

Feasibility of PBL implementation in clinical courses of nursing and midwifery from the viewpoints of faculty members of Tabriz University of Medical Sciences

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ABSTRACT

Background: PBL, as a teaching method, has a basic role in promoting education level and combining the theoretical and practical knowledge. But there still exist serious obstacles to implementing this educational method

Purpose: To recognize the impediments an obstacle preventing PBL method implementation.

Methods: The Subjects studied in this research are all the tutors who taught basic and clinical courses in the faculty of nursing and midwifery in the first and second terms of the year 2001-2002. Choosing subjects was done by using census method and the number of subjects was 33 basic course teachers and 20 clinical course teachers. A questionnaire developed based on the studies' goals was the tool used for collecting data. Data was analysed by means of SPSS/Win 10 Soft ware using descriptive statistics

Results: The 95% of basic course teachers and 93.9% clinical course teachers think of the conditions and facilities needed for implementing PBL as of medium level. Tutors believe that most of the impediments are related to student's lack of group work skills, and the skills needed for making correct communication, and the need for students practical participation in PBL for making them ready and receptive. They also relate most of the strong points to PBL's being efficient in training community – oriented students. The tutors state that performing PBL does not decrease their motivation at all, due to the change in their role from lecturer to facilitator.

Conclusion: The Although findings of this research indicate that the conditions needed for implementing PBL exist at present, still there are many obstacles to its performance such as student's lack of group work skills and their disability in making correct interaction, costliness of beginning and marinating PBL, large number of students and lack of tutors

Keywords: PBL IMPLEMENTATION, MEDICAL EDUCATION

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Introduction

The system of medical education is one of the important parts of higher education which not only performs important duties such as education, research, and giving services in different medical and paramedical fields, but also, has a fundamental role in the development of health system (1). To perform such momentous and important duties, requires careful, minute attention to the whole parts of education system. This way, alongside the environmental changes, we will be able to give basic solutions and reach favorable results through recognition of needs and problems existing in the society's health. Among all factors which affect the internal and external environment of medical education system, changes in teaching and training methods and in

sufficiency of conventional methods and the need for changing them, are factors that have to be considered by those who are responsible in educational planning.

Because the system of medical education has confronted the insufficiency of conventional methods of teaching and training in many countries in the past, the experts all over the world decided to hasten the achievement of these goals by offering practical approaches. They also decided that medical education be offered in a way that using the rapid advancement of science and technology, it will meet the changing needs of the environment. For this reason, the expert educationists introduced interactive teaching methods such as problem based learning (PBL) (2, 3).

Nowadays, problem based learning, an educational strategy, is confirmed by world medical educational and WHO, as an effective method of training community oriented students, and it's used in many fields such as architecture, law, engineering, medicine, and nursing. Paying attention to the need for developing and increasing decision making abilities, creativity, and doing research in the students of nursing and midwifery, so that they will be able to use their theoretical knowledge in real circumstances, we will recognize the need for change in teaching midwifery and nursing. Especially if we take into consideration that every shortcoming in training the students of midwifery and nursing, weather theoretical or clinical, will have a direct effect on the quality of patient care. But since the characteristics and educational needs of the students of each country or training institute are exclusive to themselves, success or failure in performing PBL depends on careful recognition of environmental variables and prerequisites of its performance. Because changes made in university teaching system, like every other program, have their own economical and social consequences, for the purpose of preventing unwanted consequences, this study was carried out to recognized required conditions for performing PBL in the courses in nursing and midwifery, so that we can guarantee the success of performing PBL method through recognition of existing obstacles and helping planners of teaching processes in nursing and midwifery and overcoming executive problems.

Materials & Methods

This descriptive – analytic research, surveys the existing conditions for the recognition of obstacles of performing PBL in basic and clinical courses of nursing and midwifery from tutors' point of view. Subjects taking part in this study were all the tutors who taught basic and clinical courses to nursing and midwifery students in the first and second terms in educational year 2001-2002. choosing subjects was done by using census method and the number of participants was 33 tutors of clinical courses and 20 basic course teachers. A questionnaire set on the basis of research's goals was used for collecting data. This questionnaire consists of two parts. The first part contains questions concerning the general characteristics of survey's courses and the second part has 13 questions related to recognition of required conditions for implementing PBL from

tutors' point of view. The questions are designed in two different fields in a way that we can study tutor's opinion about PBL and variables related to present students.

