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*Ali AH Al-Shaham (DSB, CABS)[a]

Recent Advances in Curricular Reformation

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Authors addresses:

[a] Department of Surgery#
Al Kindy college of Medicine
University of Baghdad.

* Corresponding Author
E-mail address:
alialshaham@gmail.com

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ABSTRACT

Background: Historically the traditional medical program are divided into preclinical basic sciences course which taught separately (subject based) and clinical course which taught also as subject based, spoon feeding ,few delivery modes , no or few interactive session and the assessment solely based on examination and no weightage is given to the continuous assessment.

Curricular reform: In the last few decades, there have been increasing pressures on medical educators for curriculum reform, and many accreditation bodies were established a guidelines for the medical schools. In many countries, the traditional approach has largely been modified towards a more integrated approach. An integrated approach is still subject centered but transcends the traditional subject boundaries. Teaching units from subject disciplines are fused together around themes/concepts such as body systems.

Conclusions: For medical educators, it is of utmost important to be familiar with the current trends in program and curriculum design. Medical curricula need to be dynamic and responsive to external influences and changes if they are to ensure that the doctors of the future have the knowledge, skills and attitudes required by the communities which they serve.

Introduction:

Worldwide, there are now two main curriculum models for undergraduate medical education, although within these models there are a range of educational options. The two models are:

1. A five, six or seven year traditional program.
2. A four year graduate entry program (GEP) for graduates or qualified health professionals

Historically, medical programs in Iraq comprised a three year Basic sciences course which focused on teaching pure basic science with/without clinical relevant teaching and these are taught in the medical school setting, followed by a three year clinical course, located in hospital postings. This model is still found in our medical schools and many other countries. The traditional program is where students are placed and taught these basic sciences, in the science building blocks, prior to applying this knowledge in clinical practice. A basic sciences course typically includes anatomy, physiology, biochemistry, pathology, microbiology, pharmacology and forensic medicine, plus some ethical issues. A typical clinical course would include students being placed in a series of clinical postings to gain experience of the major medical specialties. Students would take introduction to general medicine and surgeryin the third year and then complete general surgery, general medicine, obstetrics and gynecology in fourth year, then move onto sub-specialties in the fifth year such as neurology, psychiatry, dermatology, rheumatology, otolaryngology, ophthalmology and plastic, then the student completed their teaching in major disciplines in sixth year, surgery, obstetrics, gynaecology, paediatrics and adolescent medicine. They would also work in general practice and accident and emergency medicine.

Most traditional medical programs are static curriculum, large group teaching, lecture- based, lecturer-centered, few delivery modes, lack of interactive sessions and communication skills, late clinical exposure, little opportunity for the student to seek for the self-directed learning, assessment almost depend on examination bases, no or minimal continuous assessment, nearly absent or minimal monitoring and evaluation of the applied curriculum.

Curricular Reformation:

In the last twenty years, there have been increasing pressures on medical educators for curriculum reform, and many accreditation bodies were established a guidelines for the medical schools and they state minimum requirement to be attain in these medical schools to ensure running a medical program (e.g., WHO recommendations, General Medical Council (GMC) recommendations in UK, AMCs requirement in United states , Arabic Gulf recommendations in Arab Gulf region, and lately Iraqi guidelines 2010), and as a con-sequence we have seen a decline of the traditional subject/discipline based model.

As medical science developed and the extent of knowledge increased, introduction of web-based education, growing concerns were expressed about the volume of knowledge in medical curricula and the increase in factual overload [(1)]. The temporal and geographical separation of course content from clinical practice was also highly criticized in the light of developing understanding of student learning, and, as situational models of learning became more influential [(2)]. There was a shift in medical curricula towards more integrated, descriptive curriculum models [(3)]. In many countries, the traditional approach has largely been modified towards a more integrated approach

to curriculum planning and design. An integrated approach is still subject centred but transcends the traditional subject boundaries. Teaching units from subject disciplines are fused together around themes/concepts such as body systems or community medicine

Horizontal and vertical integration:

In medical education the term vertical integration describes the blurring of boundaries between pre-clinical and clinical courses whereas horizontal integration describe how knowledge and skills from many disciplines are clustered around themes such as body systems (e.g., gastro-intestinal, respiratory, endocrinal etc.). A cardio-vascular system's course might include anatomy, physiology, biochemistry, pathology, microbiology and pharmacology and the teaching is focused on clinical relevant issues of the cardiovascular system.

The consequences of these shifts led to curricula being reviewed and reformed so that students gained early clinical experience with the early clinical exposure module and scientific learning extended into the clinical years. Medical educators described the shift from the traditional model depicted by Flexner in 1911 to Harden 1984 curricular model [4] as shown in table 1.

Table 1: Curricular shift from Flexner to Harden.

Flexner (1911)	Harden (1984)
Teacher-centered	Student-centered
Knowledge giving	Problem-bases
Discipline/Subject led	Integrated
Hospital oriented	Community oriented
Standard program	Systematic
	Electives

Spiral curriculum:

The spiral curriculum model was often used as the basic curriculum model, rather than the preclinical/clinical model, with many programs being based around body systems (a systems-based approach) and clinical placements, with more emphasis on a structured curriculum, based on learning, reinforcement and application of learning. The medical curriculum should be designed so as to provide adequate opportunities to acquire independent learning skills, while developing clinical competence to a level appropriate to a new pre-registration house officer. Experiential learning arising from extensive periods of direct patient contact is an essential component of the course, which may be supported by contributions made by skills laboratories and learning activities using simulated patients. Adequate numbers of patients in primary, secondary and tertiary care settings need to be available for face-to-face student contact [5].

Outcome-based curriculum:

Outcome-based education (OBE), was suggested as a way of defining and structuring medical curricula [6], and although debate in medical education over objectives, outcomes and competencies still exists, there is now general consensus that curricula should be defined in terms of what students and graduates should be able to achieve at variouslevel of the program [7,8]. The UK Quality Assurance Agency (QAA) for example, sets Subject benchmarks in all subject disciplines offered by UK universities, including medicine. The Medicine benchmark statement [5] includes broad learning outcomes that graduates should achieve by the end of the medical program, including outcomes defined by the GMC in terms of professional attributes.

Conclusions:

- For medical educators, it is of utmost important to be familiar with the current trends in program and curriculum design.
- Medical curricula need to be dynamic and responsive to external influences and changes if they are to ensure that the doctors of the future have the knowledge, skills and attitudes required by the communities which they serve.

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