

Reflection of issues of military hygiene in the Russian military medical school from the 19th century to the 1930s

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Abstract

The article describes key phases in the introduction of military hygiene in the curriculum for Russian military doctors. Almost up to the beginning of the 20th century, sanitary losses of the Russian army from infectious diseases considerably surpassed losses from wounds sustained from firearms and cold steel weapons. This suggests the need for military doctors to be familiar with the basics of military hygiene. Authors of the article examine the characteristics of the establishment of the teaching of military hygiene in Russia, first in hospital schools and then at the Saint Petersburg Medical and Surgical Academy (renamed the Imperial Military Medical Academy in 1881) and subsequently the Military Medical Academy of the Workers' and Peasants' Red Army. It is demonstrated that special issues pertaining to military hygiene were introduced in the training programme for military doctors first. For example, a section "On health care for Russian soldiers" first appeared in the curriculum of the department of medical jurisprudence and medical police, including hygiene, at the Saint Petersburg Medical and Surgical Academy in 1845. The programme dealt with various aspects of military hygiene. It included issues relating to hygiene in the army during the stay of military personnel in barracks and field camps. A separate course on military hygiene was introduced in 1882 at the instigation of A.P. Dobroslavin, who can be regarded the architect of the first programme on this discipline. In that programme, matters directly linked to military hygiene were split into a separate course for the first time. The first department of military hygiene in the Soviet Union was established in 1936 at the Military Medical Academy. That department was headed by military doctor, Professor V.A. Vinogradov-Volzhiński. Thus, such a discipline as military hygiene became an integral part of the education of future military doctors.

Keywords

history of medicine, military medical education, military hygiene, military doctor, Saint Petersburg Medical and Surgical Academy, Military Medical Academy

Matters pertaining to hygiene in the barracks and the daily lives of troops on the field, as well as infectious diseases in the army and naval forces were always critical. They acquired particular relevance during military conflicts. This also pertains to campaigns in which the Russian army was involved. For instance, during the Crimean campaign (1739), the Russians lost about 100 thousand people. Of that number, only 2000 were wounded or captured, and the rest died of infectious diseases. During the Russo-Turkish War of 1828–1829, morbidity in the army reached 49% (Semeka 1948). During the Crimean War of 1853–1856, of the total 17

thousand fatalities suffered by the Danube Army, only 800 died of wounds (less than 5%) (Istoriya voennoy meditsiny... 2008).

This situation necessitated the development of preventive measures which, consequently, meant military doctors had to be familiar with hygiene issues.

This article seeks to highlight the characteristics of the teaching of military hygiene in Russia in the period from the 19th century to the 1930s at the Saint Petersburg Medical and Surgical Academy (subsequently renamed the Military Medical Academy) and to split that time into various periods.

A number of works examined certain issues relating to the teaching of hygiene at the Saint Petersburg Medical and Surgical Academy (renamed the Imperial Military Medical Academy in 1881) and the Military Medical Academy of the Workers' and Peasants' Red Army (renamed the S.M. Kirov Military Medical Academy in 1934). For example, it was noted that special issues relating to military hygiene appear in the department's curriculum from 1845 (Surovtsev 1898). They were also included in one of the earliest programmes crafted by professor P.P. Pelekhin (chapter titled "Health care for Russian soldiers") (Kalmykov and Koshelev 1967). The department's work during the Soviet era was also examined in detail, particularly the history of teaching the hygiene of military personnel, hygiene of defence facilities, food hygiene and water supply hygiene. Researchers also paid attention to the first contest to fill the vacant position of the full professor of the just-established department of military and general hygiene (Yanshin 2008). The course on military hygiene was taught in the department of general and military hygiene, which was established in 1865. The academic and research work of the department was also examined. Information about its leaders was also presented, and the periodisation of the history of teaching this discipline at the academy (Lizunov and Terentiev 2007) is also proposed.

Almost all existing publications examine the history of teaching hygiene without its "military" component. In our study, the main focus is on the teaching of military hygiene in particular.

