

## HISTORICAL ASPECTS OF THE DEVELOPMENT OF THE MEDICAL SPECIALTY "DENTISTRY"

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**Annotation.** The development of dentistry has its roots in deep antiquity, since the time of which everyone was concerned about getting rid of toothache. The study of Russian and foreign literature of recent years about the main stages of development of dentistry has been carried out. The stages of differentiation of stomatological science are revealed, the emergence of its independent sections is shown. Characteristics of the main directions, scientific centers, their leaders and scientific schools are given. Thanks to the way done, stomatology in our country has recently made a great step forward. Restoration of the integral picture of formation of stomatology as a medical specialty will contribute to the correct choice of decisions in the modern search for ways of further development.

**Key words:** medical specialty, history of stomatology, Kuban school of stomatology.

**Introduction.** The development of dentistry has its roots in ancient times, since which time everyone was concerned about getting rid of toothache. In the process of development, people were interested in the replacement of missing teeth and the aesthetics of teeth and smile. Dentistry has come a long way before becoming a science. The first information about teeth is attributed to pre-class society: paleopathology presents reliable data on dental caries and damage to the facial skeleton in primitive man. Thus, five periods are distinguished in the history of domestic dentistry: 1. Dentistry within the framework of folk medicine and surgical craft: from antiquity to the 18th century. 2. Dentistry as a separate field of medical care and as a direction in clinical surgery: the 1st half of the 19th century. 3. Appearance of private dental schools, chair of odontology in universities, emergence of specialized societies, congresses, press: second half of the 19th - beginning of the 20th century. 4. Formation and development of Soviet dentistry as an independent field of scientific medicine in our country: 20-70s of the 20th century. 5. Search for an effective model of dental care for the population in Russia: the end of the 20th - beginning of the 21st century.

**Materials and Methods of Study.** The first descriptions of dental treatment date back to the period of 3 thousand years B.C., when in the city of Nippur were found writings with recipes of medicines for dental treatment. The world's oldest toothpick made of pure gold was found in the city of Sumer, the world's first wooden denture dates back to about 2.5 thousand years BC. On papyri in ancient Egypt, descriptions of treatments for tooth and gum diseases are found. In the countries of the ancient world (Babylonia, Assyria, Egypt), dental diseases were

explained by the presence of a worm growing in the tooth. Diseases of the teeth and oral cavity were treated with medicinal pastes and solutions. No traces of operative dentistry (e.g., filling cavities) have been found even in the mummies of pharaohs. However, a dentist (dentist) in Ancient Egypt was highly honored, he was called "who takes care of teeth".

Dental and oral diseases, their prevention and conservative treatment are discussed in the "Hippocratic Collection", the works of Aristotle, the works of doctors of ancient Rome. Ancient dental prostheses are known, which are attributed to the Etruscan culture.

Avicenna's "Canon of Medicine" provides information on the eruption of teeth, their growth and structure depending on age, describes many symptoms of diseases of the teeth and oral cavity, known at that time methods of treatment, recommendations for the care of teeth and oral cavity. Teeth were strengthened with splints made of wire, fillings were applied to "wormholes" in teeth. For the first time A. Pare made instruments for tooth extraction in the middle of the 16th century and developed a method of surgical interventions.

In 1654, the first school of medicine was opened in Moscow, where dental skills were taught. In 1672, an epidemic of scurvy appeared in the Astrakhan army, and dental surgeons' knowledge of operative surgery was required to fight scurvy.

Dental medicine became a separate field of medicine only by the end of the 17th - beginning of the 18th century, which was promoted by a surgeon from France, Pierre Fauchard, a former barber of that time. P. Fauchard studied the causes of diseases of teeth and surrounding tissues, introduced the first classification of diseases of the oral cavity, the data on which he systematized in his work "Dental surgery or treatment of teeth" ("Le chirurgien-dentiste ou traite des dent"). P. Fauchard is considered the founder of orthodontics - he invented springs for fixation of prostheses in the oral cavity, invented gold caps for teeth and introduced the use of porcelain mass to cover the crowns of artificial teeth. Gold crowns began to be used in 1756. The establishment of an organized and professional dental practice is attributed to the reign of Peter the Great. In 1710 the official title "dentist" was introduced, which was given to those engaged in dental treatment, when the Frenchman François Dubrel received the right to practice dentistry for the first time.

