PBL in Undergraduate Medical Education: A Qualitative Study of the Views of Canadian Residents

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Abstract. Background and Objectives: At McMaster University, the birthplace of problem-based learning (PBL), administrators and curriculum planners have begun the process of renewing the undergraduate MD curriculum. One step has been to conduct an environmental scan that includes input from medical residents. Methods: Individual interviews with 17 medical residents and fellows currently enrolled at McMaster University and are graduates of six Canadian medical schools. Results: PBL appears to be well known even by graduates of non-PBL Canadian medical schools. Tutors are key to a successful PBL program, should be knowledgeable about the content area under study and able to effectively facilitate groups. Tutorial problems should be realistic, up-to-date, and challenge students to investigate more than the medical aspects of the case in question. Students need to be prepared, willing to participate in peer teaching, and supportive of the group learning process. PBL programs can be improved if they incorporate elements of traditional medical programs (e.g., mini-lectures, clear learning objectives, and unbiased evaluation of student progress) while retaining the essence of student-generated learning. Conclusions: Medical residents are an underutilized source of information about undergraduate medical education. According to our participants, more emphasis on faculty development and upgrading health care problems will improve PBL-based undergraduate medical education.

Key words: in-depth interviews, medical residents, PBL, problem-based learning, qualitative research, undergraduate medical education

Background

Much has been written over the past 30 years about problem-based learning (PBL) in medical education, including papers that reviewed basic terms and definitions (Schmidt, 1983; Maudsley, 1999) and three review papers that
compared outcomes in graduates of PBL versus traditional undergraduate medical schools (Albanese and Mitchell, 1993; Berkson, 1993; Vernon and Blake, 1993). The evidence indicates that graduates of PBL medical programs spend less time in “rote learning without conceptual understanding” (Woodward, 1996, p. 85), are happier with their educational experience and therefore more motivated (Chang et al., 1995), and can better provide causal explanations about pathophysiological processes underlying disease (Patel et al., 1993). There is mixed evidence, however, regarding the claim that PBL fosters life-long learning (Anderson et al., 1990; Shin et al., 1991; Tolnai, 1991), and little or no difference in factual knowledge between these two groups of graduates (Antepohl and Herzig, 1999; Finch, 1999; Vernon and Blake, 1993). Research is still underway to better explain how and why PBL works (Colliver, 2000; Schmidt and Moust, 1995; Walton and Matthews, 1989).

Despite mixed evidence as to the relative advantages of PBL undergraduate medical curricula, it appears that PBL is now firmly part of the culture of medical education. Studies are now addressing issues such as how to effectively introduce PBL into the traditional medical school curriculum (Eshach and Bitterman, 2003; Morris, 2003), how to resolve group dynamics problems in tutorials (Das Carlo et al., 2003), how to define what makes an effective tutor (Ravens et al., 2002), and how to address the relative lack of clarity about learning objectives (Bligh et al., 2000) and the perception that PBL is a time-consuming way to learn medicine (O’Hanlon et al., 1995).

Relatively few studies on PBL have been conducted with postgraduate medical students, who are an ideal source of information on this topic. One exception are studies addressing the issue of how to teach residents about working in a managed care system (Abouleish et al., 2003; Colenda et al., 2000; Gomez et al., 1997) and how to modify the PBL case-based approach to teach preventive medicine (Applegate, 2003). Some work has examined the impact that undergraduate PBL medical curricula has on postgraduate medical students. A recent British study compared the views of PBL- and traditionally-trained pre-registration house officers about physician-patient communication. The traditionally trained postgraduates, unlike their PBL peers, tended to equate communication with informing patients rather than as a two-way discussion. They also believed that good communication skills could not be learned (Willis et al., 2003). Two studies have examined performance in residency, one of them an Australian study in which clinical supervisors rated new graduates on 13 competencies one year after qualification. They scored PBL graduates significantly higher for interpersonal relationships, “reliability”, and self-directed learning, whereas traditionally trained graduates scored higher on teaching, diagnostic skills, and understanding of basic mechanisms (Rolfe et al., 1995). Similar results emerged from a study of McMaster residents (Woodward and McAuley, 1983). Another British study asked recent graduates from the new PBL medical