

## The Dental Profession in 21<sup>st</sup> Century, Art or Business - Challenges and Perspectives

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Dentistry is one of the most interesting and challenging occupation. It deals with different type of problems - pain, destruction of living tissues, loss of function and even risk of de-socialization. It provides solutions to this multitude of issues applying methods, materials, techniques and technologies to relief pain, restore defects, functions and esthetics, assist re-socialization of individuals and assure quality of life. It is not surprising that the choice of dentistry is a competitive field of higher education. But not only the intellectual challenges and the prestige of the profession are attractive for applicants. Most of sociological investigations, assessing motivation for choosing dentistry, showed that its liberal character is a stronger motivator, even stronger than the prestige and good income. Will dentistry keep its liberal character under the global market pressure? How the division of labor and the specialization, a common approach now in almost all fields of social life, will affect dentistry and dental profession?

Looking back and seeing how dentistry became the profession it is today, we'll try to identify how current trends will shape its bright future.

### Dentistry as a healing practice

The dental pain relief and the restoration of missing teeth due to disease and/or injury were the only focus of dentistry for most of its history. The removal of the teeth, causing pain, became a routine practice in the Middle age. Since then, pooling teeth had been practiced first by barbers-healers and later by dental professionals for centuries. The accumulation of knowledge boosted up the development and successful application of dental treatment methods which replaced the common removal of teeth.

During the "magic" times of antiquity, healing art was practiced by dedicated (priests) in favor of a limited number of people with higher social position. The healing knowledge was transmitted to followers in closed communities. During the middle ages, dental care moved away from the mysticism and opened up to ordinary people. The dental art was practiced primarily by representatives of the relatively low social strata (craftsmen, barbers). Their followers became apprentices. During this period, dental care was closer to craftsmanship than to medicine.

### At first, the dentistry was identified as craftsmanship ("Charter of Henry the VIII for "Barbers teeth pullers" from 1540)

The transition from barbers 'craftsmanship to medicine is recognized by the outstanding contributions to the development of dentistry by the French surgeon Ambroise Paré (1517) who began his career as a barber's apprentice and ended by reaching the posts of the Army and Court surgeon. By the end of this period, less than two centuries after that Henry the 8<sup>th</sup> enacted the special area of competences to barber-dentists the fundamental work of Pierre Fauchard "Le chirurgien-dentiste" ("The dental surgeon") was published (1723).

By the end of 18<sup>th</sup> century sciences, first and foremost the natural sciences, achieved tremendous development. Fundamental discoveries, related to the anatomy and physiology in normal and ill human body, had been accomplished. During this period “dentistry” became a medical professional discipline.

Dentistry as a profession diverged from medicine and obtained its own identity by the first half of the 19<sup>th</sup> century. This became possible with the implementation of a formal academic course of dental education (the first dental school was open in Baltimore in 1840). The second half of the 19<sup>th</sup> century was a period of stormy socio-economic development in Europe, accompanied by the growth of cities and a continuous trend toward urbanization. As a result, a number of healthcare systems were established to focus the public efforts in healthcare organization.

The introduction of electrical power (beginning of 20<sup>th</sup> century) in dental equipment influenced its development and led to the modern dental unit, starting first as a columnar type with vertical arrangements, and evolved further to a horizontal arrangement thus allowing a comfortable work for dentists. Within a short period of time, dentists started using more sophisticated equipment, instruments and apparatus. Maxillofacial surgery, conservative dentistry and prosthetic dentistry were defined as specialized domains of dentistry and dental care by the mid-20<sup>th</sup> century.

In just a few decades, now a day, technologies that “imitate” and replace hard and soft tissues of the teeth, jaws, face, and neck, had been developed and adapted for application in dental medicine. Clinical and educational disciplines such as endodontic, parodontology, implant dentistry, orthodontics, have been introduced in dental practice and dental education.

### The professionalization of dentistry

The overall evolution in the art and science of dentistry resulted in a very significant social change, namely the differentiation of dentistry as an autonomous socio-professional group with appropriate organization and public image: professional higher education, autonomy, authority, and social mission.

The dental profession, as well as other modern professions, first appeared with the disintegration of feudalism, when the so called “third class” was formed. Members of these professions became people without noble origin or inheritance, but with talents (intelligence, entrepreneurship). They began to “cultivate” and “sell” their skills, knowledge, and thus they gradually achieved authority in the society. Turbulent industrialization, accompanied with the division of labor and the evolving market relationship, promoted the differentiation of the professions as social and economic entities - “monopolist” in their fields.

### The dental profession and professional organization

The second half of the 19<sup>th</sup> century was the time of building public health systems and professional societies. The organization of the professions represents an important moment in their social differentiation. An important role of professional organization is the adoption of a Code of Ethics, which is the basis of the “social contract” between the profession and the society. Professional associations embody the holders of the profession in society and to public institutions. They affirm professional autonomy, negotiate the price and quality of professional services, regulate access to professional practice (“Numerus clausus”), and indicate participation in continuing education and training of graduate dental practitioners, policy settings in partnership with the competent public entities. Professional organization builds systems for admission to professional practice (Licensing), continuing education, preventive and research programs.