At the beginning of the 18th century, decrees of the tsar were published prohibiting medical practice without examinations and special authorization. The first dentists who settled in Moscow in the seventies of the 18th century were Bobel (Germany) and Cleret (France). In 1737, the famous French dentist Gerodi was invited to Russia to treat the Tsar and his family. During the 18th and early 19th centuries, there were more than 20 dentists in Russia, representatives of France, England, Germany, and Italy, who conducted private practice in Moscow or St. Petersburg, most of whom were good specialists standing on the level of knowledge and technique.

A significant role in the formation of domestic dental personnel was played by hospital schools opened in 1733, the graduates of which had the skills to provide dental care. This was the only way to create new dental personnel, which was practiced at that time and in the West, and in Russia lasted until the end of the 19th century.

At the beginning of the 19th century Ivan Fedorovich Bush first described the main sections of dental medicine - surgical, therapeutic, dental prosthetics and prophylactic. At the same time, the famous Russian surgeon Ilya Vavilyevich Buyalsky made a huge contribution to the development of maxillofacial dentistry, was the first to perform upper jaw resection for malignant neoplasm of the oral cavity, developed new surgical instruments for plastic surgeries. In Russia, barbers, blacksmiths, hospital attendants, shepherds, and monks acted as folk healers of dental diseases. Folk medicine used ways to get rid of toothache with the help of wide application of herbs and plants in the treatment of teeth and gums.

Most folk remedies were aimed at dulling toothache, among which cauterizing substances (vodka, iodine, birch tar, turpentine, camphor, pepper) played an important role. Dental services in Russia in the 18th century were rendered on a professional level only to the privileged strata of the population, which lasted almost until the middle of the 19th century.

Dentists in Russia were trained for a long time by individual training in private offices. According to the law formulated by Alexander I in 1810, it was possible to get the right to the position of a dentist only after a special examination at the Medical and Surgical University. *Kuban Scientific Medical Bulletin*, No. 1 (162), 2017 167.

The system of oral cavity sanitation proposed by him subsequently acquired the following distinctive features: 1. Making oral cavity sanitation generally available, i.e. its implementation free of charge in special medical institutions. 2. Carrying it out according to a plan, sequentially, starting with the appearance of the first permanent teeth. 3. Mandatory sanitation for certain groups of the population: children, adolescents and military personnel. 4. Great preventive activity of sanitation measures.

The first private dental school in Russia was founded by Thomas Ignatyevich Vazhinsky in 1881. Students passed special examinations at the Military Medical Academy to obtain the right to prescribe medicines and award the title of "dentist", so similar schools were opened in university towns.

The first dental school in Moscow was opened by Ivan Matveevich Kovarsky in 1892. The disciplines taught in the schools for future dentists were anatomy, physics, chemistry, physiology, histology, general surgery, and pharmacology.

In 1891 there was a division of all specialists into 2 different titles "dentist" and "dentist" according to the law "On the transformation of dental education".

The development of odontology as a medical profession at the turn of the 19th and 20th centuries and the formation of a new scientific discipline in the USSR in

the 20s and 30s has a great role. The medical specialty "dentistry" was formed as a medical and technical complex, which is a separate field of scientific clinical medicine.

