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ANTI-EPIDEMIC SUPPORT FOR TROOPS AND POPULATION DURING THE GREAT PATRIOTIC WAR OF 1941–1945

S.F.Goncharov^{1,2}, M.M.Knopov^{1,2}

 All-Russian Centre for Disaster Medicine Zashchita of Federal Medical Biological Agency, Moscow, Russian Federation
Russian Medical Academy of Continuous Professional Education, the Ministry of Health of the Russian Federation, Moscow, Russian Federation

Abstract. The article presents the forming of military epidemiology during the Great Patriotic War of 1941-1945. It is particularly emphasized that the war period was the most important stage in the development of domestic military epidemiology – the stage of creating a coherent and effective scientifically based system of anti-epidemic support of troops in accordance with the specific combat and epidemiological situation.

Keywords: anti-epidemic support of troops and the population, Great Patriotic War of 1941–1945, military epidemiology

Conflict of interest. The authors declare no conflict of interest

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ПРОТИВОЭПИДЕМИЧЕСКОЕ ОБЕСПЕЧЕНИЕ ВОЙСК И НАСЕЛЕНИЯ В ГОДЫ ВЕЛИКОЙ ОТЕЧЕСТВЕННОЙ ВОЙНЫ 1941–1945 гг.

С.Ф.Гончаров^{1,2}, М.М.Кнопов^{1,2}

¹ ФГБУ «Всероссийский центр медицины катастроф «Защита» ФМБА России, Москва, Россия

² ФГБОУ ДПО «Российская медицинская академия непрерывного профессионального образования» Минздрава России, Москва, Россия

Резюме. Представлено становление военной эпидемиологии в годы Великой Отечественной войны 1941–1945 гг. Особо подчеркивается, что период войны явился наиболее важным этапом в развитии отечественной военной эпидемиологии – этапом создания стройной и эффективной научно обоснованной системы противоэпидемического обеспечения войск в соответствии с конкретно складывающейся боевой и эпидемиологической обстановкой.

Ключевые слова: Великая Отечественная война 1941–1945 гг., военная эпидемиология, противоэпидемическое обеспечение войск и населения

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Contact information:

Mikhail M. Knopov – Dr. Sci. (Med.), Prof., Professor of Disaster Medicine Chair of Russian Medical Academy of Continuing Professional Education Address: 2/1 bldg. 1, Barrikadnaya str., Moscow, 125993, Russia Phone: +7 (495) 680-05-99, ext. 900 E-mail: rmapo@rmapo.ru Контактная информация:

Кнопов Михаил Михайлович – доктор медицинских наук, профессор, профессор кафедры медицины катастроф РМАНПО Адрес: Россия, 125993, Москва, ул. Баррикадная, д. 2/1, стр. 1 Тел.: +7 (495) 680-05-99, доб. 900 E-mail: rmapo@rmapo.ru

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The peoples of our country as well as all progressive mankind have celebrated the 75th anniversary of the Victory over Nazi Germany. This anniversary is of special value for us, because our soldiers and officers took the main brunt of Hitler hordes and defeated them in fierce battles. Roughly eight decades separate us from that distressing and dreadful day when Hitlerite Germany treacherously attacked our country and the Great Patriotic War of the Soviet people against the German Nazi invaders began. The war receded into the historical distance, but still remains imbedded in the nation's memory. It should be noted that in this unprecedentedly fierce, the most difficult and deadly war of all time, which was accompanied by the devastation of massive territories, by the rob-bery of the population in the areas occupied by Nazi troops and by the mass migration of civilians - thanks to the enormous efforts of military medicine and civil healthcare specialists - the epidemic well-being was maintained. During the most difficult peri-ods of the war, infectious diseases impact did not reach the level that would adversely affect the combat effectiveness of troops.

The first, most troublesome, period of the Great Patriotic War clearly demonstrated the place and the role of an effective edifice in organizing anti-epidemic work in the troops and among local population of regions, where various armies and fronts were deployed. Throughout the war, the country's State Defense Committee (GKO) paid great attention to this work. Thus, on February 2, 1942, a special GKO decree "On measures to prevent epidemic diseases in the country and in the Red Army" was issued. The decree provided a number of important measures to maintain sanitary and epidemic well-being in crowded cities and workers' settlements of the country's homefront, to énsure the gen-eral immunization of conscripts, to rationally distribute epidemiologists, bacteriologists, hygienists in order to comply with the changes in population density, etc. The GKO Resolution as of March 3, 1942 provided for the strengthening of the anti-epidemic function of the Red Army medical service to form additional 50 sanitary control points, 24 sanitary and epidemiological detachments, 2 sanitary and epidemiological laborato-ries, 58 infectious field hospitals, 29 washing and disinfection troops, 30 laundry and disinfection detachments, 137 bath and laundry disinfection detachments, 5 disinfection instructors' detachments [1].

