

Training of military medical personnel in Russia and Western Europe in the pre-revolutionary period

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Abstract

The paper examines the training of military medical personnel in Russia and some countries in Western Europe between the mid-17th century and the early 20th century. It demonstrates that the establishment of a system for training medical personnel for the army in European countries is tied to the availability of surgical schools that had existed since the 15th century. In the Muscovite state, the first medical school opened as late as 1654. In spite of this, the advent of systematic training of military medical personnel in Europe and Russia virtually coincides and is associated with the 18th century. In Russia, this has to do with the establishment of the Moscow Hospital School in 1706, and in Europe, it is related to the opening of a medical-surgical college in Berlin in 1724. During this period, institutions for training military medical personnel emerged in other European countries as well (Austria, France). Comparative analysis of the system for training military medical personnel in Russia and European countries is provided. Common traits and fundamental differences in the system for training military medical personnel in Russia and Western Europe are highlighted. The paper demonstrates that the existence of specialised medical institutions set up at major military hospitals was the common thread in the training of military medical personnel in the 18th century. The characteristic feature of the training of military doctors in the first half of the 19th century was the level of training in these institutions rising to the level of training in universities. The main distinction between military medical schools in Russia and Europe, which became apparent in the second half of the 19th century, was the emergence of practical military medical schools in some European countries (Austria-Hungary, France, England) during this period. These schools trained doctors that had graduated from university medical faculties: the doctors took a short military medical training course (up to 6 months). By the early 20th century, this form of training military doctors had become basic in most European countries.

Keywords

history of medicine, military medicine, military medical education, military medical personnel, military doctor

The first attempts at organising the training of medical staff for the army in the Muscovite state are associated with the work of the Aptekarsky Prikaz (Pharmaceutical Ministry), which was established in the mid-17th century. In 1654, the Aptekarsky Prikaz selected 30 students from Streltsy (literally “Shooters”) and the children of Streltsy to undergo military medical training. All of them were sent to the war, where their training took place (Semeka 1948). All of the students served in the Aptekarsky Prikaz and received a financial allowance. Renowned pre-revolution medical historian, L.F. Zmiev, described the training procedure at the

school as follows: “Learning began, of course, with surgery <...> After two years, pathological-therapeutic concepts were added <...>. From the fourth year, students were assigned to physicians at home to study surgical pathology with equipment. Dressing was performed on humans. Along with the physicians, the students went to the war, which provided great learning material” (Zmiev 1890, p. 143).

This method of training differed little from that in Western Europe. In Western Europe, training normally began with serving in a barbershop and at the home of the teacher. Students were then allowed to cut hair,

and at the end of the training, they were allowed to perform bloodletting (Bayrashevsky 1912). The big difference was that the training of such personnel in Europe began much earlier. This is largely due to the fact that the job of the military physician appeared much earlier in Western European armies compared to the Russian army. For instance, in German armies, barber surgeons (Feldscherer) emerged as early as the 15th century.

By the early 18th century, the school of the Aptekarsky Prikaz could not cope with the demands of the army that had been reformed by Peter the Great. To solve the tasks at hand, a hospital school for training doctors for the Russian army opened at the military hospital in Moscow in 1707. This paved the way for the systematic training of military medical personnel in Russia. Doctor N. Bidloo took on the task of setting up this school, which he went on to head. One of a handful of trained doctors living in Russia at that time, who had been educated in the faculty of medicine at the European University, Bidloo was “a very skilled doctor and surgeon, the best anatomist in Russia, and a very educated person” (Chistovich 1883, p. 63).

There were 50 government-sponsored students at the Moscow hospital school. Documents pointing to the task-specific training of graduates of hospital schools for the army have not been found yet. Nevertheless, several facts suggest that most of the graduates of the hospital schools were specifically intended to serve in the Russian army that had been reformed according to European standards (Gorelova 2010). Graduates who did not make it into the navy were sent to the army as regimental doctors and doctor’s assistants (depending on their academic achievements). The entire class of hospital school graduates of 1722 was sent to the army fighting in the Russo-Persian War (Chistovich 1883).

In the first half of the 18th century, Russia had only three hospital schools (Moscow, Saint Petersburg and Kronshtadt), and in the second half, two more were added – Kolyvano-Voskresenskaya (from 1751 until the end of the 18th century) and Elizavetgradskaya (1788–1798).