The emergence of a separate direction of prevention of dental and oral cavity diseases in odontology is conditioned by the historical aspect, especially by the establishment of zemstvos and the declaration of prevention as the banner of zemstvo medicine. Active formation of the prophylactic direction began only in the beginning of the 20th century, which belongs to the 4th period of the development of domestic dentistry, and was based on the principles of Soviet health care. The problem was not only to stop the appearance of complicated forms of carious process, but also to prevent the occurrence of its early forms, which was solved thanks to the discovery in our country by Ilya Henrikhovich Lukomsky in the middle of the 20th century of the phenomenon of direct fluorization of teeth through intact enamel. David Abramovich Entin was the first in our country to discover the process of enamel remineralization.

Nikolai Vasilyevich Sklifosovsky first proposed dental education with justification of the necessity to train dentists at the medical faculties of universities in 1879 at the 6th Congress of Russian naturalists and physicians. Following the school of F. I. Vazhinsky, similar educational institutions were opened in Moscow and other major cities. Later, in 1891, a law was issued, which provided for the opening of dental schools in university towns by any entrepreneur, but to enter the school required at least 6 grades of gymnasium or college. At the end of the 19th century, a distinction was made between dentists who graduated from dental schools and those who practiced dentistry and obtained their qualifications by training from private office owners, who were called dentists. The law on opening dental schools allowed to open them in Moscow, St. Petersburg, Kiev, Odessa, Warsaw and other cities. In 1883, on the initiative of leading dentists V. I. Vazhinsky, E. F. Wangl, G. F. Korobchenko organized the first Russian society of dentists. In general, dental care in the late 19th century in Russia could be used only by well-to-do people, because this type of care was considered a luxury. Dentists opened private dental offices; as entrepreneurs, they hired other dentists and dental technicians to work for them. They began to use rubber and gold as dental materials. In dental prosthetics they made impressions from wax, plaster. They began to apply prosthetics of teeth from porcelain, improvement of techniques and tools for tooth extraction. Equipment and materials necessary for the organization of dentistry were imported mainly German and English. Their use in Russia by doctors was accompanied by difficulties, as there were no places for their repair. In 1886 in St. Petersburg began to produce drill in the first dental workshop, created by I. I. Khrushchev. There they also manufactured dental chairs, instruments and equipment based on foreign brand models.

Thus, the analysis of the historical process of formation and development of domestic dentistry has shown that the initial period of the history of domestic

dentistry in Russia developed within the framework of private dentistry. Dentistry began to be formalized as an independent medical discipline, separated from surgery and officially recognized as a socially significant separate section of medicine. Active development of dentistry in the form of creating the necessary organizational structures, obtaining professional Kuban Scientific Medical Bulletin, No. 1 (162), 2017 168 education and its improvement, the creation of professional societies, printed bodies, active research activities are associated with the names of outstanding Russian specialists. Depending on the degree of development of the pathological process in the dento-mandibular-facial system, V. Yu. Kurlyandsky proposed to use tooth blocking as a method of treatment, as well as the method of calculating the residual chewing efficiency of teeth, tooth rows and dento-mandibular-facial system taking into account the lesion of the dental apparatus with the help of odontoparodontogram V. Yu. Kurlyandsky.

In the 20s of the 20th century there was a division of dentistry as a science into 3 main sections - therapeutic, surgical and orthopedic, which became the basis for the respective profiles of dentists. In 1937 Alexander Ivanovich Evdokimov organized the chairs of therapeutic, surgical and orthopedic dentistry in the MSI. It should be noted that in orthopedic dentistry after 1936, the anatomo-physiological, clinical-experimental and technical directions of research, closely related to each other, settled in the USSR. Immediately after the revolution, the main task facing prosthetics of teeth and dentures was to satisfy the minimum demands of the population in dental prostheses with the least possibilities of medical institutions and a huge number of people in need of this help. In the 20s, the problems of prosthetic dentistry were addressed by E. M. Gofung, D. A. Entin and other leading dentists of the country. The functional approach to the problem was formulated by I. G. Lukomsky in 1932 in his work "Issues of mass prosthetics". In 1932, S. E. Gelman was the first in our country to investigate the degree of functional insufficiency of the dentoalveolar-facial system by applying a functional chewing test. The main direction in prosthetic dentistry was developed by A. I. Betelman. Functional pathology of the maxillofacial system studied by V. Yu. Kurlyandsky had a direct impact on the determination of indications for dental prosthetics. The author developed experimental models of functional pathology, proposed to record the results of objective examination of periodontal tissues in a special odontoparodontogram by V. Yu Kurlyandsky.