At the turn of the 18th–19th centuries, the Russian army already had the foundation of a system for preventing infectious diseases. Preventive measures put in place at that time included the isolation of patients, fumigation of living quarters with juniper smoke, fumigation and soaking of the belongings of patients (Ogar'kov 2001) in running water. One of the pioneers of local epidemiology, D.S. Samoylovich, who fought in the Russo-Turkish War in 1787–1791 (headed sanitary organisations of the army) (Chizh et al. 2007), made a significant contribution to the development of military hygiene. His work is associated with the beginning of the study of the plague in Russia (via microscope observations, post-mortem examinations and systemic experiments): he studied the conditions for the spread of this disease and described the resistance to re-infection of people that had already suffered from this disease. Overall, by this time, it was clear that future military doctors needed to be knowledgeable about military hygiene and had to acquire that knowledge through professional training.

In the 18th century, military medical personnel were mostly trained in hospital schools (Budko et al. 2001). The medical office regularly reminded teachers of the need to familiarise students with diseases "which are frequently encountered in the army and naval forces with soldiers and sailors" (Chistovich 1883, p. 255). At

the turn of the 18th–19th centuries, professors I. Bush and K. Uden at the Saint Petersburg Medical and Surgical Academy called for the establishment of a separate department of military hygiene. However, the department was not opened (Chizh et al. 2007) at that time. Therefore, throughout the 18th century, i.e. at the initial phase of the establishment of military medical education in Russia, the teaching of military hygiene in hospital schools was not yet systematic, and no training programme had been established yet (i.e., it was not a separate discipline) (Palkin 1959).

A number of authors argue that the introduction of military medical disciplines began in the last quarter of the 19th century (Semeka 1948, Georgievskiy 1956). Renowned historian and mastermind of military medicine in the Soviet era, A.S. Georgievsky, wrote: "The introduction and teaching of elements of military medical training at the academy was very slow and half-hearted. For example, until the end of the 19th century, students at the academy were not taught a course on military field surgery... The same state of affairs existed in the teaching of military hygiene at the academy" (Georgievskiy 1956, p. 9). Indeed, the course on military field surgery was taught to military doctors assigned to the academy from 1869, and the course on military hygiene (in the department of general and military hygiene) was taught from 1882. At the same time, there were certain conditions for the introduction of the course on military hygiene in 1882. This is demonstrated by the results of our comparative analysis of the curricula of the department of medical jurisprudence, medical police and hygiene: certain issues relating to military hygiene were reflected in the department's programme as early as 1845. That program was created by P.P. Pelekhin, a professor at the academy. One of the chapters of this programme was titled "Health care for Russian soldiers". It dealt with various aspects of hygiene among servicemen, in both wartime and peacetime. It examined in detail hygiene among soldiers in field camps and barracks, as well as among marching troops (Surovtsev 1898).

Therefore this suggests that 1845 marked the beginning of a new phase in the teaching of military hygiene, when issues relating to military hygiene were made part of the curriculum of future military doctors for the first time.

The study of military hygiene continued under P.P. Pelekhin's successor – professor P. Zablotsky-Desyatovsky, who also included a range of issues pertaining to military hygiene in his programme. In particular, he included aspects relating to the organisation of the work of military hospitals, "the charter of the committee on the wounded" and the recruitment decree.

The content of the teaching programme can be judged from the academic work of that time (both local and foreign) devoted to military medicine. The first works of local authors emerged in the first half of the 19th century. These works examined special issues