The first military medical school in Europe also opened in the first half of the 18th century: The Medical-Surgical College (MSC) opened in Berlin in 1724 (Bayrashevsky 1912). It had eight government-sponsored company feldshers, who were paid fifty thalers a year. The training was three years long. The entire training was conducted in a clinical setting, with students taking practical lessons at the Charite clinic in Berlin. MSC graduates also took a mandatory six-month practical training course at the same clinic (after this course, the graduates became full-scale professionals and were permitted to operate independently).

The system of training military medical personnel went through significant changes in the second half of the 18th century. Archiater P.Z. Condoidis was actively involved in the process. At his instigation, the position

of junior doctor (docent), intended for teaching at the hospital school, was introduced at hospitals in 1753. From 1754, training at the schools was seven years long. New academic disciplines such as midwifery, and women’s and children’s diseases, were introduced into the curriculum of the hospital schools. Condoidis’s name is also associated with other innovations. For example, thanks to him, hospitals introduced mandatory autopsy of all patients that had died on-site. Service in botanical gardens at each hospital school was also transformed and regularised (Istoriya voennoy meditsiny... 2002). Condoidis’s guidelines for hospital school professor I. Schreiber, which clearly outlined the military medical component of the training, are widely known. In particular, Condoidis wrote: “For the benefit of the service, H.I.M., there is the noblest intention at the established surgical school, that, under H.I.M., the army on both dry land and water, has skilled physicians who would not only understand surgery, but would also be trained to treat those diseases that usually occur between soldiers and sea people, and how they are affected” (Chistovich 1883, p. 267).

In Europe, during this period, the first military medical schools opened in other places besides Prussia. Several military medical educational institutions opened throughout the second half of the 18th century. The Military Medical School opened in Brussels (then a territory of the Holy Roman Empire, and later the Austro-Hungarian Empire) in 1763. The need for such a medical institution arose after the introduction of company feldshers, who reported to the regimental feldsher, in the imperial army in the early 18th century. The School for Internal Medicine and the Study of Military Medical Science was established at the Gumpendorf Military Hospital in 1775 (Bayrashevsky 1914b). Gerard van Swieten – a renowned medical education reformer, who sought to introduce the principle of clinical training in the system of training doctors – was the driving force behind the opening of these schools. He petitioned Empress Maria Theresa to open military medical schools.

The military medical education system in Russia saw critical changes during the last quarter of the 18th century. In 1786, hospital schools were transformed into medical-surgical schools. In St Petersburg, hospital schools were merged into a medical-surgical school. Another event, which had a significant impact on the establishment of a system of training military medical personnel in Russia, occurred in 1798: a decision was made to establish two medical-surgical academies – in Moscow and Saint Petersburg. Medical-surgical schools were shut down, and the students and most of the teachers were transferred to medical-surgical academies: students at the schools in Saint Petersburg and Kronshtadt were transferred to the Saint Petersburg Medical-Surgical Academy, and students in Moscow were transferred to the Moscow Medical-Surgical

Academy. The medical-surgical academies took in students from the rest of the schools.

Certain events in the system of training military medical personnel also occurred in European countries during this period. In Prussia, the so-called *Pepiniere* was established at the Medical-Surgical College in 1795. This institution was tasked with providing not only advanced training for company surgeons but also training of surgeons from other categories of students. The Imperial Academy of Medicine and Surgery was founded in Vienna, Austria, in 1785. The academy offered two courses – a long two-year course, and a shorter six-month course (Bayrashevsky 1914b). Graduates of these courses went on to become battalion and company surgeons, respectively.

In France, several schools opened at hospitals in Strasbourg, Metz, and Lyon in the last quarter of the 18th century. These schools were for training military surgeons. Each had eight full-time and a few part-time students. The teachers were the doctors, surgeons, and pharmacists at these hospitals. The training was three years long. Graduates of the schools were required to serve a one-year internship at the hospital. Only then would the graduates be sent to the army as assistants to the regimental surgeon (Bayrashevsky 1914a). The hospitals in Strasbourg, Metz, and Lyon, which trained future military doctors, were referred to as “teaching hospitals” (Bayrashevsky 1914a).

