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Original Research Article

Perception on problem based learning sessions amongst first year medical graduates of central India

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Abstract: Now trends in medical education have shifted from didactic teaching to problem based learning (PBL), for enhancing learning process & increasing professional competence. But still in Asian county like ours PBL is not materialized in medical curriculum. We formulated this questioner based survey to study the perception on PBL sessions amongst first year medical students. 100 students participated in PBL sessions carried out at physiology & anatomy department of two different medical colleges of central India. Post PBL session students were asked to respond to 20 item questionnaire covering six different PBL domains. Likert scale was used for evaluation. In general student's response towards PBL was favorable. Most students agreed to course content, orientation, delivery of sessions, motivation, acquisition of learning skills & basic principles. More than half of the students felt that time given for PBL, knowledge of uncommon topics & facilities available were not sufficient. We conclude that student's perception towards PBL was favorable and they are ready to adapt this method of learning but improvement of resources is needed.
Keywords: medical students, problem based learning (PBL), perception, curriculum

INTRODUCTION

Conventionally, a lecture-based approach has been used to disseminate academic knowledge in medical institutes, though its effectiveness has been questioned [1-2]. Now trends in medical education have shifted from didactic teaching to problem based learning (PBL), for enhancing learning process & increasing professional competence. PBL incorporates the principle of adult learning with the main objective to acquire the knowledge for better recall & application in clinical content. PBL also facilitates self-directed learning skill & increased motivation for learning critical thinking [3]. Many hypothesized that when confronted with a new problem, students participating in PBL session may emerge as better problem solvers, than learners from purely lecture based instructions. Some have called PBL an open inquiry approach [4]. Unlike traditional classroom teaching, the faculty member is not the sole resource for the content or process information, but instead guides students to search out appropriate resources and play the role of facilitator [5]. Each PBL group consists of 8 or 9 students facilitated by tutor who ensures that the group stay focused & cover requisite learning objectives.

In America, PBL is implemented in medical education since 1991, it is easy to implement & readily accepted by students without need for increased educational resources. But still in Asian county like ours, this new method of teaching (PBL) is not materialized in medical curriculum. So we formulated this questioner based survey to study the perception of PBL sessions in first year medical students. Aim of this study was to evaluate the process of PBL implementation in first year medical graduates.

METHODS:

After ethical approval, initial PBL sessions were carried out at physiology department GMCH Nagpur & Anatomy department NKPSIMS Hingna Nagpur. The topics covered were shoulder joint by Anatomy department & blood group by physiology department. Each department designed their own specific learning objectives for the modules & tutor guide was prepared accordingly. A total of 4 sessions carried out. Each group had their own tutor who facilitated & guided the whole PBL session. After completion of PBL sessions; total 100 students (50 from

anatomy & 50 from physiology department) were selected for questionnaire survey. Six different question sets covering different PBL domains were prepared and total 20 questions were used for evaluation of the module. Post PBL session students were asked to respond to 20 item questionnaire. These sets consist of PBL course content, PBL course delivery, learning skill, self-motivation, knowledge in basic sciences & PBL assessment. The Likert scale of 1-5 (where 1 meant strongly disagree to 5 meant strongly agree) was used for evaluation.

RESULT:

Questioner set & student evaluation response on the Likert scale is shown in table 1.

Table 1: Questioner set & student evaluation response on the Likert scale

Variables	**Percentage reciprocate by students**					
Course content of PBL session	**Strongly disagree**	**disagree**	**Nil**	**Agree**	**strongly agree**	**mean**
Before PBL session orientation is given by faculty	3	2	10	81%	4	3.81
Problem statement are well presented by using models , slides, handouts etc	15	9	3	68%	5	3.39
Procedure delivery of PBL session						
Number of students per group is practical	8	2	0	86%	4	3.76
Time & duration given per problem is sufficient	8	62%	2	23	5	2.55
Group task & discussion help you to understand the topic clearly	15	10	1	10	64%	3.98
Tasks & presentation are well distributed among group representative	16	12	0	65%	7	3.35
Facilitator stimulate students to search for links between issue discussed in group	7	9	0	71%	13	3.74
Facilitator stimulate the group discussion	5	6	2	70%	17	3.84
Facilitator stimulate the students to gives comments & feedback	3	10%	0	82%	5	3.47
Revenue & facilities are sufficient to complete PBL tasks	13	71%	0	7	9	2.28
Learning skill						
PBL session increase my analysis skill	8	11	0	78%	3	3.57
PBL session gain my confidence in oral presentation	3	7	2	81%	7	3.82
Self-motivation						
PBL session stimulate desire to learn new things	5	1	0	73%	11	3.54
My mind is critically challenged during PBL session	2	4	0	92%	2	3.88
I'm free to give ideas during group work & presentation	3	5	2	81%	9	3.88
Knowledge in basic science						
Gain better understanding of basic science structures & principles	7	3	2	74%	14	3.85
Knowledge of common topic is deeper in PBL	5	3	1	75%	16	3.91
Knowledge of uncommon topic is deeper in PBL	13	71%	0	4	2	1.81
Assessment						
Evaluation of assessment done fairly	23	10	0	54%	13	3.24
Test questions given in assessment are clearly understood	5	1	52%	40%	2	3.33

DISCUSSION:

In the present study PBL session that was new to their routine curriculum was carried out on first year medical graduates. Post PBL session questioner survey was carried out & evaluated on Likert scale. In general student's response towards PBL was favorable. Most students agreed to course content, orientation, delivery of sessions, motivation, acquisition of learning skills &basic principles (mean score more than 3). More than half of the students felt that time given for PBL, knowledge of uncommon topics & facilities available were not sufficient (mean score less than 3). Student's

response towards post PBL assessment was neutral. As compared to didactic lectures students enjoyed PBL sessions, they found the course content & delivery more useful & encouraging, these findings are in agreement with previous studies [6-8]. Students agreed that task among small groups was well distributed & discussions helped them to understand topic clearly. These findings prove that faculties stimulate group discussion & encourage comments & feedback among students. Thus they play the role of best facilitators [9-10]. Students faced difficulty in problem identification, problem solving activity was time consuming as a result they had difficulty in completing the task on time [11]. Thus PBL is not about problem solving, but uses appropriate problems to increase knowledge & understanding. Students went repeatedly through different mechanisms & principles for the preparation of topic which helped them understanding basic science structures & principles properly. Students perceived that PBL enhanced their critical thinking, problem solving, analysis & communication skill. Recent study carried out on postdoctoral residents at Harvard school of dental medicine came out with similar findings [6-7].Thus PBL method is encouraging & readily accepted by medical students. But still in Asian country like ours this method is not materialized. Probable reason for this is lack of full time teachers trained as experts, lack of specially equipped rooms, lack of well stocked libraries or due to lack of economic supports. Recent decision by regulatory body MCI for reduction of faculty requirement per 100 medical students is making implementation of PBL as more daunting task in India. We acknowledge that our questioner based analysis is preliminary with small sample size. We recommend that more detailed studies from different medical colleges of India consisting of separate students & teacher's evaluation response analysis should be carried out.

CONCLUSIONS:

We conclude that student's perception towards PBL was favorable and they are ready to adapt this method of learning but improvement and modification of available resources is needed.

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