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Correspondence

Babu Raja Maharjan
Dept. of Biochemistry
Patan Academy of Health
Sciences, Lalitpur, Nepal
Email: baburajais@gmail.com

Peer Reviewers

Prof. Dr. Nabees Pradhan,
Patan Academy of Health
Sciences, Nepal

Asst. Prof. Dr. Ashis Shrestha,
Patan Academy of Health
Sciences, Nepal

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Problem based learning case construct in undergraduate medical and nursing course: should there be difference?

Babu Raja Maharjan¹  , Ranjan Prasad Devbhandari² , Shanti Awale³ ,
Khagi Maya Pun³ 

¹Assoc. Prof., Dept. of Biochemistry, ²Assoc. Prof., Dept. of Anatomy, School of Medicine, ³Assoc. Prof., Lalitpur Nursing Campus, School of Nursing and Midwifery, Patan Academy of Health Sciences, Lalitpur, Kathmandu, Nepal

Abstract

Problem Based Learning (PBL) has been implemented in medical and nursing education programs to facilitate students' deep learning. These two educational programs have some disciplines in common, but they have distinct educational outcomes. For these common disciplines to be congruent with the educational outcome, their respective curricula describe differences in their understanding level. Since the PBL case constructs largely determine the achievement of curricular objectives, they warrant a distinct approach while preparing a PBL case. Both the programs use clinical context for constructing PBL cases to deliver basic science content, but the focus needs to be turned towards their required clinical expertise. While PBL cases need to prioritize the diagnosis and treatment of the disease along with patient care for medical undergraduates, nursing undergraduates require focus on providing holistic nursing care, supporting and helping the patient during illness. This enables the understanding of basic science content comprehensively as applicable to their clinical practice.

Keywords: Medical curriculum, nursing curriculum, PBL, PBL case construct

Introduction

Problem Based Learning (PBL) fosters deep learning preparing students for lifelong learning.¹ The PBL was initially implemented in mid-1960 by McMaster University, Canada for the delivery of the medical curriculum. With increasing popularity, it has been implemented in allied health sciences also. In Nepal, PBL was introduced in the Institute of Medicine, Tribhuvan University in the year 1979, and BP Koirala Institute of Health Sciences in 1998 in the undergraduate medical curriculum. A comprehensive PBL curriculum was implemented at Kathmandu University Medical School in 2001 and Patan Academy of Health Sciences (PAHS), Nepal in 2010.

The PBL has not been implemented in the undergraduate nursing programs in Nepal. Students and faculty found PBL as an effective teaching-learning method compared to the conventional didactic method in proficiency level nursing curriculum at PAHS, Nepal.² The PAHS academic council has endorsed the use of PBL as the teaching-learning method in the new curriculum for the Bachelor of Nursing Science (BNS) and Bachelor of Science in Nursing (BSN) program. Although PAHS has experience of a decade in successfully implementing PBL in medical undergraduate, commencing PBL in undergraduate nursing program is a new endeavor. This perspective intends to explore the approaches that would be necessary to undertake while designing a PBL case for nursing undergraduates.

The rationale for PBL in the nursing curriculum

In Nepal, the undergraduate nursing curriculum has been delivered in a discipline-based manner. In a new undergraduate nursing curriculum of PAHS, Basic Sciences disciplines (Anatomy, Biochemistry, Physiology, Microbiology, Pathology, and pharmacology) are delivered in an integrated organ system manner in alignment with medical and surgical nursing.^{3,4} PAHS has been

PBL to deliver Basic Science, Community Health Science, and Physics-Chemistry-Biology courses in medical school.^{5,6} This gives an opportunity to easily transfer the experience to implement PBL in the undergraduate nursing curriculum. However, it is important to consider the differences in curricular weightage and outcome to achieve the objective of the nursing curriculum and different clinical contexts of nursing programs with a suitable structure of the PBL case construct.

