

The Formation of Dentistry as A Profession and Scientific Discipline

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Abstract:

The article is devoted to the emergence and development of dentistry as a profession and scientific discipline. In the work, special attention is paid to the stages of its development, as well as the features of its evolution in the East, in particular Central Asia.

Keywords: Dentistry, teeth, ancient East, Hippocrates, Ibn Sina, science, medicine, anesthesia, Muslim East, medical education.

Introduction

Any manifestation of the disease brings suffering to a person. People's teeth have been aching at all times, from the primitive period to the present day, and healers have always helped people get rid of pain in ways known to them. In ancient times, healers, barbers, horsemen, blacksmiths fought toothache.

The first mention of such a profession as a dentist (dentist) date back to about 7500 BC, and the prototype of the drill appeared more than 9,000 years ago. Even then, judging by the remains found, ancient master dentists had the skills to drill hard-to-reach molars. Thanks to archaeological research, it was established that the Etruscans were the first to comprehend the art of dentistry. They knew how to make false teeth by grinding the teeth of animals. Such prostheses were strong and allowed not to limit themselves in food.

Recent archaeological research shows that Neolithic people were already familiar with the method of drilling and dental treatment. On the territory of modern Pakistan, the remains of people with even holes in their teeth were found, which are clearly of artificial origin. These burials are about 9 thousand years old. It is assumed that the ancient healers used as a filler a substance similar to resin - asphalt.

In ancient Mesopotamia, a special paste made of henbane and other plant components was used. In combination with the utterance of a spell, it was placed in the hole of a diseased tooth. The spell was called "A spell for toothache." This is an impressive poetic work of that era.

There is a lot of evidence that in ancient Egypt the dental profession was very common and prestigious. Papyri brought to us the deep knowledge of the Egyptians about the healing properties of plants, which doctors of that time used in the manufacture of filling materials and anti-inflammatory compounds used to treat gingivitis, erosions and pulpitis. It is to the ancient Egyptian civilization that we owe the invention of

toothpaste, which was then made from eggshells, pumice, myrrh and ashes. The Egyptians brushed their teeth with wooden sticks with a forked end.

The level of development of dental art in ancient Egypt can be judged by the mummies found. Doctors of that era were already able to perform quite complex operations, drill the jaw and attach fallen or artificial teeth with gold wire.

The name of the oldest dentist known to historians has come down to our days. His name was Hesi-Re, and on a hieroglyphic tablet it is written about him:

"The greatest of doctors treating teeth."

Excavations on the territory of modern Mexico have shown that the technologies of drilling teeth were also known to the Maya civilization, although they were used more for cosmetic purposes. The Indians put precious stones in their teeth, decorated them with inserts, gave them intricate shapes and even painted them with turquoise and jade. Scientists of ancient Greece, including the famous Hippocrates, were also looking for a way to save people from dental problems. True, the techniques they used were sometimes not distinguished by special grace. For example, for the treatment of acute pain, an inflamed nerve was burned with a red-hot iron - an effective method, but not very humane. To perform their manipulations, doctors used a kind of anesthesia, for example, henbane smoke. Hippocrates was the first to describe in detail many diseases of the oral cavity, which he proposed to treat with decoctions of medicinal plants.

To the credit of ancient Greek scientists, it must be said that many of them were in no hurry to remove a tooth at the slightest pain and tried to find a way to treat it. Some of the ideas and methods they proposed (for example, splinting in case of a fracture or dislocation of the jaw) are still used in an improved form today.

In ancient Rome, not only doctors were engaged in dental treatment and prosthetics, but also healers, sorcerers, barbers and jewelers. To get rid of toothache until the II century BC, the Romans used infusions and decoctions of plants, spells and rituals, but still the main method was tooth extraction. For rich people, prostheses were made of precious metals, animal teeth or poor people. However, these prostheses were not practical. The Romans used urea powder to clean their teeth. The Roman physician Archigen opened a new page in the history of dentistry in the I century BC, for the first time opened the pulp chamber of the tooth with a drill for therapeutic purposes. At the same time, the differences between pulpitis and periodontitis are described. This was done by the famous Roman physician Claudius Galen, after observing the course of these diseases on his own experience.