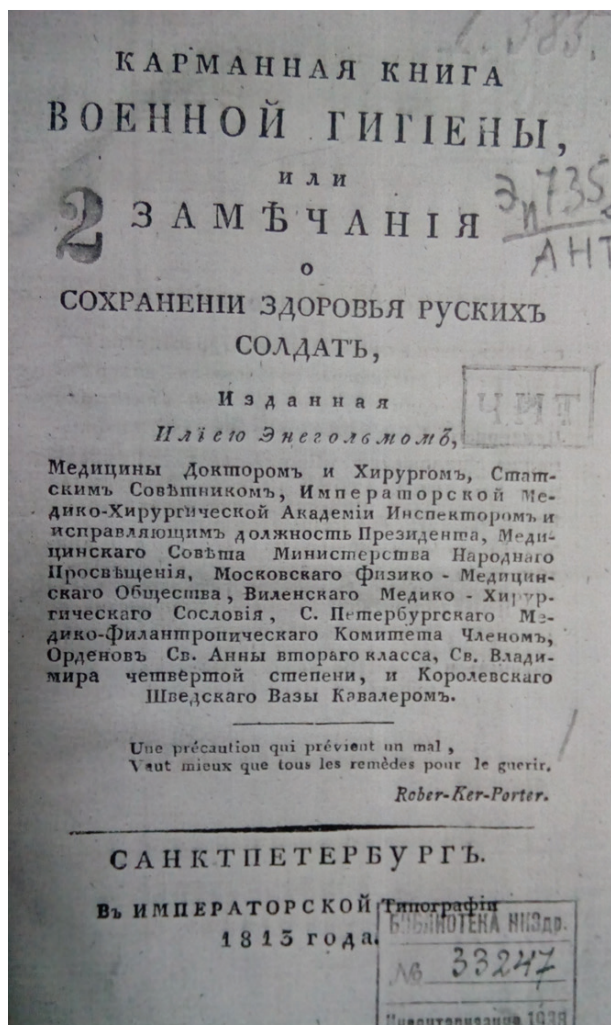


Fig. 1. Title page of I.I. Enegolm's work titled "Pocketbook on military hygiene, or notes on the preservation of the health of Russian soldiers" (Saint Petersburg, 1813). From the Central Scientific Medical Library of the I.M. Sechenov First Moscow State Medical University.

relating to military hygiene – "Pocketbook on military hygiene, or notes on the preservation of the health of Russian soldiers" (1813) authored by I.I. Enegolm (Enegolm 1813) (Fig. 1), and "On the benefit and topics of military hygiene or the science of preserving the health of soldiers" (1826) authored by M.Y. Mudrov (Mudrov 1826) (Fig. 2). These works examined in detail hygiene among marching troops, and in the barracks and field camps. Overall, these essays facilitated the further introduction of sanitary and anti-epidemic measures in the military and their improvement. When investigating military hygiene, local experts also turned to foreign sources. For instance, Y.A. Chistovich (1853), a professor in the department of medical jurisprudence, medical police and hygiene, used the Becquerel handbook which provided information "on infirmaries and hospitals" and "on barracks" (Surovtsev 1898, p. 153).

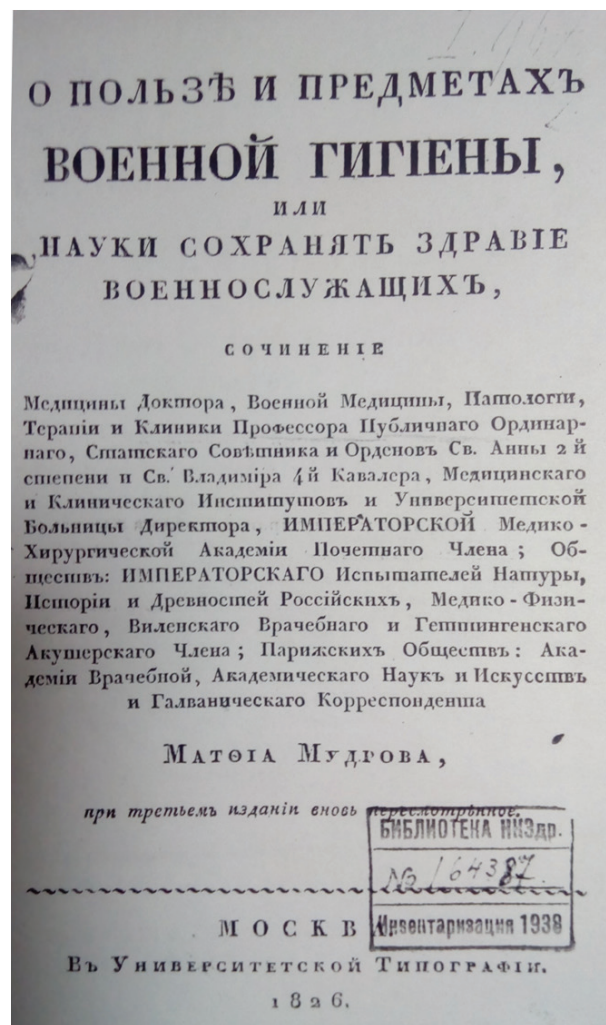


Fig. 2. Title page of M.Y. Mudrov's work titled "On the benefit and topics of military hygiene or the science of preserving the health of soldiers" (Moscow, 1826). From the Central Scientific Medical Library of the I.M. Sechenov First Moscow State Medical University.

