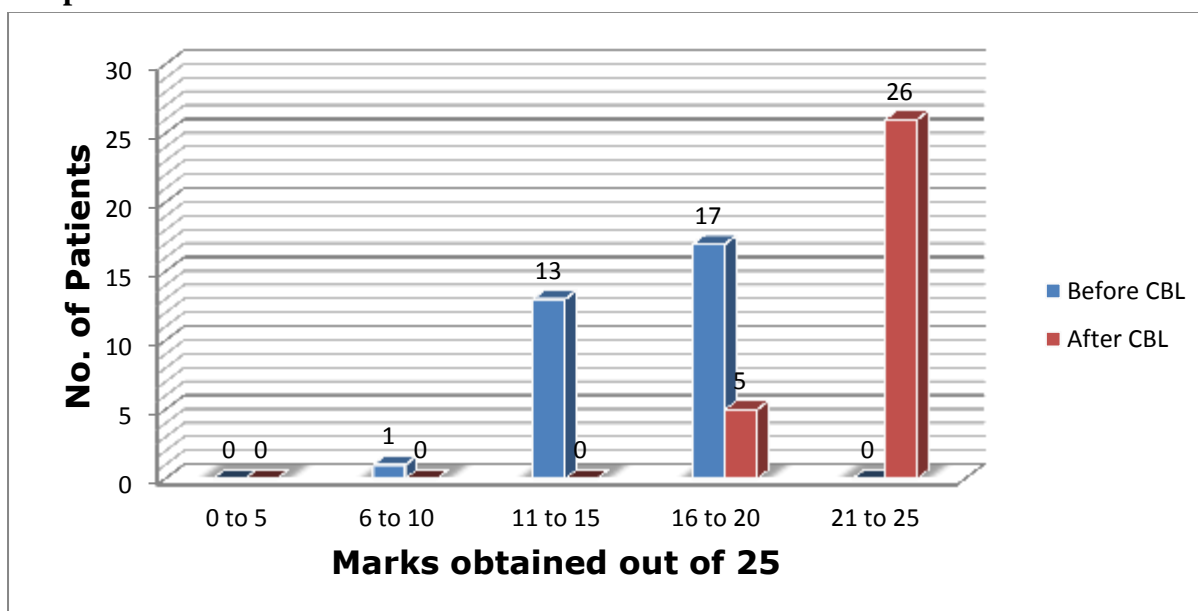
Sr no.	Name of Student	Before CBL		After CBL	
		Marks	%	Marks	%
1	Kiran L Gaikwad	10	40	18	72
2	Prajakta Bobade	14	56	21	84
3	Shubhankar M Naik	12	48	20	80
4	Atish S Kadam	15	60	22	88
5	Singh Vinay Kumar	16	64	23	92
6	Tarange Rupali Arun	20	80	23	92
7	Shivani D Samber	18	72	18	72
8	Sayali J Thakare	17	68	21	84
9	Farheen Ansari	14	56	22	88
10	Khan Sabanaaz	15	60	20	80
11	Mrunmayee Patil	17	68	22	88
12	Sneha R Chadiwal	16	64	22	88
13	Rohini A Khade	14	56	21	84
14	Saurabhi Jagtap	16	64	22	88
15	Khan Rukhsar Mohd Rais	16	64	22	88
16	Tandel Ayushi A	16	64	22	88
17	Manali V Deshmukh	20	80	23	92
18	Sujata U Patole	15	60	17	68
19	Rupali A Sasane	17	68	22	88
20	Rutuja M Raut	14	56	21	84
21	Tanvi N Rane	18	72	22	88
22	Gaurangi S Vartak	17	68	22	88
23	Asmita A Vartak	18	72	22	88
24	Roshani S Patil	18	72	22	88
25	Neha Suresh Chaudhari	20	80	23	92
26	Sonali Shelake	16	64	22	88
27	Deepali B Mohape	15	60	21	84
28	Shweta R Mhatre	14	56	22	88
29	Raksha S Lokhande	14	56	22	88
30	Zeenat F Siddiqui	14	56	23	92
31	Papiha S Tripattiwar	11	44	22	88