The Basic Science disciplines have similarities in the undergraduate medical and nursing curriculum, but their curricula have a distinct educational outcome to prepare the graduates for their respective clinical role as a doctor for diagnosis and treatment of the disease along with patient care, and a nurse for providing holistic nursing care, focusing on the preventive, promotive and rehabilitative aspect. Therefore, despite the commonality in some disciplines in these two programs, their objectives attain different levels of understanding in Bloom's learning pyramid to be congruent with their respective educational outcome. Likewise, the depth of Basic Science content is quite distinct in these two programs with a relatively less depth in nursing curriculum compared to medical undergraduate curriculum.^{3-4,7}

Basic Science content for medical students intends to harness the Basic Science knowledge in the diagnosis, treatment, and management of the disease. But for the nursing undergraduates, Basic Science knowledge aims to use more in the nursing management of the patient and less in the diagnosis and treatment aspect. Therefore, in contrast to the PBL case construct of MBBS that offers a significant discussion on the diagnostic and treatment aspect, the case constructs for the nursing curriculum need to focus more on the nursing management of the patient. This will offer nursing students an appropriate clinical context that enables them to discuss Basic Sciences content more comprehensively as required for the clinical practice in nursing. This contextual learning

approach would help in deeper learning and better retention of knowledge.⁸

Although these changes are required while structuring PBL case in the nursing curriculum, the process of conducting PBL remains the same with the 'seven jumps' approach that includes: clarifying terms and concepts, identifying problems, hypothesizing causes of problems, arranging the hypothesis (explanation), formulating learning issues, self-study, and share the findings.⁸ Similarly, the generic skill that PBL offers would be the same as that of medical undergraduates. Generic skills include lifelong learning, critical thinking, dealing with unfamiliar situations, teamwork, communication skill, and reflection.^{1,8,9} These skills are important for effective clinical practice in nursing¹⁰ and implementation of PBL in the new undergraduate nursing curriculum of PAHS will enable in acquiring skills for effective nursing practice.

Conclusion

The medical and nursing undergraduate curriculum have a distinct educational outcome with a focus, one primarily on the diagnosis and treatment of the disease and another providing holistic nursing care, for the patient during illness. The PBL case construct also needs to be contextualized in the area of their required clinical expertise.

Conflict of Interest

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Reference

- Schmidt HG, Vermeulen L, van der Molen HT. Longterm effects of problem-based learning: a comparison of competencies acquired by graduates of a problem-based and a conventional medical school. *Med Educ.* 2006;40(6):562-7. | [PubMed](#) |
- Maharjan BR, Shrestha U, Shrestha A, Acharya BM, Poudel A, KC S, et al. Perception of students and faculty on problem based learning in proficiency certificate level nursing program. *J Nepal Health Res Counc.* 2021;18(4):779-84. | [Full Text](#) |
- Curriculum for bachelor of science in nursing. Patan Academy of Health Sciences, School of Nursing and Midwifery. Lalitpur, 2021.
- Curriculum for bachelor of nursing science. Patan Academy of Health Sciences, School of Nursing and Midwifery. Lalitpur, 2021.
- Ghimire SR, Bhandary S. Students' perception and preference of problem based learning during introductory course of a Nepalese medical school. *J Patan Acad Health Sci.* 2014;1(1):64-8. | [Full Text](#) |
- Upadhyay SK, Bhandary S, Ghimire SR, Maharjan BR, Shrestha I, Joshi M, et al. Validating a problem-based learning process assessment tool in a Nepalese medical school. *J Patan Acad Health Sci.* 2017;4(2):65-72. | [Full Text](#) |
- Curriculum for Bachelor of Surgery Bachelor of Medicine. Patan Academy of Health Sciences, School of Medicine, Lalitpur, 2010.
- David TJ, Patel L. Adult learning theory, problem based learning, and paediatrics. *Arch Dis Child.* 1995;73(4):357-63. | [PubMed](#) |
- Ozturk C, Muslu GK, Dicle A. A comparison of problem-based and traditional education on nursing students' critical thinking dispositions. *Nurse Educ Today.* 2008;28(5):627-32. | [PubMed](#) |
- Oermann MH, Gaberson KB. Evaluation and testing in nursing education. New York: Spring Publishing Company; 2009.