Note that as early as the first half of the 19th century Russian military doctors already had sufficient understanding of many issues relating to military hygiene. For example, the author of one of the first local works devoted to military medicine, I.I. Enegolm, recommended to take a serious approach when choosing the location of field camps. He argued against choosing wetlands, and if the right location could not be found, the soil had to be dried (draining, covering the wetland with sand and ash) (Enegolm 1813). It was also recommended to place waste pits and slaughtering places farther away from the camp. In the event of prolonged stay at the camp, a bathhouse had to be built. Other recommendations, very pertinent in terms of hygiene and aimed at preventing the outbreak of diseases among soldiers, were also made. For example, the appropriate nutrition and physical exercise were recommended: "I advise to serve soldiers more onion and garlic every day,

while remembering to provide them with the necessary moderate movement” (Enegolm 1813, p. 42). Requirements for the maintenance of barracks were also proposed. Barracks had to be kept clean, which meant daily cleaning and aeration. Considering the harmfulness of carbon dioxide, the corresponding recommendations on heating barracks were made: “never... keep live coals in pots for keeping warm. In every case, carbon dioxide gas may have a fatal outcome within a few minutes” (Enegolm 1813, p. 16).

Overall, by the mid 19th century, considerable practical experience of implementing preventive measures in the military had been accumulated, and works of both local and foreign authors devoted to military hygiene had been published.

In 1862, president of the St Petersburg Medical and Surgical Academy, P.A. Dubovitsky, requested from the Conference of the academy “to allow more development of courses that advance the area of focus of the academy and the teaching of military hygiene, surgery, pathology and diseases of soldiers” (Yanshin 2008, p. 73). In 1865, the department of medical police and hygiene was split, and hygiene was now taught in one of the newly created departments (Kruchek-Golubov and Kulbin 1902). Its staff dealt with public hygiene matters, as well as hygiene in the army and the navy. Still, matters pertaining to military hygiene made up a small fraction of the programme and were essentially scattered over different sections of the programme.

The beginning of the next phase in the development of the teaching of military hygiene at the Saint Petersburg Medical and Surgical Academy was the introduction of a course on military hygiene in 1882. The course was prepared thanks to the accumulated theoretical material on military hygiene and the assertive policy of the academy’s leadership to include the prevention of infectious diseases in the curriculum for future doctors, which constituted the content of the course on military hygiene. Prior to that, there was no unified course on this military medical discipline, although special matters pertaining to military hygiene were dealt with as part of the work of the staff of the department of medical jurisprudence and medical police in the 1850s. The architect of the course on military hygiene was A.P. Dobroslavin, who drew up the teaching programme for this discipline. For the first time, issues relating to military hygiene were separated into a single course, which included the following aspects: 1) the definition of military hygiene as public hygiene when applied to the needs of the army and the navy during peacetime and wartime; 2) army recruitment methods in various countries, admission conditions; 3) characteristics of the development of the body and its functions in people from different climatic regions; 4) soldiers’ accommodation; 5) different barracks for the infantry and cavalrymen; 6) special types of barracks; 7) special barracks of the latest types; 8) the internal environment in barracks; 9) historical data on

camp; 10) peacetime hospitals; 11) soldiers’ clothing and ammunition; 12) water supply in peacetime and wartime; 13) the relationship between body functions and nutrition; 14) degree of digestibility of food from cooking; 15) flavouring agents and their value; 16) service during peacetime; 17) wartime; 18) battlefield; 19) cleaning up of the battlefield; 20) principles of evacuation; 21) morbidity in the army; 22) laws of statistics (Surovtsev 1898, p. 14).

Initially, the course on military hygiene was only meant for military doctors (military surgeons assigned to the academy for two-year postgraduate training). A year later, from the 1883–1884 academic year, the course was taught to military general practitioners as well. Besides lecture material, the programme of the course also included practicals. From then on, the course was taught not only to military doctors, but to students as well. In 1885, A.P. Dobroslavin published the first volume of the book titled “Military Hygiene Course”, and the second volume of the book in 1887. Through the efforts of A.P. Dobroslavin, the department opened an experimental laboratory, and hygiene as a science became a compulsory subject for military doctors (Belitskaya 1966). Thanks in large part to A.P. Dobroslavin, health and disease control in the Russian army reached a new level. For instance, in the last quarter of the 19th century, for the first time the Russian army introduced permanent anti-epidemic units (disinfection detachments) (Karpenko 2008).