In 1933, Anatoly Iosifovich Katz, speaking at the Leningrad Orthopedic Conference with a program of prevention in orthodontics, for the first time outlined the basics of planning and the basics of orthodontic treatment of the maxillofacial system with functionally acting appliances. During the World War II, wire splints were used to treat pathologies of the maxillofacial system using intermaxillary fixation. However, the experience of that time showed the necessity to deviate from this canonized method of treatment, which, of course, was the beginning of the development of the functional direction. In the works of the

orthopedic dentist Isaac Mikhailovich Oxman and his students, the ideas about the nervous regulation of masticatory pressure by means of periodontal receptors and its afferent system, as well as motor nerves of masticatory muscles as an efferent part of the reflex arc were developed, and the innervation of teeth affected by periodontal disease was studied. Under the leadership of D. A. Kalvelis, clinical studies of the function of the organs of the maxillofacial region were continued. In the book by A. I. Betelman in 1965, a classification of deformities of the dento-mandibular-facial system was given, which reflected not only morphological but also functional characteristics. The scientific researches of V. Yu. Kurlyandsky reflect the main forms of diseases of the dento-mandibular-facial system. In his monograph "Dental anomalies in children and methods of their treatment" in 1957 he presented a classification of dento-mandibular anomalies, which is based on the idea of interrelation of the form of teeth and dental rows with their function. Questions of etiology and pathogenesis of dento-mandibular deformities have always interested scientists. Original research in this area of orthodontics was conducted by M. M. Vankevich. In 1938, I. S. Rubinov developed a functional method of studying the work of the dentoalveolar apparatus - masticography, which allows to observe the process of restructuring of masticatory function and trace the dynamics of orthodontic treatment.

In 1990, the Department of Orthodontics and Pediatric Prosthodontics was established in MMSI under the direction of Leonid Semyonovich Persin, where the Department of Functional Diagnostics developed and introduced various methods of research to assess the functional state of the masticatory and temporal muscles of the maxillofacial region, temporomandibular joints (TMJ), and periodontal tissues. In the 20th century, Russian and foreign scientists began to conduct research devoted to the study of anatomical structures and physiology of the masticatory apparatus, the relationship of the maxillofacial system with other systems of the body, the nature of histological restructuring of periodontal tissue elements under the influence of orthodontic treatment. A great merit in the development of orthodontics belongs to N. I. Agapov. In the textbook "Clinical Dentistry of Childhood" in 1938, the author presented the basics of ortho- Kuban Scientific Medical Bulletin, No. 1 (162), 2017 169 dontia, which were the theoretical basis for the training of pediatricians and orthodontists. In 1930, pediatric dentistry was separated into an independent discipline, including therapeutic, orthopedic and surgical sections. Orthodontics has long been a section of orthopedic dentistry.

The founders of adult therapeutic dentistry in the USSR, studying diseases of teeth, periodontium and oral mucosa, were E. M. Gofung, A. I. Evdokimov, I. G. Lukomsky, E. E. Platonov, and D. A. Entin. Then the section of therapeutic dentistry was divided into subsections: cariesology, periodontology, endontia - the doctrine of diseases of the dental pulp and methods of their treatment, as well as the doctrine of diseases of the SOPR. Surgical dentistry since 1930 has united 3