Therefore, the establishment of military medical education in Europe began much earlier than in Russia. To a great extent, this was because the job of permanent military doctor and surgical schools in European armies appeared much earlier. The schools, which trained future Russian and European military medical personnel in the second half of the 17th–18th centuries, were established at major military hospitals. Medical-surgical academies for training military medical personnel opened in Russia and Austria in the late 18th century. This helped improve the quality of military medical education.

The Saint Petersburg Medical-Surgical Academy became the “leading centre for training doctors for the Russian army” in the 19th century (Gladkikh 1997, p. 7). According to its organisational and staff structure at that time, the academy consisted of three departments: medical-surgical, veterinary and pharmaceutical. The training courses were 5, 4 and 3 years long, respectively. The Saint Petersburg Medical-Surgical Academy was primarily focused on training doctors. In the first quarter of the 19th century, 249 and 20 veterinary doctors and pharmacists, respectively, graduated from the academy. The academy produced more doctors and Ph.D. surgery students – 160 and 460, respectively (Gladkikh 1997). This ratio would remain unchanged. With the introduction of the Charter of the Saint Petersburg Medical-Surgical Academy of 1835, the list of subjects and the curriculum were no different

from those of medical faculties at universities. From then on, the education offered at the Saint Petersburg Medical-Surgical Academy matched that offered at university. Training at the academy was markedly clinical. Students at the Saint Petersburg Medical-Surgical Academy were enlisted to tackle infectious diseases, for example, during cholera epidemics (Surovcev 1898). The bolstering of the clinical component in the training of future military medical personnel facilitated the establishment of new clinical departments at the academy.

The European military medical school also went through significant changes in the first half of the 19th century. For instance, in 1818, the *Pepiniere* in Prussia was renamed to the Friedrich Wilhelm Institute, which remained part of the Imperial Academy of Medicine and Surgery. The institute had about 80 students at that time. Graduates were required to work at the medical institution for a year to obtain a private practice permit. The Charite clinic in Berlin remained unchanged.

Meanwhile, in Austria, there was public debate over the viability of a specialised military medical school. Its opponents proposed to train military doctors in medical faculties at universities. However, after the closure of the Imperial Academy of Medicine and Surgery in Vienna in 1820, the shortage of military medical personnel became clear. This circumstance was the reason behind the decision to resume the training of military doctors at the academy in 1824. Two courses – higher and lower – were established. The higher course was five years long, and the lower course, which was intended for company surgeons, was two years long (Bayrashevsky 1914b). The lower course was later extended to three years. The program for the higher course was brought to the same level as the university program in 1836. From then on, graduates of the higher course received a doctor of medicine degree. By enrolling for the higher course at the Imperial Academy of Medicine and Surgery in Vienna, students committed to mandatory ten-year military service. The mandatory service for lower course graduates was eight years. The academy was shut down again in 1848, military doctors had to be trained at universities with funding from the military department.

In France, starting from 1824, a one-year practical course was introduced at a specialised school at the Val-de-Grâce Hospital (Paris) for graduates of hospital schools (Strasbourg, Metz, Lyon). From then on, the hospital was referred to as a hospital for advanced training (Bayrashevsky 1914a). At the end of the course, graduates had to serve in the army for at least three years. After that, they had to return to Val-de-Grâce to sit for “doctor of surgery” examinations.

Therefore during the first half of the 19th century, a clear trend of the improvement of the quality of training future medical doctors emerged in both Russia and

countries in Western Europe. This led to the fact that in most countries, the education offered to future military doctors, was on par with university education.

The second half of the 19th century was marked by attempts at introducing certain elements of military medical disciplines. These were primarily sections on military field surgery and military hygiene. By then, Russian authors had published their first works addressing these issues (Karpenko 2019). I. Enegolm (*Pocket-book on military hygiene, or notes on the preservation of the health of Russian soldiers 1813*) and M. Mudrov (*On the benefit and topics of military hygiene or the science of preserving the health of soldiers, 1826*) were the first in Russia to address issues relating to hygiene on the field, among marching troops and in the barracks. At the Saint Petersburg Medical-Surgical Academy, the decision (1869) to send 25 doctors to the academy every year for further training in military field surgery was a pivotal event (Istoriya... 1898). In October 1870, the Academy Conference made the decision to open special courses on military field surgery and surgical anatomy. The course on military field surgery was the first course on military medical disciplines to be taught at the Saint Petersburg Medical-Surgical Academy. In 1882, the academy introduced the study of another special military medical discipline – military hygiene. At the suggestion of the Chief Military Medical Directorate, A.P. Dobroslavin, a professor in the department of hygiene, started giving lectures on military hygiene for military surgeons on attachment, and military general practitioners from the 1883-1884 academic year. The lectures were delivered twice a week and were 1.5 hours long. There were also one-hour practical lessons (Surovcev 1898) once a week. Later on, Dobroslavin managed to get permission to teach his course to academy students. In 1881, the Saint Petersburg Medical-Surgical Academy was renamed to the Imperial Military Medical Academy.

