

TRANSPORT DENTISTRY: A HUNDRED YEARS AGO

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ABSTRACT

The author assesses the situation with transport medicine in the Far East region in the early decades of the twentieth century. The article provides an analysis of trends in the organization of health care, statistics and historical data describing medical assistance on the railways and water transport. First of all the author refers to health and socio-economic problems of dental practices in the period of the Soviet regime in the eastern regions of the country (1922–1927). The experience of those years to a certain extent is projected onto the present time, offering own formulas for «treatment» of stagnant social ailments, e. g. whether departmental railway medicine is useful or harmful to the population.

ENGLISH SUMMARY

Background. Medical care for the population in Russia at the beginning of the XX century was carried out in the framework of a complex system, when medical treatment facilities were run by multiple ministries and agencies, rural and urban municipalities, private, charitable and public institutions. In particular, the Ministry of Railways was charged with medical care and sanitary supervision of the railways within the right of way, as well as sanitary supervision on waterways [17].

Construction and operation of railways in the Far East, however, stimulated the appearance of transport medicine even before the emergence of territorial health service. At the organization of the medical unit during the period of construction of the Ussuri Railway (hereinafter-UssZhD) in 1891, all of its employees, all ranks of railway police, workers, members of their families and servants, as well as those affected by accidents in the construction area, used medical advice and treatment free of charge at the expense of the road. [21] In 1910 appeared the medical service of the Amur railway. [16] The report of a senior doctor of a building of its eastern part (1912–1916) stated that all patients receive «all possible medical and specialized medical, hospital, ambulatory care» [2].

Objective. The objective of the author is to investigate different aspects of dentistry organization in the early period of the Soviet regime in the Far East region.

Methods. The author uses historical method, analysis and description.

Results.

I.

Doctors of the railway community paid attention to the growing importance of social organization and delivery of affordable dental care to the population of the country. The agenda of the II and IV Consultative Congresses of railway physicians of Russian Railways, which took place in 1899 and 1911, staged topical issues on dentistry of workers and employees of subordinate objects [15].

Issues of organization of dental care of railway population, employees and their families were discussed by the dental community of the country at the II and III All-Russian dental congresses in 1899 and 1902. [14; 19].

In 1904 appeared a circular letter of Ministry of Internal Affairs, allowing dentists on requests of local chiefs to take supernumerary public office «where they would really be required» and «where this measure would not require any treasury costs» [25]. Since that time, urban, rural and departmental medical treatment facilities were able to hire dentists, and their services were paid for by local funds [12].

The first specialists in the field of dentistry appeared

in the Amur region in the late XIX – early XX centuries, significantly later than in the European part of Russia. They were graduates of dental schools of Central Russia, Ukraine and even Poland [10; 12]. In 1911, in Harbin, which was connected with the Far East by accessible transport links a dental school was opened, the diplomas of which were recognized in the Tsarist and then Soviet Russia [20]. Thus, the Russian Far East had sufficient human resources of specialists in dentistry [11].

An urgent need for organization of dental care forced to establish in 1912 on the construction of the eastern part of the Amur railway a non-staff, freelance position of a dentist. In Khabarovsk began a dental appointment for workers and employees engaged in the construction, as well as their families. This experience proved to be the best, because it enabled to provide a qualified and free of charge medical care to the patient, moreover, the production of dentures at a fixed price was organized [10].

On the basis of historical data it was found that in 1913 on Ussuriyskaya railway appeared the first staff dentists [6]. This fact confirms a negative rather than a positive aspect, since medical treatment of railway workers remained inadequate, and most workers were still forced to be treated by private doctors and paramedics.

By the beginning of World War I in the medical-sanitary parts of the country's railways operated 150 dental offices, where worked about 100 dentists, and provision of dental care amounted to 11% of all ambulatory visits [15].

In the 1920s in Soviet Russia global social reforms of all aspects of people's life were carried out, where delivery of medical care occupied a special place. It was declared that delivery of dental care was the responsibility of government and in the first place workers were provided with it. However, the state had not always been able to fully finance medical care and part of the problem lay on the shoulders of local authorities and economic entities. In this regard study of the model of the organization of dental care in the transport of the Far East and Trans-Baikal, as well as economic, health and social problems that accompanied it is of interest.