Our troops' switch to strategic defense made it necessary to evacuate 1523 industrial en-terprises, more than 10 million people and hundreds of evacuation hospitals with wounded and sick to the east of the country. All this affected the sanitary and epidemic situation as well as the number of infectious cases among population and troops. According to E.I. Smirnov, 75% of all infectious cases were placed on record in military posts of district subordination and 25% only – in the combat army [2].

The close interaction of civil health authorities with the Red Army military medical ser-vice largely contributed to the successful maintaining of epidemic well-being in the ar-my and in the home front. Throughout the regions liberated from the Nazi invaders, burned cities and villages, destroyed communication systems remained. The incidence of infectious diseases among the local population was high, and the

major part of hospi-tals were looted. The military medical service was forced to guickly eliminate pestholes of infectious diseases among the population, as well as to provide assistance in the res-toration of public health facilities. The reports of the chief battlefield epidemiologists of that war serve as an illustration to what has been said, testifying to the enormous amount of anti-epidemic work done. Thus, according to the chief epidemiologist of the Western Front, T.T. Pozyvaya, during the counteroffensive of our troops near Moscow and the subsequent offensive of the Western Front troops in the liberated regions, the medical service elicited 2,200 pestholes of typhus and investigated 32,650 settlements. Among the identified afflicted persons, 10.5 thousand were hospitalized in infectious field mobile hospitals; among the persons examined - 1 million 482 thousand were sanitized; 3 million 230 thousand sets of clothes and bed linen were subjected to cham-ber disinfection.

The fronts and fleets anti-epidemic service chiefs contributed a lot to the creation of a coherent system of anti-epidemic protection of troops.

Even before the war, by the order of the USSR People's Commissar of Defense as of May 9, 1941, the fronts chief epidemiologists institute was established [3]. Somewhat later, by the order of the People's Commissar of the Navy as of September 1, 1942, the fleets chief epidemiologists institute was introduced [4]. During the Great Patriotic War, prominent epidemiologists of our country occupied these major positions. Among them: academicians of the USSR Academy of Medical Sciences L.V. Gromashevsky and V.I. loffe; Corresponding Members of the USSR Academy of Medical Sciences, A.Ya. Alymov and T.E. Boldyrev; Professors I.D. Ionin, V.M. Berman, S.V. Viskovsky, I.I. Elkin, M.V. Zemskov, G.A. Znamensky, B.P. Pervushin, G.Ya. Sinai , G.I. Khomenko, J.K. Gimmelfarb, N.N. Spassky; Doctor of Medical Sciences, Associate Professor A.S. Kaplan; 11 candidates of medical sciences and 7 major organizers of the antiepidemic service. Five people from among the main epidemiologists of the fronts and fleets – A.Ya. Alymov, K.F. Akinfiev, T.E. Boldyrev, G.A. Znamensky, I.D. Ionin – were awarded with the high military rank "General major of the medical service".

The chiefs of the anti-epidemic service of the fronts and fleets faced many tasks: con-tinuous study of the sanitary state of territories, of the epidemic state of troops and fleets, of the population, as well as of the enemy's troops; analysis of morbidity and re-lated forecasting and planning of anti-epidemic support of troops and fleets; maneuver of anti-epidemic manpower and costs; systematic control and generalization of work experience; development of new methods of anti-epidemic work, etc.

The head of the Main Military Sanitary Directorate (GVSU) of the Red Army of war-time, Efim Ivanovich Smirnov, constantly paid great attention to challenging issues of epidemiology.

In his scientific works and practical activities, he repeatedly pointed out the place and the role of a scientifically based edifice of anti-epidemic support of troops in wartime. E.I. Smirnov wrote: "... the system of anti-epidemic protection of troops is very simple to describe, but in military conditions it is often very difficult to implement." His mono-graphs "Epidemic process" (1980, et al.), "Wars and epidemics" (1988, et al.), as well as publications "The Great Patriotic War and anti-epidemic protection of troops", "Some issues of military epidemiology", "Lessons from anti-epidemic support in the Great Pat-riotic War and some aspects of modern epidemiology", "War and anti-epidemic protec-tion" and others are devoted to the above-mentioned problems of military epidemiology.

The anti-epidemic support of troops during the Great Patriotic War was largely facilitat-ed by continuous sanitaryepidemiological reconnaissance of the areas of military oper-ations and by the isolation of troops, where it was possible, from the pestholes of dis-eases; by well-managed bath and laundry provision with the use of bath, laundry and disinfection trains; by the use of antiparasitic agents and prophylactic vaccinations, as well as by the strict sanitary control at all communications, used by the units and for-mations of the Red Army.