directions: extraction of incomplete and replantation of artificial teeth, the doctrine of purulent surgery of the oral cavity and maxillofacial surgery, which used to be a separate section of general surgery, including aspects of traumatology, oncology in dentistry and plastic surgery of the maxillofacial region. The founders of surgical dentistry were the dentist A. I. Evdokimov of MSI, who outlined the basics of anatomical direction in purulent surgery, and the maxillofacial surgeons A. E. Rauer and A. A. Limberg. The founder of Russian maxillofacial surgery and military dentistry was D. A. Entin. A huge contribution to the development of maxillofacial surgery was made by dental surgeons N. M. Mikhelson and F. M. Khitrov. Orthopedic dentistry took place as an independent section of dentistry since 1930 together with therapeutic and surgical dentistry. Previously known as prosthodontics, it was developed in close interaction of 3 directions: anatomico-physiological, clinical-experimental and technical. The authors of the most significant, well-known and fundamental studies in the field of prosthetic dentistry in the 30s were E. M. Gofung, I. G. Lukomsky, D. A. Entin. Formation of pediatric stomatology as the 4th independent section of stomatology and the therapeutic specialty "pediatric stomatologist" began in the 60s with the creation of the departments of the Moscow Medical and Dental Institute in 1963 by A. A. Kolesov and the Central Institute of Dental Surgery in 1968 by Tamara F. Vinogradova.

In the 50s of the 20th century, the Department of Orthopedic Dentistry of MMSI under the direction of Prof. V.Y. Kurlyandsky, Honored Scientist of the RSFSR, conducted an experimental study of changes in the periodontium during tooth displacement in animals of different ages. At the end of the 20th century in Russia, a considerable number of stomatology departments were established in all medical institutes, not only in Moscow, but also in many other cities. In 1965, the dentist Invgvar Branemark managed to achieve significant results in dental implantation. The technique of implantation of implants into the bone tissue was developed. Modern dental implantology owes its success to the phenomenon of osseointegration.

A huge role in solving many aspects of modern dentistry was played by the members of the Russian Dental Association represented by stomatologists-therapists E. V. Borovsky, V. K. Leontiev. V. Borovsky, V. K. Leontiev. The history of the formation of dentistry in Kuban goes back to the development of health care. After the Great Patriotic War there was only one dental polyclinic in Krasnodar, where 20 dentists and 3 stomatologists worked. Training of dental personnel until 1963 was carried out in the dental school in Krasnodar. The number of dentists in Krasnodar region by 1950 amounted to only 12% in relation to dentists. In the history of the Kuban Medical Institute in 1963 is remarkable for the fact that it began to function a new faculty - dental. In the opening of the faculty and its formation, the fundamental role was played by a talented student of Professor Y. I. Beradsky - Associate Professor Victor Andrianovich Kiselev, who replaced Professor Y. I. Beradsky as head of the course of dentistry at the

Department of Hospital Surgery in 1959. In 1965, the Faculty of Stomatology opened a united Department of Stomatology, with Associate Professor V. A. Kiselev elected as its head, and Associate Professor M. M. Tsarinsky and Associate Professor I. H. Pinsky took the assistant professorships in the Department of Therapeutic and Orthopedic Dentistry, respectively. The first Dean of the Faculty of Stomatology was Associate Professor V. A. Kiselev. An important event in the life of the Institute and Faculty was the organization in 1966 of three specialized departments: surgical, therapeutic and orthopedic stomatology.

The beginning of 2008 became a significant date for Kuban dentists. The Russian Academy of Natural Sciences recognized the Kuban Dental Scientific School, established in 2005, as one of the leading scientific schools of Russia. From all officially registered for today scientific schools - 10 have medical direction. And only one of them is stomatological - Kuban Scientific School of Stomatology.

Currently, dentistry in our country is equipped with a strong and quite modern material and technical base.

Thus, modern domestic stomatology holds the beginning of its development Kuban Scientific Medical Bulletin, No. 1 (162), 2017 170 since ancient times. However, at all times, mankind sought to get rid of toothache and compensate for the absence of lost teeth. Thanks to the path made, dentistry in our country has recently made a big step forward. This is based on numerous studies of Russian and foreign scientists, the latest methods of diagnosis and treatment of diseases of the maxillofacial region, teeth and dental rows, but the development has not stopped there.

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