Unfortunately, these discoveries of ancient Roman doctors have not received wide practical application and have remained unclaimed for many centuries.

The ancient Japanese had an original method of removal - using a hammer and chisel, they hooked a sore tooth, and then removed it with their bare hands without any tools. It is known that in ancient China, the deepest knowledge of medicine was accumulated, which the Chinese are rightfully proud of to this day. It was there that the first prototypes of modern toothbrushes appeared, for the manufacture of which animal

bristles were used. Ancient manuscripts and treatises with descriptions of many diseases of the teeth and gums have been preserved. Various methods were used for their treatment, from decoctions of medicinal plants to prototypes of future amalgam fillings.

The Chinese scientist Su-Gong, who lived in the VII century AD, proposed using molten silver for filling carious cavities.

The great physician and scientist Ibn Sina (Avicenna) presented his original hypothesis about the cause of toothache. In his treatise "Canon of Medical Science" he wrote about indications and contraindications to tooth extraction, filling materials and tools, and also gave recommendations for the prevention of oral diseases.

Doctors in the Middle East at the end of the 1st millennium began using arsenic to treat toothache. This poison kills the dental nerve and thus relieves a person from suffering. Subsequently, the use of arsenic spread in medieval Europe, and dentists were able to abandon its use only in the 20th century.

In the Middle Ages, medicine was completely under the supervision of the church, which recognized surgical operations, including tooth extraction and treatment, as an occupation unworthy of an educated doctor. It turned out that dental practice was in the hands of people very far from medicine: barbers, bath attendants, artisans and even executioners who, due to lack of proper education, had no opportunity to develop and improve dental techniques. Most often, the treatment was reduced to a simple removal of a diseased tooth.

Ridiculous prejudices prevailed in the society of that time. People believed, for example, that a certain "toothworm" harms teeth. It was also widely believed that toothache is sent to a person from above as punishment for sins, and therefore it is not necessary to treat it.

Surprisingly, because of such views, people ruthlessly removed their teeth, sometimes even at a very young age. Such "treatment" often took place in crowded places: at fairs, market squares, on holidays, as well as in baths and hairdressers, and had the character of a public spectacle. Effective anesthesia was not used, most often alcohol was used as "anesthesia".

Biased plots, as well as the pain and suffering of the unfortunate patients were reflected in many paintings, engravings and other works of art of that era.

On them, we can notice that the tools used to remove teeth are more like metal structures. In fairness, I must say that many of the so-called "dentists" were quite skilled in their field thanks to extensive practice, and even educated doctors turned to them.

Due to the fact that the main method of treatment was tooth extraction, people had to resort to prosthetics, but it was available only to wealthy people. The prostheses were made of precious metals, ivory and other materials. They performed mainly a cosmetic function and were not very convenient. But there have been some successes. Many new ideas in the treatment and prosthetics of teeth were proposed by French doctors,

in particular, Ambroise Pare, the court surgeon of several kings of France. Individual attempts at therapeutic treatment of toothache were still made, but these were rather isolated cases that did not particularly affect the development of dental methods.

For example, in the 15th century, Giovanni Arcolani, a university professor from Bologna, used the method of drilling a tooth discovered by Archigenes, then cauterized the pulp and filled the cavity with gold. Some doctors used oil and sulfuric acid for cauterization. By the way, due to the lack of more effective means, the method of pulp cauterization was used by dentists in the 19th century.

The services of educated doctors and surgeons of the Middle Ages were available only to wealthy people: they treated toothache with arsenic, put gold fillings, strengthened loose teeth, treated gum diseases, made dentures. The lot of people from poor estates was almost always an appeal to a barber or a master, who radically solved the problem by removing a sick tooth.