Tutor's ideas are ranked in the form of (very little, little, medium, high, and very high) using Likert's five grade scale. For data analysis, we used descriptive statistics, and the indices of frequency, percentage, and standard of deviation. The feasibility of implementing PBL was assessed with summing up the marks given to questions about different aspects printed in the questionnaire, based on likert's ranking scale.

Results

The data table 1 indicates that 95% of basic course tutors and 93.3% of clinical course tutors, with the average of 3.7 and 2.4 out of 5, believe that the feasibility of implementing PBL in basic and clinical courses for nursing and midwifery students is medium. Also findings of analysis of the data from table 2 and 4 show that the tutors of basic and clinical courses with an average mark of 4.1 and 4.06 out of 5, believe that PBL is effective in training community oriented students and they declared, by an average of 4.1 and 4.03 out of 5, that modifying their role from lectures to facilitators in PBL, never declines their motivation. But with gaining averages 3.0 and 2.63 out of 5, they expressed that a change in approved items of basic and clinical courses is necessary in a way that in addition to covering the educational content, it can also reach the students to their defined educational goals. From a further analysis of the data in table 3 and 5, it is revealed that the tutors of basic and clinical courses with averages of 2.1 and 1.9 out of 5 respectively, believe that previous and practical participation of the students in educational programs using PBL, is necessary to make them ready to accept PBL. Also these tutors by giving average points of 2.2 and 1.84 believe that student's familiarity with skills needed in group work and correct interaction is necessary for successful implementation of PBL.

Table 1. The distribution frequency and percentage of PBL's feasibility from the viewpoint of the tutors of basic and clinical courses

Groups Feasibility	Basic		Clinical	
	No.	%	No.	%
Low feasibility	1	5	0	0
Medium feasibility	19	95	31	93.3
High feasibility	0	0	2	6.1
Total	20	100	33	100

Table 2. The distribution frequency of viewpoints of tutors of basic nursing and midwifery courses about PBL

Statements	Average point	Very little	Little	Medium	High	Very high	Number of tutors
1) Interest in changing present method of education (lecture, question and response) to PBL		(1)	(2)	(3)	(4)	(5)	
	3.6	0%	10%	35%	50%	10%	20
2) Absence of decrease in tutors motivation with changing his direct control and supervision role to a guide and facilitator		7	8	5	0	0	20
	4.1	35%	40%	25%	0%	0%	
3) The effect of PBL in promoting educational quality compared with conventional methods		0	2	5	9	4	20
	3.75	0%	10%	25%	45%	20%	
4) Effectiveness of PBL in training students responsible towards commintys needs		0	1	3	9	7	20
	4.1	0%	5%	15%	45%	35%	
5) approved educational titles in basic courses being teachable with PBL		1	5	7	7	0	20
	3.0	5%	25%	35%	35%	0%	

Standard deviation = 0.57 average = 3.7

Table 3. The distribution frequency of basic course tutors opinion about present students

