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EDITORIAL

Paradigms in Dentistry

Paradigmas en Odontología

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Different areas of culture, education and science face a paradigm change: change pre-conceived ideas (paradigm shift) in order to achieve better results.

A paradigm is composed of a given body of theoretical knowledge, an ensemble of methodological precepts as well as the manner of generating knowledge which academic communities have adopted as a guide for daily operations, either to lead discussions or as a path for research and interpretation of data derived from experiments or observations.[1]

A paradigm, in different professions, guides the how, who and why are practical activities undertaken, how to tackle their own problems or problems which society requests them to solve. In our case it would entail lesion identification and assessment, or diagnosis and treatment of oral cavity disease.

What would be our paradigm in the case of caries? Do we still consider caries as an irreversible process, as cavitated lesions?

In 2004, Dr. Fejerskov proposed to review the concept we have on fluoride action and effects on caries control and prevention, as well as to determine whether this disease is of an infectious nature under the classical sense of this concept.[2]

At the conference «Diagnosis and treatment of dental caries along life» the National Health Institute of the United States of America (2001) acknowledged a paradigm change in the process of handling caries as a disease process. Presently there is a trend to change the surgical model centered upon restoration of tooth structures to a model highlighting caries control and prevention through handling the dental structures' de-mineralization and re-mineralization cycles with the aim of preserving teeth for life.[3]

With the aim of more efficiently managing preventive measures tailored for each individual patient, it has been proposed to handle caries through a risk assessment process. This is executed in order to customize for each patient those measures deemed necessary to control caries. It can be achieved through a series of techniques known as minimum intervention dentistry; this technique emphasizes diagnosis and treatment of non-cavitated lesions.[4]

Non-cavitated carious lesions? Indeed, the diagnosis of these lesions can be systematized with the help of ICDAS (International Caries Detection and Assessments System). This system undertakes a qualitative measurement of the different stages of the caries process, from healthy enamel (code 0) up to cavitated lesions with considerable loss of dental structure (code 6).[5]

In the field of education, people like myself who work dedicated to teaching, we believe and support the manner in which we conceptualize our teaching; traditionally, we see ourselves as recipients of knowledge, we give the name of student to those young people we train. These students must be nurtured and enlightened with our knowledge. Since one of the responsibilities of the university (temple of wisdom) is teaching, the responsibility of the teacher is to become a beacon of light to guide students. Our teaching practices are centered in lectures or master classes. Moreover, our experience as well as the manner in which we are educated endorse this teaching methodology. Nevertheless, in 1998, UNESCO, in its World Declaration of Higher Education in the XXI Century,[6] requested us to develop a new higher education model, and this model must be focused on the student.

What implications are inherent to this new model? We can propose that the student be able to search for, analyze and use information brought about by research, and might be able to transmit it to clinical practice, after undertaking assessment of scientific evidence which back up information on new treatments o scrutiny of prevalent practices. The student should

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equally be able to develop critical thought through strategies in where the student achieves active learning processes in educational scenarios, where they could learn, through challenges and questionings such as in didactic strategy of learning based on problems (LBP).[7]

The third change we are called perform is related to the manner in which we have conducted our clinical practice, a solitary practice. The dentist's professional training mainly targets individual clinical treatment. Nevertheless, the characteristics of the population we now treat, patients ingesting a variety of drugs, such as the diabetic patient, patients who have suffered heart attacks or other diseases require us to work in inter-professional teams. For the aforementioned reasons, we must familiarize our students with this practice through educational experiences which are already promoted and assessed by accrediting bodies in the American Union.[8] Universities in North America must introduce courses which promote interaction of dental students with students of other professions so that participants learn from each other, allowing thus effective collaboration in order to improve health results.[9] Disease prevention and treatment can be better achieved when members of oral and dental treatment working teams collaborate among themselves as well as with other health professionals.

The great challenge faced by dentistry educators is to adapt with a substantiated critical perspective which would result from analysis of all encountered evidence. We must bear in mind that when we incorporate into these new paradigms, we must not do it irreflexively: we are not forced to be the first ones, but let us not be the last ones.

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