Research Paper

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Teaching of Pathology in a Hybrid Integrated Curriculum at a Malaysian Medical School

Medical Science

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ABSTRACT

Hybrid integrated curriculum (HIC) is a pathway of teaching aims to innovate without sacrificing the best of the old, and to balance the latest developments in medical science with the age-old values of healing. From 2010, onwards, the curriculum in Faculty of Medicine, Universiti Teknologi MARA Malaysia (UiTM), was modified to a HIC to accommodate a variety of learning styles and incorporates a range of carefully planned teaching strategies to get the objective of the integration of all pedagogical elements around a core of student-directed learning including learning of pathology. Pathology teaching now is being directed to the teaching of clinico-pathological correlation with the mechanisms of disease. Exposure of clinical years students (3rd, 4th, and 5th years), to pathology museum has been initiated, and students have given a back seat to pathology, in order to invigorate and inspire them to revisit their pathology knowledge.

Introduction:

Hybrid integrated curriculum (HIC) has been implanted for the first time at Harvard Medical School since, USA mid Eighties last century, meanwhile, many of medical schools are still using problem based learning style either vertically integrated curriculum that seeks to bridge the preclinical and clinical divide in content by teaching the content concurrently rather than sequentially, but still retaining discipline boundaries or other schools using a horizontally integrated curriculum that seeks to further break down the distinctions between the basic and clinical sciences, with the early years of the program focusing on the basic sciences and introducing clinical features into the program wherever possible. Meanwhile, the HIC is a pathway of teaching aims to innovate without sacrificing the best of the old, to stimulate individual initiative without inefficiency, and to balance the latest developments in medical science with the age-old values of healing [1].

Medical School of Universiti Teknologi MARA:

Faculty of Medicine/ Universiti Teknologi MARA (UiTM) is a relatively new public medical school in Malaysia, founded in 2003 with an intake of 20 students. The intake was dramatically increased over the years to 235 students in academic session 2012/2013 which is one of the largest intake among other Malaysian public medical schools. From 2010, onwards, the curriculum was modified to a hybrid integrated curriculum to accommodate a variety of learning styles and incorporates a range of carefully planned teaching strategies to get the objective of the integration of all pedagogical elements around a core of student-directed learning including learning of pathology.

Pathology Teaching:

Pathology bridges the gap between basic sciences and clinical medicine, so a proper understanding of pathological processes is vitally important for medical practice. The main goals of undergraduate pathology teaching have always been to provide a language or framework for the description of disease and to provide students with knowledge of the functional and structural changes in disease so that clinical signs and symptoms can be understood and interpreted [2]. However the arguments worldwide that pathology is now severely constrained by the invisibility of pathology teaching in modern medical curricula, while, in UiTM model of hybrid curriculum the pathology is strongly visible in all years of medical study starting from general module in year 1 until year 5 through clinical museum sessions.

Pathology Curriculum:

The pathology curriculum in our HIC is now organized around one general module and nine organ system-based multidisciplinary Integrated Modules in year 1 and 9 organ system-based multidisciplinary integrated modules in year 2. Pathology was introduced heavily in all these modules through some old methods as lectures with many directed self sessions (DSLs), tutorials, labs, museum in addition pathology in problem based learning.

UiTM hybrid model differs from the traditional first- and second-year medical curriculum in having fewer contact hours of lectures per week and in balancing case discussions with lectures and other pedagogical modes. Within the existing weekly schedule, lectures are presented as a multidisciplinary series whose theme of the week relates to the teaching objectives of the particular week. Lecture material is also integrated with DSLs, tutorials and labs. All the approaches combine to prepare students to grasp and apply what they are learning to maximize continuity and focus.

Pathology teaching now is being integrated within a multidisciplinary curriculum and is being directed to the teaching of clinico-pathological correlation and on the mechanisms of disease. The specific learning objectives of pathology with other basic medical sciences emerge through the problems. For example, the learning objectives related to the peptic ulcer include understanding the physiology of the gastrointestinal system correlating anatomy and clinical aspects of ulcer with principles of management. Such an approach emphasizes the basic science concepts in a clinical context, and hence evoke student's interest, makes the learning experience enjoyable, and encourages knowledge application.

Clinical Museum Sessions:

Exposure of clinical years students (3rd, 4th, and 5th years) to pathology museum has been initiated in the faculty since new curriculum implementation. This is a step in the right direction of guiding medical students who would have by the time they reach the third year forgotten pathology, or at least have given a back seat to pathology, in order to invigorate and inspire students to revisit their pathology knowledge. This is with specific objective of imparting knowledge so that they will be able to appreciate the applications of pathology to clinical medicine including surgery, obstetrics and other subspecialities. While instructing the students to analyze findings in specimens, they are stimulated to rationalize the concepts of pathology applications to clinical medicine.

It has been observed that when students are challenged with developing clinical history associated with each museum specimen it results in ascertain degree of excitement among students. Another important point, while discussing clinical history the students are remanded of laboratory medicine. They are guided to interpret laboratory findings in the light of clinical history as well as the museum specimens.

While emphases is placed on systemic pathology all efforts are made to recollect general pathology which is the bases of all pathology, by the time they have matured in thinking and analyzing clinical data they become aware of the implications of learning pathology.

It is conventional in some of the older universities of the world like in UK, Europe, Middle East, and India make students study museum specimens but from the point of identification of specimens as well as the clinical importance of these specimens.

It has been that the learning of pathology continues through out the medical course, as is your pathology so is your practice; said by Sir. William Osler; the father of modern medicine [3]. The quotation from Peter Herdson, former president of Royal college of Pathologists of Australia "the learning of pathology continues throughout medical course merits special mention" [4]. Needless to emphasize that HIC encourages students to prepare for their carrier and preparation for post graduate studies.

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