There are two types of professional organizations, responsible for the mission and goals of the profession: organizations similar to “registers” and organizations similar to “professional societies”. “Registers” are characterized generally by compulsory membership and

social contract based on an ethical code of professional conduct. Registers are established to ensure society that the profession and professional are aware of their responsibilities and will put the interest of the patients before their own. "Professional societies" protect the dental profession, its distinct groups and its individual member interests rather than the interests of the society. They are regulated by the general rules for public and private entities registration and control.

### Dental education

The demystification and democratization of the education and the development of science led to the establishment of public university dental courses. Since the opening of the first dental school in Baltimore, and now most of schools and faculties of dental medicine have been public institutions. Throughout the 20<sup>th</sup> century private dental schools (even in the United States) were in a minority. In recent years, private dental schools have been opened in Spain, Turkey and some other countries, but remain in limited number. Dental schools and faculties of dental medicine are supposed to be part of accredited University establishments stopping with the practices of «apprenticeship» and giving priority to the scientific, academic and medical approaches.

Observing the dynamic of dental curricula design, three main approaches can be distinguished and implemented successively in dental education: instrumental approach, holistic approach, problem-based approach. All three are in operation and have a lasting importance in dental education conceptualization. The dental curriculum is "patient centered" and "student-oriented". The teaching – learning process consists mainly of "interaction" between teachers and students, between students and students, and between teachers and teachers, rather than didactic instructions from teachers to students. The aim of dental education, following this concept, is to achieve a set of competencies. The students' knowledge and skills, acquired during the lecturing course and professional training, are developed into competences enabling them to apply independent critical thinking in evaluating specific circumstances and medical conditions. The realization of the educational goals is facilitated by using simulation models to provide students with working conditions as close as possible to working conditions in dental practice and the circumstances in which the dentist takes professional decisions. The basic educational method is problem-oriented learning: integration of knowledge from different levels and fields of science, practice and management of dental care. The merging of the curative and research activities given the fast evolving high technologies in dentistry is another challenge dental education and the dental practitioner face now. Educators became aware of the needs for research literacy and long life learning attitude formation in graduates. In this connection courses in behavioral sciences, management, health economics, ethics, and research methods were introduced. A leading trend in the European Union is the harmonization of dental education based on the consent of a set of minimum requirements for graduating dentists in Europe, documented as "basic competences". The minimum length and volume of the undergraduate course in dentistry are set at: at least 5,000 academic hours of training over at least 5 years, based at a university or comparable academic institution. The founding document of the harmonization of higher education in Europe is the "Bologna Declaration". It was signed by the ministers of education and ministers of foreign affairs of the European Union member and the acceding states on the eve of the 21<sup>st</sup> century. This document provides a framework (3/5/8) for the degrees of: "bachelor" (3 years of formal education), "master" (+2 years after bachelor degree), and "doctor" (+3 years after master degree). In some countries, students receive a bachelor degree before graduating as master of dentistry, in others - they graduate with master degree directly. The purpose of the dental schools in implementing a unified credit system is to provide students with more options of studying and more opportunities for professional realization. Therefore, students can begin their education at a dental school and continue it in another, thanks to a credit transfer system (students' mobility). With a degree in dentistry, obtained in one member state, dentists can start practicing in any other state of the European Union (dental workforce mobility). The number of specialists and the graduate studies curricula are subject to state and professional regulation.

### Continuing education and professionalism

In addition to general lifelong learning, there are some specific professional requirements for continuing education to reinforce core values defining the professional "competence". Maintaining an adequate level of professional competence is the duty and privilege of the

professional organizations. In the capacity of licensing authorities, they impose mandatory requirements on licensees to maintain their license (practice permit). After graduation doctors of dental medicine must continue to attend courses to maintain their professional standing. In order to be validated, the licensee is expected to accumulate a certain amount of training hours over a specified period of time [1-9].

### Conclusion

Sophisticated dental materials, digital technologies, effective communication and ergonomic organization of the dental practice transformed dental medicine into one of the most advanced fields of medicine and medical sciences, the dental services' delivery in one of the most dynamic specialized markets with billions of customers. Apart the methods of treatment and the dental materials, the dental curricula and the advances in dental research demonstrated a considerable and evolving progress as well. This process allowed the establishment of criteria for a healthy functional dentition. As a result, the painless treatment, but also the prevention of oral diseases and the oral health promotion became important elements of modern dentistry. Dentistry today is a modern educational discipline, autonomous professional occupation, evolving global market of services, and integrated part of National health systems. Its strength is based on the ability to keep the human touch and technology together, the user friendly usage of ready to use patterns with the uniqueness of the healing act.

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