OBSERVATIONS

Table no. 1 – Total Marks Obtained wise distribution

Total Marks Obtained	Before CBL		After CBL	
	No. of students	Percentage	No. of students	Percentage
0 – 5	0	0%	0	0.00%
6 – 10	1	3.23%	0	0%
11 – 15	13	41.94%	0	0.00%
16 – 20	17	54.83%	5	16.13%
21 – 25	0	0.00%	26	83.87%
Total	60	100 %	60	100 %

Graph no. 1



The above table reveals that -majority of the students i.e. 17 (54.83 %) got marks in between 16 to 20, 13 (41.94 %) students got marks in between 11 to 15, while 1 (3.23 %) student got marks in between 6 to 10 out of 25 in the test conducted before CBL.

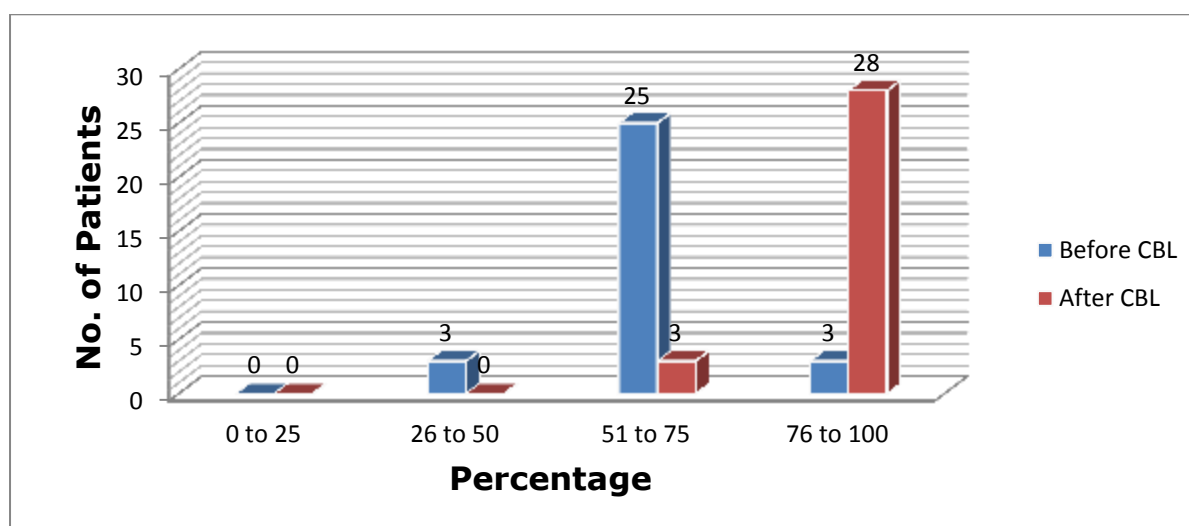
The above table reveals that -majority of the students i.e. 26 (83.87 %) got marks in between 21 to 25, while remaining 5 (16.13 %) students got marks in between 16 to 20 out of 25 in the test conducted after CBL.

It means no student got marks below 16 out of 25 in the test conducted after CBL.

Table no. 2 – Total Percentage Obtained wise distribution

Total Percentage Obtained	Before CBL		After CBL	
	No. of students	Percentage	No. of students	Percentage
0 – 25	0	0%	0	0.00%
26 – 50	3	9.67%	0	0.00%
51 – 75	25	80.65%	3	9.67%
76 – 100	3	9.68%	28	90.32%
Total	60	100 %	60	100 %

Graph no. 2



The above table reveals that -majority of the students i.e. 25 (80.65 %) got percentage in between 51 to 75, 3 (9.67 %) students got percentage in between 26 to 50, while another 3 (9.68 %) student got percentatge in between 76 to 100 in the test conducted before CBL.