Since 1918, the country began to construct a «uniform» (state) medicine, controlled by the central government. Within People's Commissariat of Health of the Russian soviet socialist federative republic (RSFSR) was created Department of Railways with a large subdivision of rail transport and small – water. This event can be considered, on the one hand, as the loss of independence of railway health service, on the other, on the contrary, as the preservation of some of its autonomy, as there were special road health departments and railway hospitals and other medical treatment facilities with their staff were retained [15].

In 1922 People's Commissariat of Railways (hereinafter – People's Commissariat) was the only civil office in Russia, which managed to organize its own closed system of health care. There were a couple of reasons of it. Firstly, infectious diseases could spread on the railways, so it was necessary to create a special sanitary inspection on transport. Secondly, the railway often passed through areas where territorial network of medical institutions was completely absent, so the People's Commissariat had to organize medical care for their employees. Finally, as noted by the American researcher K. Davis, in those years, the head of the People's Commissariat was F. E. Dzerzhinsky, and his political weight facilitated the adoption of a policy

decision on the establishment of an autonomous network of medical treatment facilities for railway workers [26].

Construction of the Soviet public health care system in the Far East was cut by civil war and foreign intervention. Attempts to introduce universal health care system stalled due to protracted warfare, economic and financial crisis, as well as weakness of local authorities.

Since November 1921, in the region began a new stage in the development of departmental health care as an independent direction, but lack of funds did not allow fully financing the medical service of railways. And then in April 1923 for the first time began talks about social insurance, «social package» for workers and employees using the funds of an employer. The organization of insurance offices was approved and road committee of social security was elected. Prior to this, health insurance companies on the railroad were not listed: a social security existed within Administration of roads, reorganized from the former pension committees [18]. Social insurance on transport attracted significant additional funds to finance social, including medical care for staff of transport networks of the Far East.

Elimination of independent railway medicine and creation of a unified Soviet medicine in the Far East once again began on the 4th of June, 1923, when the head of railway health care became Road Department of Health (Dorzdraz) – an agency within People's Commissariat of Health. Previously, road medical service was headed by medical-sanitary service that was a part of the management of the road [24].

The main activities of authorities in the field of health care in transport during the study period were aimed at the abidance of all parties of departmental medicine by uniform state health care management. Meanwhile, health authorities lacked funds for organization of health care. The financial base of rail and water health departments also comprised of scarce resources – the regional budget, insurance contributions and funds of economic organs of the People's Commissariat of Railways (People's Commissariat) for medicinal and economic services. In fact, delivery of medical care, including dental, was carried out at the expense of medical fund of insurance offices and to a lesser extent – funds of railway administration.

Thus, financing of medical and health affairs in the Far East transport in the early 1920's was carried out not by Soviet health authorities, which lacked the necessary resources, but by administration of enterprises, which paid premiums, and insurance offices, which accumulated funds of social security.

Chiefs of railways and insurance authorities tried to maintain and even strengthen their role and influence in the management of medical affairs that did not suit the new government. However, because of its weakness and instability, the Soviet government was forced to make concessions and agree to the collective management of transport health care. This led to the creation of councils by health departments with participation of representational bodies of the management of roads, unions, insurance companies, union of transport workers. These councils considered and made decisions on fundamental issues of health care organization. Moreover, at the local level at all medical treatment facilities administrative meetings were organized that in addition to economic issues addressed issues of management of the agency, social selection of patients.

It is believed that councils by health departments as well as general and administrative meetings at hospitals had the opportunity to have a significant impact on the organization of medical care on the road and ensuring workers' requests. They controlled transferring premiums to a health department, being interested in their correct and

rational use, the meaning of their activities is reflected in the classic slogan of the time: «Health of workers is a matter of the workers themselves».

Number of employees on the Ussuri Railway and subsidiary companies, insured by Road Insurance Fund by 1923 was 13031 people, and with their families – 45609 [8]. According to the Insurance Office of Trans-Baikal Railway (hereinafter-ZabZhd), the number of insured workers and employees reached 13754 people, and with their families – 55016 [7]. At the same time it was noted that almost 70% of the railway population suffered from dental diseases [8].

