

Is problem based learning (PBL) a way forward in undergraduate medical education? Results of a pre & post PBL assessment

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ABSTRACT

Introduction

Problem based learning (PBL) is an established teaching method for medical undergraduates but its value within a traditional curriculum is not established. Benefits include development of critical thinking, communication skills and teamwork. This study was to assess knowledge gain following a PBL within a subject based traditional curriculum.

Method

The study was carried out during the fourth term of the pre-clinical course. A neuro-sciences PBL including cerebral and cerebellar motor functions and headache was introduced. Session 1 was for identifying knowledge areas to solve the problems and in session 2 (1 week later), each student presented his/her findings and discussed answers. A pre and post PBL test containing 6 identical MCQs with 30 true/false type responses was administered. This study design did not allow for a control group of students. Data was analyzed using EPI 6. Neurophysiology lectures were given after the study.

Results

There were 164 (84 males and 80 females) students in the batch. 134 (82%) and 100(61 %) students returned completed questionnaires before (pre) the PBL and after (post) the PBL session respectively. Response rates were 86% and 76% for pre and post PBL sessions respectively. Response rates were 86% and 76% (pre) and 51% and 71% (post) for males and females respectively. The total correct responses for the post-test (12.11 SD= 3.55) were significantly higher than the pre-test (7.82 SD=3.32) ($p < 0.01$). There was also a significantly better performance among the females (post 13.2. pre 7.9) compared with males (post 10.7. pre 7.8) ($p < 0.001$).

Conclusions

PBL is a useful method for enhancing undergraduate knowledge within a traditional curriculum. There is a gender difference in knowledge after PBL and this justifies further assessment.