The European military medical school also went through similar changes during this period. In 1867, several special military medical disciplines were added to the curriculum at the Friedrich Wilhelm Institute in Prussia. Fifth-year students were now taught field surgery and military sanitary organisation. The study of military medicine was later supplemented with a course on army healthcare. Under field surgery, students were shown slides demonstrating gunshot wounds. Themed rooms were fitted to conduct lessons on military sanitary organisation. In these rooms, students were introduced to army sanitary equipment and the setting up of military treatment facilities (models were presented). In 1895, the Friedrich Wilhelm Institute and the Imperial Academy of Medicine and Surgery were merged into a single military medical school named the Emperor Wilhelm Academy.

In Austria-Hungary, following another shutdown in 1848, the Franz Joseph Academy in Vienna reopened

in 1854. The academy was permanently closed in the early 1870s, and a six-month military medical course for young civilian doctors wishing to serve in the army was established there instead. The course included the following subjects: organisation of the army and military medical service, military hygiene, and field surgery. In 1883, it was decided to train doctors for the army in university medical faculties as scholarship holders of the military department, and the military medical course was shut down. The Military Medical Practical School, which was also intended for university medical faculty graduates, was shut down in 1900.

In France, hospital schools were closed in 1850 (Bayrashevsky 1914a). The Practical School of Military Medicine and Pharmacy for training civilian doctors opened in Val-de-Grâce. University-educated young doctors who wished to become military doctors attended this school. However, history shows that the practical school failed to solve the problem of the dearth of medical personnel in the French army. Hence in 1857, a decision was made to open the Imperial School of Military Medical Service at the military hospital in Strasbourg. Future military doctors studied in the faculty of medicine at the University of Strasbourg and simultaneously worked in wards at the Imperial School, where they learnt special military medical disciplines. The studies were free of charge. Students graduated from the school with doctor of medicine degrees. They would then take a one-year internship at the Val-de-Grâce Hospital for “advanced training in military medical sciences” (Bayrashevsky 1914a, p. 225). After the Franco-Prussian war in 1870, France lost Strasbourg (taken over by Prussia), and the Imperial School was also lost. Military medical personnel were replenished with some of the military department scholarship holders that were studying at eleven medical faculties at French universities. Studies for the scholarship holders were free of charge. The scholarship holders lived in military hospitals and studied in medical faculties of local universities for the first three years. After the third year, they were transferred to Val-de-Grâce (Paris), where they would study in the faculty of medicine at the University of Paris. The students received special military medical training at the Val-de-Grâce Practical School of Military Medicine and Pharmacy. The School of Military Medical Service was founded in Lyon in 1888 to train military doctors. The training was conducted in the faculty of medicine at the University of Lyon for five years. After that, the students obtained their doctoral degrees and served an internship in Val-de-Grâce for another year.

The first military medical school in England opened during this period (1860). Until that time, the military medical units of the English were staffed with civilian doctors during war. During peacetime, only senior military medical officers served in the army. The Army Medical School opened in Fort Pitt (Chatham) (Zatler

1861). Similar to the school in Val-de-Grâce (France), the Army Medical School enrolled young doctors aged 21–28, who were healthy enough to serve in the army. The school had 43 students, and the study program was 4 months long. Since the students were all qualified doctors, special attention was focused on academic disciplines essential for the practical work of a military doctor (Zatler 1861). Practical lessons were held at the military hospital and in laboratories. In 1864, the school was moved to Netley, where training was conducted at the Royal Victoria Hospital – a major military hospital, which was an assembly point where all the wounded and chronic patients coming from numerous English colonies were treated.