Statements	Average point	Very little	Little	Medium	High	Very high	Number of tutors
		1	2	3	4	5	
1) Students interest in accepting PBL considering the increased amount of work		5	7	5	3	0	20
	2.3	25%	35%	25%	15%		
2) Students disability in using group work skills		0	0	6	13	1	20
	2.25	0%	0%	30%	65%	5%	
3) Students accepting tutor as facilitator		0	7	11	2	0	20
	2.75	0%	35%	55%	10%	0	
4) The effect of not practically watching educational program of PBL in students receptiveness and readiness		0	0	6	13	1	20
	2.25	0%	0%	30%	65%	5%	
5) The effect of not practically participating in educational program of PBL in students receptiveness and readiness		0	0	5	12	3	20
	2.1	0%	0%	25%	60%	15%	
6) Students disability in using interaction skills		0	0	7	10	3	20
	2.2	0%	0%	35%	50%	15%	
7) Present students ability in reasoning, creativity, and criticism		3	5	10	1	1	20
	2.6	15%	25%	50%	5%	5%	
8) Present students ability in solving real life problems		1	7	9	2	1	20
	2.75	5%	35%	45%	15%	5%	
9) Present students ability in sorting and systematic use of mass of information		1	9	9	1	0	20
	2.5	5%	45%	45%	5%	0%	
10) Present students communication skills in group work		1	5	11	3	0	20
	2.8	5%	25%	55%	10%	0%	
11) Present students ability in accepting responsibility and self assessment		2	10	6	1	0	19
	2.2	10%	50%	30%	5%	0%	
12) Student's ability in active involvement in problem solving and independent learning		0	12	6	2	0	20
	2.5	0%	60%	30%	10%	0%	

Standard deviation = 0.39 average = 2.43

Table 4. The distribution frequency of viewpoints of tutors of clinical nursing and midwifery courses about PBL

Statements	Average point	Very little	Little	Medium	High	Very high	Number of tutors
1) Interest in changing present method of education (lecture, question and response) to PBL		(1)	(2)	(3)	(4)	(5)	
	3.93	0	1	7	18	7	33
2) Absence of decrease in tutors motivation with changing his direct control and supervision role to a guide and facilitator		10	14	7	2	0	33
	3.96	30.3%	42.4%	21.2%	6.1%	0	
3) The effect of PBL in promoting educational quality compared with conventional methods		0	2	5	22	4	33
	3.84	0%	6.1%	15.2%	66.7%	12.1%	
4) Effectiveness of PBL in training students responsible towards commintys needs		0	0	5	21	7	33
	4.06	0%	0%	15.2%	63.6%	21.2%	
5) approved educational titles in clinical courses being teachable with PBL		2	7	13	8	0	33
	2.63	6.1%	21.2%	39.4%	24.2%	0%	

Standard deviation = 0.45 average = 3.69

Table 5. The distribution frequency of clinical course tutors opinion about present students

Statements	Average point	Very little	Little	Medium	High	Very high	Number of tutors
		1	2	3	4	5	
1) Students interest in accepting PBL considering the increased amount of work		1	15	8	9	0	33
	2.75	3%	45.5%	24.2%	27.3%	0%	
2) Students disability in using group work skills		0	1	4	17	11	33
	1.84	0%	3%	12.1%	51.5%	33.3%	
3) Students accepting tutor as facilitator		0	13	16	3	1	33
	2.75	0%	39.4%	48.5%	9.1%	3%	
4) The effect of not practically watching educational program of PBL in students receptiveness and readiness		1	0	11	16	5	33
	2.27	3%	0%	33.3%	48.5%	15.2%	
5) The effect of not practically participating in educational program of PBL in students receptiveness and readiness		0	0	6	18	9	33
	1.9	0%	0%	18.2%	54.5%	27.3%	
6) Students disability in using interaction skills		0	2	3	23	5	33
	2.06	0%	6.1%	9.1%	69.7%	15.2%	
7) Present students ability in reasoning, creativity, and criticism		8	8	9	7	1	33
	2.54	24.2%	24.2%	27.3%	21.2%	3%	
8) Present students ability in solving real life problems		5	12	9	6	1	33
	2.57	15.2%	36.4%	27.3%	18.2%	3%	
9) Present students ability in sorting and systematic use of mass of information		5	16	8	3	1	33
	2.36	15.2%	48.5%	24.2%	9.1%	3%	
10) Present students communication skills in group work		4	15	14	3	1	33
	2.57	12.1%	33.3%	42.4%	9.1%	3%	
11) Present students ability in accepting responsibility and self assessment		5	14	11	2	1	33
	2.39	15.2%	42.4%	33.3%	6.1%	3%	
12) Student's ability in active involvement in problem solving and independent learning		4	12	14	1	1	33
	2.45	21.1%	39.4	42.4%	3%	3%	