Scientific discoveries of Modern times, which replaced the prejudices of the Middle Ages, forced people to reconsider their views on the world around them. New approaches and research methods have led to the rapid development of various fields of medicine, including dentistry.

At the turn of the XVII and XVIII centuries in France, dentistry for the first time began to be considered as a separate medical specialty, and a royal decree established the degree of a dental surgeon.

This happened largely thanks to the famous doctor Pierre Fauchard, who is considered the founder of modern dentistry. He treated the teeth of King Louis XV, the famous educator Diderot, Cardinal de Fleury and other representatives of the aristocracy. The real breakthrough was his monumental work "Dentist-surgeon, or a Treatise on Teeth", published in 1728. It described about 130 dental diseases, and for the first time a coherent system was proposed that unites all sections of dentistry.

Pierre Fauchard was the author of many brilliant ideas in the field of dentistry. He used new filling materials and tools, invented plates for aligning teeth, invented a special system of lenses and mirrors for accurately directing light into the patient's mouth and other equipment. Fauchard's contribution to the development of dental prosthetics is also huge - he began to use pin teeth and full removable dentures that were fixed on toothless jaws with springs, and also for the first time proposed covering destroyed teeth with gold, applying porcelain veneers to them to match the natural color of the patient's teeth.

Pierre Fauchard became the first doctor in France to receive the title of a dental surgeon, and soon the huge demand for dental services led him to the idea of creating a dental workshop. He recruited workers from among jewelers and gave them the necessary medical knowledge, after which they passed an exam and mastered the secrets of prosthetics. This was the beginning of special education for dental technicians. Thanks to the work of Pierre Fauchard and other doctors, the first dental

schools began to open in Europe and the rapid development of all sections of dental science began.

A big step forward was the use of manual boron for the preparation of carious cavities. Surgeon Cornelius Solingen performed this manipulation for the first time back in 1684. Later, improved tools appeared, which somewhat facilitated the work of dentists, but still far from perfect. Silver amalgam has become widely used for filling teeth. In 1840, surgical forceps were developed and plaster was first used as an impression material, and in the 1880s, Dr. Dubois de Chemin created artificial teeth from porcelain. Two inventions of the 19th century, a dental drill and a dental chair, became truly revolutionary for the practice of dentistry. British dentist George Harrington in 1864 invented the first drill with a motor that was wound up with a key like a clock. It could run for two minutes, but was very noisy and inconvenient to use.

In 1871, American dentist James Bill Morrison designed the first foot-operated drill, which immediately became very popular among dentists.

The foot drive of this drill freed the doctor's hands for manipulation, but this was not the main thing. Morrison's device reached a rotation speed of 2000 rpm, which was 20 times faster than the best hand drills of that time could develop. This made it possible to dissect the hard tissues of the tooth much more efficiently, to reduce the pain and discomfort of patients. Thus, the quality of dental care has risen to a new level. Soon another American dentist, George F. Green, invented the electric drill, but it was not greeted with much enthusiasm by dentists because it depended on batteries, which at the time were unreliable and were too bulky.

Around the same time, the American company S.S. White released the first dental chair with a hydraulic seat height adjustment mechanism. The chair was made of iron and covered with leather. This made it possible to treat it with antiseptic agents. Many important scientific discoveries made at the end of the 19th century greatly influenced the approach to treatment. Dentistry merged with maxillofacial surgery, and this branch of medicine received the familiar name "dentistry".

On the territory of modern Uzbekistan, medicine and its component dentistry arose at the earliest stage of the development of human society.

