Editorial

Recent Developments in Medical Education

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Journal of the Ceylon College of Physicians, 1992, **25**, 16-19

The past quarter century has seen many advances in the field of medical education. Newer concepts in teaching and learning have emerged, often supported by evidence from psychology, especially cognitive psychology. This brief review attempts to introduce two relatively new ideas in medical education which have developed during the past 25 years which may be relevant to Sri Lanka.

The medical curricula in the different Faculties of Medicine in Sri Lanka have a structure similar to those in many foreign universities. A few salient points of these curricula are given below.

(i) Subject-based : i.e. the students are taught different subjects in different phases of the course and integrated teaching/learning experiences are few.

(ii) Teacher-centred : i.e. the teacher decides on the topics to be taught and is the chief source of information to the students.

(iii) Hospital based : i.e. the learning environment is a hospital, usually a tertiary care hospital where the morbidity and mortality patterns are different compared to in the community.

In 1966, the 3rd International Conference on Medical Education proposed that training of medical students be oriented more towards community needs[1]. It was suggested that the community be used as a classroom to orientate students to acquire knowledge and skills necessary to address health problems of the community. This could be perceived as a conceptual move from a hospital oriented education system to one oriented towards the community, now known as Community Oriented Medical Education (COME).

In 1969 Mc Master Medical School in Ontario, Canada pioneered an approach to medical education, that was different from the predominantly lecture-based, teacher centred methods used by most medical schools. They based their curriculum on problems and topics instead of subjects, a method of teaching/learning is now known as Problem Based Learning (PBL). COME and PBL are now used by many medical schools and are reviewed briefly below.

Community Oriented Medical Education (COME)

Several medical schools have introduced COME programmes to orientate students towards health care needs of the community. The focus of programmes is on the community rather than the individuals and range from isolated teaching/learning activities for short periods in a community setting, to a number of learning activities spread throughout the curriculum. A variety of settings in the community eg: home visits with health care workers, visits to health centres and different levels of health care services are used in the latter instance.

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In the University of Colombo, Sri Lanka, the community attachment programme enables students to follow the health related problems of a family during a two month period. In a new innovative programme commencing this year, the University of Ruhuna, Sri Lanka has allocated students to hospitals in the locality of their homes to enable students to observe a number of tasks. Several Universities in UK have a programme where the student lives with General Practitioner (GP) and obtains first hand experience in the way the GP provides care to the community. Students in the University of New Mexico, USA spend a defined period of time in the community, helping to identify and solve health problems of the community. A similar programme exists in the Christian Medical College, Vellore, India where students live in a remote village during their Community Medicine clerkship. Since learning experiences in the latter three are physically based in the community, they are known as Community Based Learning.

Several learning objectives may be achieved from COME[2]. It helps the students to:

(i) understand patterns of health and illness in the community which is different from the florid form of diseases seen in tertiary care hospitals.

(ii) learn about the local health system, how they are utilized and the atitude of people towards the health care systems,

(iii) understand the local beliefs and values of people,

(iv) learn the psychological aspects of growth, ageing, bereavements and effects of illness on other members of the family,

(v) learn communication and interpersonal skills.

COME is a reasonable proposition for Sri Lanka especially because most of our graduates become Medical Officers of Health or District Medical Officers or Family Physicians providing care away from the tertiary level hospitals. There is a need to encourage and broadbase COME in Sri Lanka especially if we hope to achieve the goal of health for all using primary health care strategy.

Problem Based Learning (PBL)

Even though it has aroused controversy in forums on medical education here and abroad, PBL is slowly gaining acceptance as an effective learning method worldwide.

In PBL the stimulus or trigger to learning is a problem, defined as a set of events or phenomena which cannot be explained using patterns or knowledge already known to the student. It may be based either on a clinical or community setting or on laboratory investigations. Thus the student is stimulated to seek for new knowledge and patterns, as a means of solving the problem. The principal outcome of PBL however is the acquisition of new knowledge and not solving the problem. The latter is the means rather than an end in PBL.

How is the PBL module practically implemented?: PBL may be used in different situations such as large group lectures, case based lectures, case based tutorials[3]. Nevertheless the most favoured method of using PBL is small group learning. A brief description on how small group learning functions is given below.

Small group learning: The process during a small group learning tutorial is formalized and is usually available to the group (Table 1). The optimum number of students for small group learning would be upto 10, excluding the tutor. The problem is given to the students, who would first clarify unknown or difficult words (step 1). Students then attempt to define the phenomena in problem (step 2). In the next step there is pooling of knowledge and learning from each other to develop hypotheses which will explain the phenomena (step 3). The tutor's role is to stimulate discu-

Table 1

Steps involved in problem based learning[3]

Step 1:	Clarify terms and concepts not readily comprehensible
Step 2:	Define the problem or phenomena to be explained
Step 3:	Analyse the problem and list explanations or hypothesis
Step 4:	Write a systematic list of the explanations given in step 3
Step 5:	Formulate learning goals or objectives
Step 6:	Collect additional information outside the group (self study)
Step 7:	Synthesize and discuss the newly acquired information

ssion by asking questions, re-emphasising important points, and commenting when errors are made[5]. The tutor does not act as a source of knowledge. At the end of the discussion which takes approximately 1 1/2 to 2 hours, the students list concepts or areas of knowledge which need to be learnt (step 4 and 5). These become the learning objectives for the group. In step 6 the students learn on their own using the library, audio-visual libraries or by discussing with resource persons. The students meet again (3 to 7 days later) to discuss the problem in the light of new knowledge gained from self study (step 7). Knowledge learnt as a result of self study, stimulated by the problem is the principle outcome of PBL. However, other skills are also learnt during small group learning. The students learn to interact in a group, acquire skills in self directed learning and may be even problem solving itself.

What are the advantages of PBL over conventional methods of learning? : Studies done so far have not definitely demonstrated that PBL is superior to conventional methods of learning. However students are more motivated to learn in PBL courses and they enjoy their learning experiences more than in conventional courses[6]. The learning is integrated and not subject centred. Students have more control over their learning and the course becomes less teacher-centred. There is some evidence that students in PBL courses are better at solving problems and have better structured memories ready for recall. Further more consultants appear to prefer the PBL graduates over those from conventional schools because of the more humanistic and practical approach used by the former[6].

In conclusion there have been numerous recent advantages in the teaching and learning of medicine. Two such innovations (COME and PBL) which may be especially relevant to Sri Lanka have been briefly reviewed.

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