

## **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.