Of particular interest is a summary of the health and welfare survey of children and adolescents working on UssZhd conducted in 1924–1925. It was found that 40% of learners had underweight, 19% – enlarged lymph nodes [12]. Of the surveyed 645 adolescents- transport workers only 151 (23%) people regularly cared for teeth, 180 (28%) people regularly used bath, only 198 (31%) people changed linen regularly. [3]. Thus, the problem of poor dental health was a part of a general problem of poverty, a complex epidemiological situation, bad sanitary living conditions and malnutrition.

By the time of the establishment of Soviet power in the Far East and Trans-Baikal dental office of Trans-Baikal railway (ZabZhd) had only three rooms at stations Verkhneudinsk, Chita-1, Chita city, which was considered manifestly inadequate because a vast area east of Chita was not serviced [7].

On the Ussuri Railway dental care was provided by four fixed and two mobile dental rooms mounted on rail cars plying in the area of the most populated areas: Pervaya Rechka, Nikolsk- Ussurisk, Muravyev-Amursky, Khabarovsk, Obluch'e, Bochkarevo. Organization of a mobile model of dental care was initiated even before the establishment of the Soviet power. It should be noted that the mobile dental rooms- cars were in charge of administration of roads and were dental rooms, equipped with all modern rules of the art that served the entire rail line. According to the plan for 1924 it was supposed to equip and launch another mobile dental room, but such plans were abandoned due to the fact that the road had found it impossible to provide cars for dental care free of charge [8]. Economic interests of production, alas, always prevailed over health.

Dental care was provided by the criterion of recurrence. According to the analysis of archival materials [4], more than half of all visits were for children and adolescents aged 0 to 20 years – 57,5%, which can be explained by a high prevalence of dental caries in this age group and the need for treatment to prevent complications of caries and thus prevent the loss of teeth. In the age group 20–50 years – 35,5%, which is explained by the prevalence of complicated forms of caries and periodontal disease manifestations in this age and, as a consequence, the high demand for surgical treatments. At the age of 50 years and older – only 7%, that can be attributed to the predominance of edentulous in this age. Dentistry for railway workers included treatment and filling of teeth, but clear standards of care had not been established. Denture treatment at first was absent due to lack of funds, however, taking into account the urgent need for such assistance, and taking into account the financial insecurity of railway workers, transport managers had taken steps to provide them with dental services by grants from the enterprise, as well as prescribed grant of benefits for dentures. [9] To get dentures, transport workers had to be examined by medical control commission (MCC) for the presence of functional indications, and then the question was decided at the council of dorzdraz, in the first place «teeth» were given to worker of hard physical labor, in the second – to





employees, and only then, and to members of families [7].

The Councils of Road and Water Health care had to make decisions about workers' compensation of costs for denture treatment, which was carried out beyond transport medical treatment facilities, as well as from private practitioners, but not always the decision was made in favor of the employee, the denial of compensation for treatment could occur due to poor prognosis of the disease [5].

II.

In 1923, dentists of UssZhD performed 8842 initial consultation, of which 3676 were employees of the railway, 5166 – members of the families. 32686 visits were registered, treatment of 7838 teeth were completed. As filling materials were used phosphate and silicate cement, amalgam. 4167 teeth were removed and 326 small surgeries were executed. Procedures for removal of dental plaque were conducted for 1013 people. [6]. In fact, more than half of treatment outcomes resulted in loss of a tooth, which was due to, on the one hand, the imperfection of methods of treatment and poor state of teeth (more than half of the extracted teeth were completely destroyed and there were registered by dentists as «radix» (root). On the other – inadequate supply of medicines and materials, often less than 50% of the real needs [7].

Already by 1926 greatly increased the potential of dental services of Trans-Baikal and the Far Eastern regions. Trans-Baikal dorzdrav organized work of 12 dental rooms at the stations: Verkhneudinsk, Khillock, Chita, Shilka, Mogocha, Erofei Pavlovich, Skovorodino, Olovyannaya [22]. Ussuri dorzdrav had 9 dental rooms (14 seats) at major train stations. Medical staff increased (from 11 people in 1925 to 14 people in 1926), the number of visits grew – to 55, 2 thousand, of which initial – 15,3 thousand., sanitized – 11331 people. On-site system of delivery of dental care to remote areas was developed giving transport workers an opportunity not to tear away from their daily professional activities to make a trip to major centers.

