

## **MEDICAL CURRICULUM IN SAUDI MEDICAL COLLEGES: CURRENT AND FUTURE PERSPECTIVES**

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This paper was written with the objective of first assessing in general terms the current curricula in Saudi medical colleges, and second, suggesting some approaches and strategies for curricular changes. The content-based approach is the main model used in planning curricula in the Saudi medical colleges. This is a planning model that has been rejected by many experts for the last quarter of a century in favor of some form of objectives model.

A reassessment of the objectives of the curricula is needed. This should be based on the country's development plans, social trends, and economic factors. Similarly, the contents of the curricula should be reassessed to avoid overcrowding, overrepresentation of some subjects, and the disassociation of the clinical and basic courses. Vocational skills and attitude domains need to be included. Also, medical ethics, economics and informatics are some of the subjects that have as yet not been introduced in some of our medical colleges.

Finally, a decision has to be made on the use of certain educational strategies to achieve educational objectives. Ignoring recent developments in these educational tools is not right. Each medical college can look at these strategies and decide which would be appropriate to adopt.

The first medical college in Saudi Arabia was inaugurated in Riyadh in 1969, followed by medical colleges in Dammam and Jeddah, which began receiving students in 1975. The medical college in Abha was founded in 1980 and the one in Mecca in 1996. Several national reports, mainly from educators in these colleges, have addressed the need for a re-evaluation of the medical curriculum,<sup>1-6</sup> a subject which is also the focus of this paper.

### **Definition of the Curriculum**

It has been recognized that defining a curriculum is complex, and although different definitions have been offered, none has been universally accepted. Thus, it is

important to discuss, in the beginning, what it should be taken to imply. First, we should distinguish the use of the word to denote the syllabus or the content of a particular subject from its use to describe a total program of an educational system. Also, the curriculum should not be taken simply as a collection of separate subjects. In addition, one should realize that there is a "formal" and an "informal" component to the curriculum. There are the formal activities that are allocated in the timetable of the students and the informal activities that are usually voluntary and outside the working hours. It is important to recognize that the actual activities (actual curriculum) may be different from what has been planned (official curriculum). There are other aspects of the curriculum that are not planned (hidden curriculum). These could be contributed by the structure of the university, or could be a cultural contribution, such as unplanned teacher activities.

Finally, we may accept what Kelly in 1982 described as "a loose definition of the curriculum," namely, that the curriculum is "all aspects and dimensions of the educational experiences which pupils have during any period of formal education."<sup>7</sup> Obviously this will include the formal, the informal, and the hidden curriculum.

### **Evaluation of the Current Curricula in Saudi Medical Colleges**

In 1949, Tyler suggested that the curriculum should consist of four fundamental elements: objectives, content, procedures or methods, and evaluation.<sup>8</sup> Since then, alternative models have been developed that stress one or the other of Tyler's four elements. One of these approaches is content-based. To plan a curriculum on this model, the different subjects and their contents are decided. The decision is based on some intrinsic objective that these subjects contribute to the curriculum rather than the overall objectives. This has been the main characteristic of the traditional approach to educational planning in university education.<sup>9</sup> This is probably the approach that is followed currently in the planning of our curricula not only in the medical colleges but also in the universities in general. This is a planning model that has been rejected by many educational experts for the last quarter of a century in favor of some form of objectives model.<sup>7</sup>

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The problem with this approach is that it does not take care of the broader view of the whole course. The assumption of the proponents of this approach is that if all the ingredients are included, the whole curriculum will be adequate. This approach is popular with teaching staff because of its ease of execution and implementation. This approach, as Harden commented, concentrates on details at the expense of the overall picture.<sup>10</sup> It ignores an overall strategy, and the criteria for selection of contents are often not clear, and may be related either to the interest of people planning the curriculum, or to the influence of the different departments in the college. This last point is of particular importance in deciding the percentage of time devoted to each subject. Therefore, we should think about a more appealing planning model if real change is desired. To this end, the help of experienced educationists is invaluable.