Therefore, in the training of military medical personnel in Russia and European countries in the second half of the 19th century, the common characteristic was the tendency for the “militarisation” of education, which was expressed in the introduction of military medicine into the curriculum for future military doctors. Significant differences in the training of military doctors also emerged during this period. Key among them was the establishment of practical military medical schools in some countries in Western Europe (France and England). A similar institution – Practical Military Medical School for Advanced Training of Doctors in the Field of Military Medicine – also opened in Austria-Hungary. The main characteristic of these schools was that they offered short courses for qualified doctors who had graduated from universities and wished to become military doctors. It should be noted that with time, this form of training became basic in most military medical schools in Europe.

Student unrest, which intensified during the First Russian Revolution, had a big impact on the educational process in Russia in the early 20th century. From 1905 to 1907, studies at the academy were disrupted several times. During the Russo-Japanese War and World War I, teachers and students at the academy formed detachments that served at the front line. One of the students of the military medical academy who fought in the Russo-Japanese War was future academy fellow – N.N. Burdenko. The academy offered fast-track training of doctors during World War I: students that had completed the fourth year were given the title of acting physician and were sent to the front as military doctors. They were able to finish their education after the war. In the run-up to World War I, several measures aimed at bolstering the military medical training of students at the Imperial Military Medical Academy were implemented. Academy students participated in combat training exercises with the forces for the first time in 1902, and subjects such as sanitary tactics, military administration and military topography were added to the curriculum in 1912. As a result, in 1913, military and medical disciplines accounted for 9% of the total number of academic hours in the

training of military medical personnel (Kozovenko 2001, p. 62).

In Germany, the training of military medical personnel continued at the Friedrich Wilhelm Institute. In the early 20th century, the training program was considerably expanded through the addition of new subjects, such as the anatomy of the nervous system and sensory organs, comparative anatomy, topographic anatomy, hygiene, practical lessons on hygiene and bacteriology, clinical treatment of women’s, skin and mental diseases, practical courses on electrical therapy, throat, ear and nose examination.

This state of affairs remained unchanged until the end of World War I. After the war, in accordance with the Treaty of Versailles, the German army was considerably cut in size, and the Emperor Wilhelm Academy was disbanded in 1919.

In Austria-Hungary, the military medical course, which had been shut down in the late 19th century, resumed in 1900 at the Military Medical Practical School, where young doctors, military department scholarship holders, were trained. The course was six months long. After defeat in World War I and the break-up of Austria-Hungary into several independent states, a system for training doctors for the army was established, where military department scholarship holders were trained in university medical faculties.

In France, the School of Military Medical Service was established in Lyon in 1888 in place of hospital schools. For five years, students studied in the faculty of medicine of the University of Lyon, and after graduation, they served for another year at the Practical School of Military Medicine in Val-de-Grâce. After World War I, France set up specialised military medical schools that were “closely associated with universities and military hospitals” (Likhachev 1932, p. 449). After university, medical faculty graduates served a one-year internship at the hospital, after which they were assigned for nine months to the Practical School of Military Medical Service in Val-de-Grâce in order to obtain military medical education (Likhachev 1932, p. 449).

In England, the Army Medical School in Netley continued to enrol doctors who wished to serve in the army. The training was four months long. The number of students dropped from 42 to 12, and that number matched the vacancies in the army. The process of training military medical personnel in England remained unchanged after victory in World War I.

Therefore, two military medical education systems existed in the early 20th century. One of them allowed for the existence of specialised higher education institutions, where future military doctors received both general medical training and special military medical training (Russia and Germany). Training in such institutions was five years long, and the curriculum matched that of university medical faculties. The Emperor Wilhelm Academy in Germany was disbanded in 1919. In

Russia, the Imperial Military Medical Academy, which had been renamed to the Military Medical Academy of the Workers' and Peasants' Red Army, continued to exist.

The other system, which had been established in most countries in Western Europe, allowed for the existence of practical military medical schools, where graduates of

university medical schools enrolled. After obtaining general medical education, the future military doctors were introduced to the principles of organising military service, military hygiene and military field surgery. The practical military medical schools taught basic military medical disciplines, such as military field surgery, military hygiene and the organisation of army medical service.

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