Standard deviation = 2.37 average = 0.5

Discussion

Table 2 and 4 show that tutors of basic and clinical courses with giving averages of 4.1 and 4.06 out of 5, think of PBL as an effective method in training community oriented students. Mellso and Kong et al state that students, who have studied with PBL method, are more capable in applying their theoretical knowledge to clinical sciences and they have developed more clinical skills than those who have been taught with conventional method (4). Faculty members of Tabriz University of Medical sciences acknowledge this theory too. Also in 1993 Gallagher et al showed in a study that PBL increases the ability to transfer theoretical knowledge to practical skills. It also makes the students capable of making use of their knowledge and skills in real circumstances; and creates sufficient self confidence in the students for making favorable use of their knowledge and skills in real work environments (5). Among other remarkable findings in this study, we can point to the fact that tutors of basic and clinical courses with averages of 4.1 and 4.03 out of 5 respectively, admit that tutors motivation does not diminish with alteration of their role from lecturer to facilitator. Veron expressed in 1995 that one of the important recommendations in implementing PBL which the tutors liked to be fulfilled, was making connection between student and teacher through teacher's playing the role of adept facilitator (4). Findings of this study concerning the same issue indicate that tutors are interested in playing the role of facilitator and they think of this change as one of the positive factors and strong points form implementing PBL. Further analysis of findings show that tutor of basic and clinical courses with average marks of 3.0 and 2.63 out of 5 respectively, believe that a change in course titles in a way that cover the educational content and lead the students to educational goals of the course, is necessary for the successful implementation of PBL. Confirming the viewpoints of the tutors studied in this survey, Yoosefi et al showed in a similar research, that because the educational sessions in PBL are long, all the titles of pharmacology course cannot be covered. Therefore he suggested that complementary lecture sessions be used (6). Considering the findings of the present study and Yoosefi's one, revision in course titles is necessary.

Thus it is essential that course titles be adapted with characteristics of PBL so that they not only

cover the educational contents, but also lead the student to defined education goals. Another important finding of this study is the necessity of students' practical involvement in educational programs that is performed in the shape of PBL in order to make students ready and receptive. The results of Moghadamnia's in clinical pharmacology courses using PBL, show that students who take part in PBL method say that they are satisfied with participating in this procedure (7). Albnes and Mitchell quote from Pinus that students who are trained with PBL method have a more favorable attitude towards PBL than those who are trained using conventional methods. He also adds that involving the students in educational course of PBL improves students' attitude and therefore increases the number of applicants taking part in PBL training courses. So this makes them interested and finally by changing their attitude it prevents students from quitting their studies (8). Regarding the current literature and findings of our study, encouraging the students to take part voluntarily in all parts of the procedure of planning PBL, is one of the means that can be used by senior principals, educational deans, and educational planners. For instance, by holding educational workshops in which the general facts of PBL procedure are explained, we can achieve the probability of students' active participation and successful PBL implementation. Consistent with our findings, Albnes expressed in 1993 that because PBL is more performable in small groups, the cooperation among group members is essential in the process of learning. He also cited that those who tend to act individually in medical professions are more likely to face problems in their diagnoses and attracting professional cooperation (8). Veron (5) stated in 1995 that in group discussions and in PBL, it is essential that all the students have the required skills for beginning the discussion which needs the participation of all group members. The students should also be able to express different opinions and control preventive behaviors and welcome their classmates' evaluation of their performance for the purpose of continuous improvement of their skills (4).

It is necessary that before implementing PBL, essential instructions be given to students for obtaining such skills and finally for performing PBL successfully. On the basis of this study's findings, it is necessary that before performing PBL, we think of a suitable preparation of the environment and creating the capacities so that the required conditions regarding the standards

related to PBL implantation such as enabling the students in group work, self teaching, revision in course titles, and all that was discussed here, be produced and the conditions needed for successful implementing of PBL be prepared and its success in performance be guaranteed.

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