### Objectives

There has to be a reassessment of the objectives of our curricula and what changes are required. We have to respond to the social issues, the country development plans, as well as available resources. It should be realized that unless the educational system responds from within to these issues, it will be forced to respond by external forces in the course of time.

### Content

In a recent review, Al-Gendan et al. found 10 publications addressing issues related to the curriculum in the Saudi medical colleges.<sup>6</sup> These publications all agreed that problems exist within the current curricula. These include overcrowding of the curriculum, overrepresentation of some subjects, and dissociation between basic and clinical sciences. In addition, one can notice that the distribution of the clinical courses is not based on the actual requirements of the society—the knowledge domain is stressed at the expense of vocational skills, the part devoted to psychiatry and psychology is generally insufficient, and formal courses on communication skills and attitudes are lacking in some of the curricula. Also, medical ethics, economics, and informatics are some of the subjects that have as yet not been introduced in some of our medical colleges.

### Procedures or Methods

Procedures or methods are the educational strategies used to achieve educational objectives. There has been a great deal of interest in educational strategies in the last decade. This is largely related to the pressure for change that the medical colleges were faced with. This was also associated with the development of new concepts such as “problem-based learning,” “student-centered learning,”

“community-based curriculum,” and “integrated teaching.”<sup>10</sup>

Harden et al. identified six educational strategies related to the curriculum in a medical school.<sup>11</sup> Each of these is presented as a spectrum. On the extreme left is the innovative approach, while the traditional approach is on the extreme right. These provide a useful instrument that can be used in curriculum analysis, review and development and are as follows:

#### *Student-Centered/Teacher-Centered Approach*

The traditional system is heavily teacher centered. Our curriculum in the Saudi medical colleges is probably the same. The teacher is the center of the educational process. He decides the content of the course, delivers the lecture, and decides for the student what he is supposed to learn. On the other hand, in the student-centered strategy, the student can decide, under the teacher’s guidance, what to learn, the method of learning, the sequence and pace of learning, and the time of assessment. Therefore, it should be decided how much self-learning can be allowed or emphasized and how much responsibility can be given to the students. Previous student experience and available resources should be taken into consideration. Milaat and El-Gamal mentioned that the library was one of the resources used the least by students.<sup>4</sup> It is obvious that in a student-centered curriculum, the library and other learning resources have to be adequate and to be utilized properly. The students should be able to learn how to use these facilities. Therefore, an adequate educational infrastructure is a prerequisite of a student-centered curriculum.

#### *Problem-Based Information Gathering Method*

The traditional system mainly uses the information-gathering approach. The student learns the different basic and clinical sciences, with the aim of understanding the fundamentals of each basic science. It allows for the development of a logical progression of concepts. On the other hand, with problem-based learning, students learn through clinical problems, health care problems, or medical science problems. The purpose of this approach is to develop an integrated body of knowledge as well as developing problem-solving skills. The other advantages of this approach are that it prepares the student for lifelong learning and deals effectively with the problem of overcrowded curriculum.

#### *Integrated Teaching/Discipline-Based Teaching*

In the traditional system, teaching is discipline-based. Each discipline, such as anatomy, physiology, and biochemistry, has a separate block of time. The student has to synthesize these separate blocks of knowledge for themselves. In the integration system, the teacher takes the responsibility of bringing the subjects together. The integration could be horizontal, as when it is between

parallel subjects like anatomy, physiology, and biochemistry. Vertical integration is the one between subjects at different phases of the curriculum, such as the integration between anatomy and surgery. The integration could be both vertical and horizontal, as in the system-based approach. The advantages of the integrated approach are reduction of the fragmentation of knowledge, increased student motivation, and promotion of staff collaboration.

Discipline-based teaching has the advantages of preserving the identity, contents, and fundamentals of each discipline. It also helps with encouraging students to choose basic sciences as a career. Furthermore, teachers feel more comfortable and perform better in a discipline-based system, and it is less costly and less demanding.

