A Transformation of Preclinical Paper-based PBL to Real Patient-based PBL

Chung-Sheng Lai1,2 and Peih-Ying Lu1,3

1College of Medicine, Kaohsiung Medical University, 2Kaohsiung Medical University Hospital, and 3Center for General Education, Kaohsiung Medical University, Kaohsiung, Taiwan.

What is the Connection Between PBL and the Real Clinical Context?

Problem-based learning (PBL) has gained popularity as one possible basis for medical curricula, and its advocates believe that it empowers students to gain knowledge and develop necessary learning skills [1]. Its supporters claim that PBL promotes interactive learning, critical thinking, collaboration, and self-directed learning, which all together lead to a clear and better retention of knowledge [1]. However, it has been questioned as to whether or not PBL delivers on its claims to improve knowledge and clinical performance [2] or if students’ level of knowledge and skills can be significantly differentiated from those that result from traditional lecture-based learning [3].

To complicate matters, recent literature [4–7] has suggested that the problems commonly posed in PBL sessions are often not realistic. So far, the problems used in most medical curricula are “paper” problems, and the problems themselves might be too well structured and too clearly informed. The complexities of reality seem to be less often considered and real patients or authentic encounters seem to be seldom used. According to Dammers et al’s study on using real patients in PBL, PBL does not necessarily stimulate students’ contextual learning if relevance is absent. They reported that student respondents were “finding out real information and how things affected real people, not abstract theory which would be far less relevant” [4].

Is Real Patient-based PBL a Way to Link Preclinical PBL and Clinical Training?

Owing to doubts over whether “paper-only” PBL can really prepare students for future clinical encounters, a transformation of preclinical PBL to clinical real patient-based PBL is increasingly attracting more attention. Some educators such as Yamada and Maskarinec [7] consider that reproducing simulated clinical encounters in the PBL process is important. A case method, which also aims to give students “a professional and academic training based on reality”, has been studied. This method was initiated by the Harvard Business School in the early 20th century and is now considered an option for students’ active learning. Different from PBL, which is more for preclinical learning, the case method is used as the main authentic clinical learning method. Stjernquist and Crang-Svalenius [8] indicated that the case method is preferred by clerks because it is better suited to clinical training as it enables students to use earlier knowledge and look for more information to engage in active management and problem-solving. Both real patient encounters and cases provide more complex and less predictable context. On the whole, these previous studies have shown that “authentic” case studies involving “real” patients are necessary for student learning in medical education.

As a result, educators responding to recent criticisms of PBL have accordingly placed more emphasis on how to link PBL to the clinical context. Real patient encounters, according to some research on students’ perspectives [4,8,9], serve as “a powerful driving force for learning” and “enhance integration of theory and practice”. As a result, authentic PBL, or real patient-based PBL, is becoming connected between preclinical learning and real clinical context. This, according
to Dammers et al, facilitates students to acquire transferable relevant knowledge and critical appraisal skills when faced with new sets of events. In addition, this model also motivates students to learn the relevance of and to foster a sense of responsibility and empathy of caring through active engagement with real patients’ problems [4]. Early patient encounters are therefore an avenue for students to apply the skills gained from PBL to strengthen their clinical expertise. Subsequently, how students can be helped to bridge the gap between the tutorial and real patient-centered clinical context is becoming a challenging task.

IMPLICATIONS FOR MEDICAL EDUCATION: IS IT POSSIBLE TO USE REAL PATIENT ENCOUNTERS IN A PBL CURRICULUM?

PBL has become very popular among medical schools in Taiwan since the turn of the new century. PBL curricula among Taiwan medical schools has come to be generally recognized as an effective way to activate students’ learning [10]. A great number of local and international conferences and workshops have been held with the aim of helping medical educators become better facilitators. However, since PBL was introduced a decade ago, reflections on how to link preclinical PBL to the clinical context or if real patient-based PBL can be introduced to medical programs have rarely been discussed in the research literature.

Medical educators need to consider whether the PBL problems presented to students run the risk of being too well structured and too clearly directed. In addition to the current emphasis on designing problems and training teachers, a new focus should be placed on investigating whether or not real patients should be included as case studies to connect preclinical PBL to the clerkship stage. Some obstacles will need to be taken into account. One general problem of using real patients as learning cases is that the particularities of each case may not necessarily lend themselves to the kind of generalization that has hitherto characterized educational curricula. In addition, the feasibility of selecting and recruiting patients in a hospital setting may pose another obstacle. The competence of PBL tutors also needs to be reevaluated. Overall, innovative approaches can still be developed for the better integration of theory and practice. Medical educators and researchers will be required to address this challenge on transforming preclinical PBL into clinical real patient-based PBL in the coming decade.

REFERENCES