The above table reveals that -majority of the students i.e. 28 (90.32 %) got percentage in between 76 to 100, while remaining 3 (9.67 %) students got percentage in between 51 to 75 in the test conducted after CBL.

It means that no student got percentage below 50in the test conducted after CBL and more than 90 percent student scored more than 76 percentages in the test which was conducted after CBL.

STATISTICAL ANALYSIS

Null hypothesis – There is no significant difference observed after CBL.

Alternative hypothesis – There is a significant difference observed after CBL.

Paired “t” test is used to calculate the result of the above two criteria – Marks and Percentage. Paired “t” test is used because the above two criteria are of objective type.

Table no. 3

Criteria	Marks
n	31
Mean Score, B.T.	15.65
Mean Score, A.T.	21.41
S.D. (±)	2.334
S.E. (±)	0.419
T	12.92
P	P<0.001
Result	Highly Significant

Tabulated t value for degrees of freedom (df) = 30 is 3.65 at P<0.001.

Average marks before CBL was 15.65 and increased to 21.41 after CBL.

As the calculated t value (12.92) is greater than the tabulated t value (3.65) at P<0.001, we should reject the null hypothesis H₀ and accept the alternative hypothesis H_a for Marks i.e. there is a significant difference observed in marks after CBL.

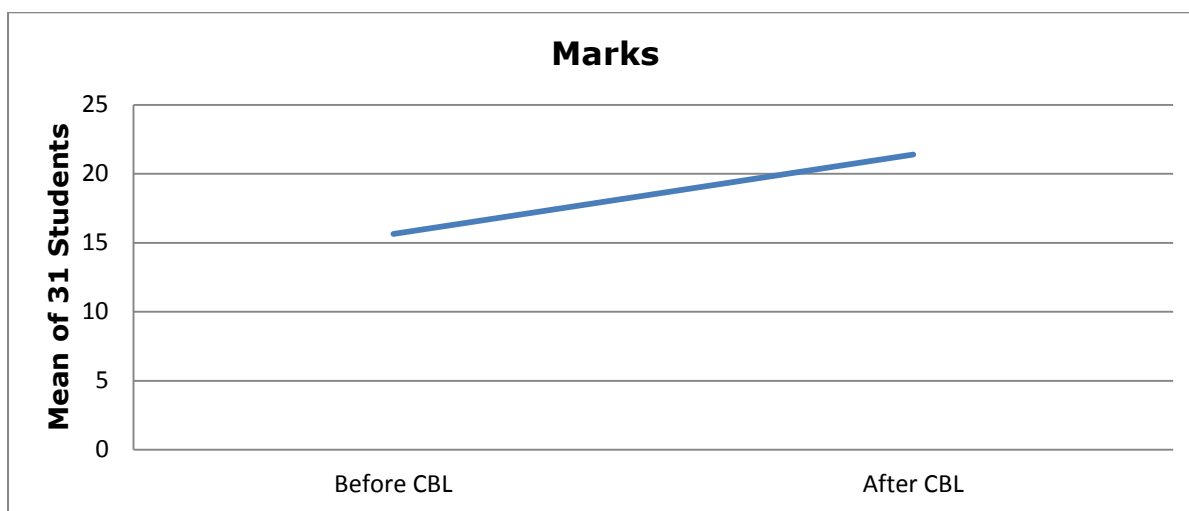


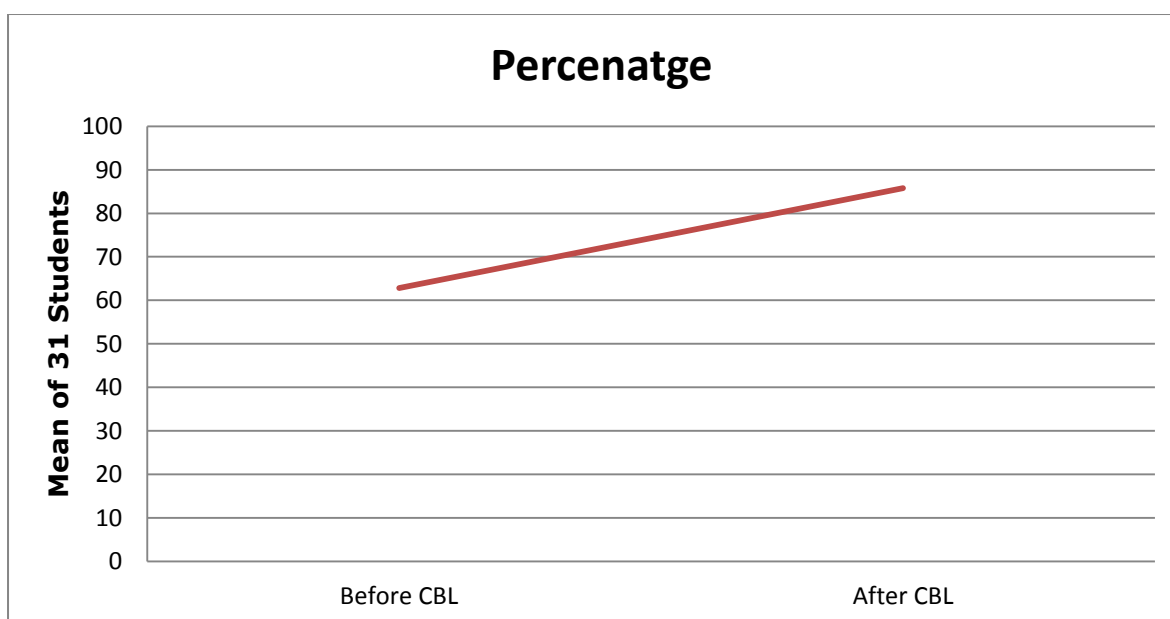
Table no. 4

Criteria	Percentage
n	31
Mean Score, B.T.	62.83
Mean Score, A.T.	85.8
S.D. (±)	9.16
S.E. (±)	1.645
T	13.097
P	P<0.001
Result	Highly Significant

Tabulated t value for degrees of freedom (df) = 30 is 3.65 at P<0.001.

Average percentage before CBL was 62.83 and increased to 85.8 after CBL.

As the calculated t value (13.097) is greater than the tabulated t value (3.65) at P<0.001, we should reject the null hypothesis H₀ and accept the alternative hypothesis H_a for Marks i.e. there is a significant difference observed in percentage after CBL.



Result of statistical analysis