#### *Community-Based/Hospital-Based Education*

In community-based education, students are exposed to health care issues in a community setting. This could be primary health care centers, rural hospitals, and general practice clinics. A unique advantage of community-based education is that it provides community orientation. Some aspects of medicine can only be learned in the community setting. It also encourages motivation and active learning, and introduces the student to the health care system.

Some of the difficulties with community-based education are: the problems with the required organization, selection of qualified teachers, and the lack of experience and motivation of the hospital-based staff. Furthermore, hospital-based education has a concentrated amount of variable teaching material in addition to the available teaching resources, and it exposes the students to different specialties in medicine.

#### *Electives/Standard Program*

Elective programs in a curriculum give students some flexibility in choosing their subjects. Duke University (US) allows students to have one year of electives, while Stanford University (US) has a full elective curriculum. The advantages of electives are that it is a way of coping with an overcrowded curriculum. It gives students more responsibility for their learning. It facilitates career choices, and can meet the aspirations of some students. On the other hand, electives can overload teachers. They need extra effort in organization, and may have to contend with some problems with assessment.

#### *Systematic/Apprenticeship Program*

In the systematic approach, a program is designed so that all the essential components of the courses are clearly determined, all the required skills are listed, and all patients with diagnoses that students are required to see are documented. Students may even keep a logbook to record all that they learn and see. However, in the traditional model, students are attached to units or departments for a certain period of time, hoping that by the end of the

rotations, they will have seen most of what is important and have learned most of the required skills. The advantages of the systematic approach are that students are able to determine what is important and what is less important. It is an assurance that all the required skills are attained, and it provides a far better rationalization of time. The advantages of the apprenticeship approach are that it is easier to organize, and attachment to units gives a better chance of continuity of care and the feeling of belonging to a unit.

Some other strategies that are worth looking into during the design of the new curriculum are as follows:

#### *Arabic Language/English*

This is an issue that requires insight, detailed thinking and preparation. Pressure from outside may force the medical colleges to change. We have to start looking into different options and prepare a plan of action. It may not be an all or nothing approach. Some colleges introduced courses in Arabic medical terminology. This is a valuable experience that we need to evaluate. Can we teach some of the courses in Arabic? Do we have a plan if we were forced to teach in Arabic?

#### *Alternative Medicine/Traditional Medicine*

Recent developments in alternative medicine have been rapid. Political, economical, and social pressures are some of the forces behind this development. It may be time to start looking seriously into this approach and to assess its scope.

#### *Care/Cure Approach*

One of today's criticisms of medical doctors is the concentration on curing diseases without paying enough attention to issues related to the quality of life. "The disease was cured, but the patient died" is a saying that we often hear. Caring for a patient, family, and society as a whole is an important duty which requires a great deal of attention in the planning of the medical curriculum which produces the care providers.

Where should we stand on each of these strategies? First, there should be a clear distinction between the educational objectives of a medical school and the strategies adopted to achieve these objectives.<sup>11</sup> Each school has to critically assess each of these strategies within the constraints of available resources. Second, these innovative strategies should be looked at as a spectrum. As Harden et al.<sup>11</sup> stressed, each medical school has to decide where to stand on each of these strategies. Many of the new schools have chosen to adopt the innovative approach while many of the old schools have retained the traditional approach. Probably both approaches are extreme. It is important when deciding on any of the different strategies to take into consideration the local circumstances related to the structure of the institution, the local culture, the student, the teacher, the available resources, the previous student

experience, and the previous teacher experience. Otherwise, the results may be disappointing and sometimes disastrous.

Finally, we do not necessarily have to change our curriculum in the Saudi medical colleges to some of these innovative new approaches. But equally, to ignore recent developments and educational tools would not be right. Each medical college can examine these strategies and decide which of them would be appropriate and possible to adopt. Also, it should be clear that although most of these strategies are interrelated, it is still possible to adopt some of the approaches and leave others that are not appropriate. For example, it is possible to adopt a community-based approach and at the same time keep a teacher-centered curriculum. It may be also possible to introduce problem-based learning and keep a hospital-based approach.<sup>11</sup>

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