In the history of medicine, it has long been believed that the first therapeutic techniques were developed by primitive people about a hundred thousand years ago. Indeed, diseases of the teeth and oral mucosa, most often requiring urgent intervention, have been known since ancient times. Thus, during the excavations of paleontologists and archaeologists of ancient human sites in the Samarkand, Ferghana, Khorezm and Surkhandarya regions on skeletons with preserved teeth, along with degenerative-dystrophic lesions of the osteoarticular apparatus, dental caries and osteomyelitis of the jaws, alveolar processes of varying degrees are most likely of odontogenic etiology. The frequency of these diseases was very low, and in the future there was a tendency for their growth.

The greatest flourishing of dentistry falls on the period of development of feudalism - the era of Arab domination (VIII-XII centuries). Doctors of that era diligently translated the works of famous Greek and Roman authors into Arabic and thus preserved the achievements of Greco-Roman medicine for the future world. Based on empirical experience, attempts were made to explain the causes of diseases and recommend measures to cure them. So, it was noted that dental caries occurs due to bad juices, excessive or insufficient nutrition, oral mucus or the action of a toothpick. As a remedy for toothache, general treatment was used: bloodletting, diet, laxatives; as a local anesthesia - medicines, onions, honey, rose oil, astringents, rinses, arsenic, various cauterization. As a means of stopping the development of caries, it was recommended to put camphor in the tooth opening, as well as a slowly hardening mass of mastic and alum. As a preventive measure, it was recommended to rub your teeth with hops, alum, and honey once a month. Drying and preserving properties were attributed to the latter.

In addition to the questionable effectiveness of the means used to treat toothache, it should be noted that the procedure itself was quite painful for the patient (starvation, laxatives, cauterization with a hot iron, etc.), and these methods survived until the beginning of the 19th century, in which, apparently, it is necessary to look for the cause of patients' fear of the dentist.

Among the scientists of that time, the greatest contribution to the development of scientific and practical dentistry was made by the works of Abu-Bakr-ar-Razi, Abulkazim and,

"Prince of doctors" - Ibn Sina, author of the "Canon of Medical Science", which details the etiopathogenesis, clinic, diagnosis, treatment and prevention of major dental diseases, and which was used as the main textbook in educational institutions of the East and West.

Another period of the greatest flourishing of medicine and dentistry was the Timurid era. In the era of the brilliant poet and statesman A.Navoi, the Shifoya clinics were opened, where dental care was also provided. Special attention was paid to the hygiene of the body, including the oral cavity. Brushing and rinsing of teeth was carried out several times a day according to the established ritual with the help of a flavored stick - miswak.

However, despite a number of original developments, proposals and very significant discoveries, dentistry of that time did not receive proper development due to ignorance of anatomy and physiology.

In Uzbekistan, the history of the development of dentistry as a separate science began in 1954, when the dental faculty of the Tashkent Medical Institute was opened. By Presidential Decree "On the formation of the Tashkent State Dental Institute" dated July 22, 2014, the institute was established on the basis of the dental faculty of the Tashkent Medical Academy. Now the Institute has five faculties – the Faculty of Dentistry, the Faculty of Pediatric Dentistry, the Faculty of Medicine and Pedagogy,

the Faculty of Medicine and the Faculty of Advanced Training. Faculties of dentistry are also available in other medical universities of the republic. Since 2009, the Faculty of Dentistry has been opened at the Samarkand State Medical Institute.

Consultation:

Looking back and returning to the past stages of the development of dental care in Uzbekistan, we can note the steady progress. Each stage of the development of specialized care had its own characteristics and difficulties. Overcoming them, dental care to the population of the republic grew stronger, grew and developed. The rapid development of technology since the beginning of the 20th century has led to the emergence of new methods and materials that have been used in dentistry. Summing up, we note that the historical experience of the development of dental care should not be forgotten in the context of healthcare reform in the republic.