Statistically it is proved that there is a significant difference between the marks and percentage of students in the test conducted before and after CBL.

DISCUSSION:

CBL is very practical oriented method of teaching diseases. The above mentioned difference in the students test score in the present study proved the increased perception of students by CBL method. The students understood the disease topic more effectively after CBL followed by a traditional theoretical lecture.

Feed back form comments

All participants involved in this study were very happy ,excited and satisfied .

Opinion of the faculty members of department

The teachers said that this method will help to understand this subject more clearly effectively and practically oriented manner and also to improve their communication and diagnostic skills.

Even there was an opinion that all disease topics could not be taught on actual diseased cases. But for that the suggestion was made to teach these topics on dummy patients. The selected topics can be taught on actual available cases.

Conclusion

The CBL method helps to improve the interaction between the students and teachers because it is the practical teaching method where the students learn on their own and with the minimal help of teachers. This helps the students to develop their communication skills, to understand and remember the subject in better way and also will correlate the theoretical knowledge with clinical case.

PROJECT SUMMARY:

The project was started with dean sirs permission. The students of T.Y.B.A.M.S. were given the theoretical lecture on the topic of sandhivata (Osteoarthritis) which was followed by CBL on the actual case. An exam was taken before and after CBL. The test score before and after CBL was compared, statistical analysis was done and the effect of CBL method in the perception of students was found to be significant.

LEARNING EXPERIENCE:

It was a good learning experience to interact with students and faculty during this project work time.

REFERECES

1. Madhav nidan Part 2
2. P.J. Mehta –Medicine
3. Clinical methods of Hutchison