The instructional programme for military hygiene virtually remained unchanged until the beginning of the Soviet era and generally matched A.P. Dobroslavin’s programme. The early post-revolution years were marked by the attempts by the academy’s leadership to alter the syllabus of the course in accordance with new requirements and needs of the army. These changes were necessary primarily due to the use of new types of weapons, especially poison gas, aircraft, tanks and automatic weapons, during World War I. The letter written by the president of the academy to the head of the Main Military Sanitary Department of the Workers’ and Peasants’ Red Army No. 8917, dated 18.10.1920, proposed the introduction of the following sections in the course on military hygiene: “Principles of the use of gases for military purposes”, “Hygiene of the air service”, “Hygiene of the silent service”. However, this proposal was not approved.

In 1922 the course on military hygiene was taught by Professor N.A. Ivanov. Another challenge during this period was the shortage of teaching staff. The head of the course on military hygiene, N.A. Ivanov, wrote a report on this issue. The situation remained tense for several years. For example, in 1929 N.A. Ivanov noted: “...Research work is difficult because the teaching load on the staff is too heavy. The establishment of a camp laboratory on military hygiene is desirable”.

The decisive moment in the final phase of the development of the teaching of military hygiene at the Military Medical Academy was the establishment of a separate department of military hygiene in 1936. By that time, the Military Medical Academy already had a department on public and military hygiene (from 1865). However, the course on military hygiene, which was taught by A.P. Dobroslavin in this department, was only part of the instructional material of the department.

The department established in 1936 was solely meant to deal with military hygiene issues. The first head of the independent department of military hygiene was military doctor, graduate of the academy, V.A. Vinogradov-Volzhinsky – a student of renowned local hygienist, G.V. Khlopin. By that time, V.A. Vinogradov-Volzhinsky had vast experience serving in the military (Erensen and Liberzon 1971). The educational process in the department closely matched the demands and needs of military practice. The main focus was on matters of military hygiene. The curriculum was based on the teaching guide titled “Military Hygiene, Selected Lectures”, authored by F.A. Krotkov (1936), one of the pioneers of the study of this discipline, who later became a renowned Soviet hygienist. According to this guide, the curriculum of military hygiene consisted of general and special issues of military hygiene, among them: 1) aviation hygiene (hygiene of the pilot station, high-altitude flight, protection of ENT-organs, exercise of the vestibular system, night flights, etc); 2) hygiene of mechanised troops (working conditions in tanks, the noise factor, night march, winter march, requirement for the physical training system); 3) hygiene of defence installations (trench shelters, trenches and other protective works) (Kalmykov and Koshelev 1967).

An academic and material base was created for the department. New laboratories were equipped, particularly the field camp laboratory. The number of hours allocated for camp lessons was considerably increased.

V.A. Vinogradov-Volzhinsky made an enormous contribution in addressing the hygiene of military clothing. He conducted a sanitary assessment of the woollen cloth used to make overcoats and proposed measures which considerably reduced the sorption capacity of the cloth when exposed to poisonous substances. V.A. Vinogradov-Volzhinsky also proposed a special gas mask for those with maxillofacial injuries. He published about 40 major papers dealing with the most urgent aspects of field hygiene among the troops. He also authored textbooks on hygiene for tertiary schools (Volzhinskiy 1939).

Therefore, the teaching of military hygiene had its distinctive features in different eras. The trend towards increasing the volume and improving the quality of the teaching material remained unchanged. The first stage (early 18th century to the 1840s) was marked by occasional familiarisation with certain issues pertaining to military hygiene. There was no established curriculum. The next stage began in 1845, when the teaching of certain issues of military hygiene was established through a teaching programme. A course on military hygiene was introduced in 1882, which marks the beginning of the next, third stage, which ended with the establishment of the department of military hygiene at the Military Medical Academy of the Workers’ and Peasants’ Red Army in 1936. The creation of the department was the logical conclusion of the process of establishing the teaching of military hygiene in our country.

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