Literature:

1. Naimjanova, P. U., Sobirjonova, M. J., Majidov, S. F. (2021). On the history of the formation of the world and national school of pedagogical cardiology. Science and Education, 2(11), pp. 970-976.
2. The origins and development of dental care for the population of Uzbekistan until 1991. Mavlyanova N.T.: 2009.
3. Khakberdiyeva, V. J., Abdukhayibova, S. D., Majidov, S.F. (2021). Social philosophy and its importance in society. Science and Education, 2(11), pp. 1010-1015.
4. Juraev, D.R., Majidov, S.F. (2021). Some questions of Aristotle's teaching about economics and chrematistics. Science and Education, 2(5), pp. 1022- 1026.
5. Majidov, S. F. (2014). The conflict of ethno-cultural processes of the era of globalization in the context of P. Sorokin's teaching. Sorokina/Pitirim Sorokin and the paradigms of global development of the XXI century (to the 125th anniversary of his birth). Syktyvkar, pp. 601-606.
6. Majidov Sh. (2015). Development of ethno-cultural processes in Central Asia and Central Europe: comparative analysis //Society and ethnopolitics. - 2015. – pp. 352-356.
7. Majidov S.F. (2014). On the issue of ethno-cultural processes in Central Asia and the European Union //Eurasianism: theoretical potential and practical applications. - 2014. – No. 7. – pp. 238-243.
8. Davranov, E.A., Majidov, S.F. (2021). The philosophy of medicine and the medical view of philosophy. Science and Education, 2(5), pp. 826-832.
9. Majidov S.F. (2016). The development of civic culture through the prism of modernization of education (on the example of the Republic of Uzbekistan) //Actual problems of sociology of culture, education, youth and management. – 2016 – pp. 585-589.

10. Majidov S.F. (2020). On the issue of ethnopolitical aspects of national security //International Journal Consensus. – 2020. – Vol. 1. – no. 2.
11. Majidov, S. F. (2020). Ethnopolitical aspects of national security: EI experiment (early 2000s). A Look into the Past, (SI-1 No. 2).
12. Majidov, S. F. (2017). On the issue of ethno-cultural security (on the example of Central Asia). Power in Logic and Rhetoric of Interethnic and Interfaith Relations (pp. 78-81).
13. Majidov, S. F., Saidova, H. (2007). Reforms in the field of education and the personality of the teacher. Lifelong Education: Continuing Education for Sustainable Development, 5, pp. 225-225.
14. Halimbetov, Y. M., Ibragimova, E. F., Arslanova, R. R., Rustamova, H. H., & Naumova, Z. S. (2020). Formation of youth in Uzbekistan as a scientifically controlled process. Science and education today, (2 (49)), pp. 57-59.
15. Majidov S.F., Karimova R. (2022). The formation of dentistry as a science: international and national experience. Thematics Journal of History, 8(1).
16. Umurov, S.R. (2022). The situation of the Waqf estates in Turkestan in the second half of the XIX century. Science and Education, 3(4), pp. 1460-1466.
17. Gofforov, S.S., Umurov, S.R. (2021). Issues of historiography of the attitude of the Russian Empire to the sphere of education and the policy of foundation ownership in Turkestan. Science and Education, 2(11), pp. 1120-1126.
18. Radjabovich, U.S. (2022). On the issue of the policy of the Russian Empire to waqf property in Colonial Turkestan. Thematics Journal of Social Sciences, 8(3).
19. Halimbetov, Y. M., Yuldashev, S. J., & Ibragimova, E. F. (2021). Overcoming ideological indifferentism is an important condition for the activation of the human factor. Science and Education, 2(3), pp. 391-395.
20. Umurov, S.R. (2022). In the second half of the XIX century in Turkestan waqf condition of property. Thematics Journal of Social Sciences, 8(2).
21. Umurov, S.R. (2021). Issues of historiography of the Russian Empire's attitude to education and foundation property policy in Turkestan. International Journal of Advanced Research in Management and Social Sciences. Vol. 10. No.12. Dec 2021//<https://garph.co.uk/IJARMSS/Dec2021/G-3.pdf>