

Benefits of implementation of recent cariology concepts in UG curriculum

Opinion

I would like to start my dental educational article by Nelson Mandela's important words "*Education is the most powerful weapon which you can use to change the world*". Nowadays, a lot of 'old' Cariology concepts still existing in the undergraduate (UG) teaching curriculum in most of dental schools around the world. Although, the theoretical fundamentals of the recent concepts are included in the current curriculum, the linking of these concepts to the daily clinical student's practice is sometime poor and needs further improvement. One of the best examples of this development is the replacement of 'old' Black's dental caries classification by the International Caries Detection and Assessment System (ICDAS). The implementation of this system in UG operative dentistry curriculum will provide the essential knowledge about minimally invasive techniques and medical treatment models of carious lesions. Also it creates a logic linking between the Cariology histological findings (Which have been taught to the students in their early BDS years) and the true clinical carious lesions which they observe in their everyday clinical practice. Also, teaching of the ICDAS rationale and management protocols acts as a comprehensive introduction to preventive dentistry. Moreover, the incorporation of ICDAS sheets to the clinical patient charting 'record' system improves the clinical skills of the students in performing both 'holding' and 'maintenance' treatment plan phases to their patients. The introduction of the recent partial removal caries removal (PCR) concepts is another example of the development of UG teaching methods. This concept encourages the students to do more conservative cavity preparations as well as to preserve the pulp vitality of the restored teeth. Also, it provides the students with the basic skills in differentiation between caries-infected and caries-affected dental hard tissues. Furthermore, it increases the student's awareness about the revolution of the currently available dental materials, particularly, those which provide adequate sealing of the prepared cavities. Also, teaching of this concept will enrich the student's scientific background about microbiology of cariogenic bacteria. Cariology teaching in this way will consider the lesion as a restorative 'problem' and consequently this way of teaching provides some possible solutions for this restorative challenge, hence it can be considered as one of the current problem-solving learning (PSL) educational techniques. The clinical application of adhesive dentistry concepts is the last example presented in this article. This clinical way of teaching will bridge

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the basic scientific fundamentals of dental material science with the student's daily clinical practice. For example, teaching the selection of proper adhesive systems for each clinical case e.g. demonstrating the impact of age-changes of dental hard tissues on the selection of the adhesive system. This also will support the student by better understanding of occlusal force distribution and the ways to provide maximum conservation of the remaining tooth structure under the masticatory function by using the currently available adhesive restorative materials. Finally, I invite my academic colleagues to revise the content of operative dentistry curriculum in their dental schools and to omit any conflicting information for our students. I think this will help in graduating well-educated future dentists, who will serve their communities and dental schools.

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Conflicts of interest

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