Despite the high quantitative indicators of people applied for dental care, this type of aid was only 6% of all ambulatory visits, covering no more than 10% of the total population of the railway. [4]

Specialized aid was provided in dentoprosthetic workshop of dorzdrav in Khabarovsk and under contracts in similar areas of Vladivostok okrzdav and private technician in Ussurijsk- Nikolsk. In the departmental workshop of a seaside center in 1926 467 dentures were made.

By 1927, the transport dental service of the RSFSR had been considerably strengthened and expanded. The staff of railways included 659 dentists, representing 19% of all dentists of the republic. Service on the railway

attracted doctors with regular salary and additional social guarantees. In rail transport, operated 666 dental clinics and offices, and the provision of dental chairs was 0, 14 per 1000 population of railways, which was significantly higher than republican values (0,03 per 1000 people.). The total number of visits by transport worker was 3300, representing about 23% of all requests for delivery of qualified dental care in the RSFSR [23]. The health department of rail and water transport of the Far Eastern Territory had 38 dental offices in which there were 38 dentists [13], the availability of dental chairs for fixed population was 0,18 per 1000 people on Trans-Baikal railway and 1,19 per 1000 people on Ussury railway which was higher than nationwide figures.

However, it was not able to provide affordable and qualitative medical care for all transport workers and their families [1]. Numerous complaints and comments on the work of dorvozdravs were discussed by the councils at health departments. Representatives of transport organizations noted that «the masses have become more demanding» and were dissatisfied with the quality of rendered diagnostic and therapeutic measures, and asked the health authorities to remove all comments and improve the quality of medical care [18].

Conclusions. The Soviet regime in the early 1920s, treated the organization of health care of transport workers with all seriousness and thoroughness. This was due to, on the one hand, the strategic importance of transport, ensuring its smooth operation, improvement of productivity, reduction of morbidity rate and loss of working time due to temporary incapacity for work, and on the other hand, the provision of privileges and preferences for workers in exchange for their loyalty to the new government.

In transport sector, attempts were made to carry out the basic principles of Soviet medicine: the lack of direct payments for patients, accessibility and qualification. This was generally achieved through uniformity of railway population, social insurance, but issues on financing of denture treatment remained unsolved.

Lack of dental and denture care in public network of medical treatment facilities replenished with services of private practitioners who were given a right to work legally due to the introduction in 1922 of New Economic Policy (NEP). Services of private physicians were used by health authorities, involving doctors on a contractual basis to medical care of the population, and that part of the population that was deprived of the opportunity to enjoy benefits of territorial or departmental medicine.

The total deficit of financing of public health at the ban on fundraising from the public, as well as a significant increase in demand for dental care, forced health authorities to apply a more pragmatic approach to the choice of means and methods of treatment.

Keywords: history of medicine, transport medicine, dentistry, the Far East, railways, social insurance.

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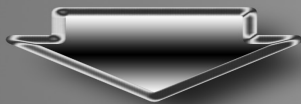
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INSTEAD OF RESUME

An attempt to collect and analyze the data on origins and evolution of transport health care merits very close attention because of low level of knowledge in the chapter of the medical history. The topic is of importance, necessity and interest.

Nevertheless the title of the article can cause some questions, why does it concern transport dentistry? It is sure that river transport is considered in general context but rail transport prevails. Whether the term transport medicine is correct referring to the article? It is well known that the word transport came into the glossaries later than the considered period.

It seems necessary to more clearly divide social, economic, organization aspects, sickness rates and treatment results. Statistical data based on voluminous archive materials merits more systematization that should increase generalization and value of the text.

The fact of wide consideration of archive data should be well estimated but the rich contents there-of should have permitted to use other information besides statistical one, to go beyond railways. How were dental services organized at the ships? How was the training process of dentists organized? Who were those doctors? It is of great interest to know when dentists became staff members, when first railway stomatology cabinets were organized, when first mobile (in rail cars) stomatology's cabinets appeared.

If forthcoming researches will consider those aspects than they will have scientific and practical importance especially under the current conditions when there is a risk of destroying of specific systems of health care in some economic sectors.

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