It is necessary to make a pointed reference to the fundamental importance of sanitary and epidemiological reconnaissance in the implementation of the system of anti-epidemic support of troops during the war. A good lesson was learnt by the medical service of the North-Western Front upon the liberation of war prisoners' camp during the offensive on Staraya Russa in January 1942. Moving in small groups to the collec-tion and transit point, the servicemen released from captivity contacted the troops and the local population. As it was revealed later on, they were all pediculous, more than 60 people were sick with typhus, 40% were sick with typhoid and other intestinal infec-tions. Since the medical service of the front did not manage to conduct a proper sanitary and epidemiological reconnaissance and, thus, did not take timely measures, some sol-diers in the regular troops got sick with typhus.

The circumstances were very similar at the Don front after the defeat of the German group in the vicinity of Stalingrad. This time a significant part of the front's troops were redeployed to the Yelets-Kursk region, where the Central Front was being formed. The population of the liberated districts of Kursk and Oryol regions was sick with typhus, the cities and villages were plundered and all medical institutions were completely de-stroyed. Sanitary and epidemiological reconnaissance was not carried out on the routes of troop advance. The movement of units and formations took place on the epidemio-logically unfavorable territory, the servicemen were in contact with the local population, the troops often stayed for a short-term rest or overnight in settlements where there were pestholes of typhus. As a result, in the 65th and 70th combined armies, as well as in the 2nd tank army, pestholes of typhus appeared.

The above examples convincingly illustrate the place and the role of timely sanitary and epidemiological reconnaissance in the system of anti-epidemic support of troops in any operational-tactical situation. Sanitary-epidemiological reconnaissance was the leading method of modern military epidemiology – the lessons of the Great Patriotic War emphasized this conclusion, which has not lost its relevance till the present time. During the war, the Nazi military commanders repeatedly resorted to direct epidemio-logical sabotage, deliberately transferring lousy people with typhus across the front line. Thus, according to the proceedings of the Nuremberg trial over the main German war criminals, in the zone of actions of the 65th Army "in March 1944, the Nazi military commanders organized a sabotage aimed at the deliberate spread of typhus disease among the population "[5].

The situation with typhus was especially complicated in 1943–1944, the years, when warfare was conducted on the territory temporarily occupied by the German Nazi invaders. The retreating enemy completely devastated the territories left. In Belarus, for example, more than 3 million people huddled in huts, dugouts and house wrecks. Areas with partisan movement were subjected to extremely fierce devastation, where the puni-tive expeditions of invaders wiped out entire cities and villages. Thus, in Polesie (Lelchitsky district) only 34 out of 7 thousand houses remained, and in Kalinkovichsky and Mozyr districts 68% of houses were destroyed. The population left without shelter, food and clothing fell prey to epidemics. That is why during this period of the war the medical service of the Red Army faced a vital task to prevent the mass spread of infec-tions among the military personnel of units and formations.

Among other infectious diseases that required certain actions of the military medical service, tularemia can be listed, which in those years military and civilian doctors did not know much about. Thus, in some areas of the Stalingrad region in the fall of 1942, more than 75% of local population was affected by tularemia infection, which created a real threat of introducing tularemia into the troops. Since the regional health authorities were practically inoperable, the entire burden of the fight against tularemia among the population came upon the front medical service. Taking into account the fact that an ef-fective means of specific prevention of tularemia did not yet exist at that time, the fight against this infection was focused on timely laboratory and clinical diagnosis of the dis-ease, on early isolation and hospitalization of sick people, on extermination of rodents and on shielding food and drinking water supplies from them. In some areas, an entire military personnel of units, exposed to contamination hazard, were engaged in the ex-termination of rodents. According to the chief epidemiologist of the Southern Front K.F. Akinfiev, from December 1941 till January 1942, the forces of the anti-epidemic service of the front, treated about 20 thousand objects with mechanical means of deratization, more than 30 thousand objects were treated with chemical means, 111723 objects were sanitized. A huge amount of work has been done to repair wells and to chlorinate water. This fight against tularemia was virtually the first case, where medical specialists faced such a mass infection of people through aerosol - by inhaling contaminated dust. This was confirmed by significant predominance of pulmonary and generalized forms of in-fection over bubonic and other clinical forms. The alimentary route of infection was the second most recurrent.

Throughout the war, the incidence of typhoid fever among the troops was low. Only in 1945, when the Red Army fighted on the territory of Germany, especially in the Bran-denburg



Рис. 1. И.Д.Ионин Fig. 1. I.D.Ionin



Рис. 5. Л.В.Громашевский **Fig. 5.** L.V.Gromashevsky



Рис. 9. Я.К.Гиммельфарб **Fig. 9.** J.K.Gimmelfarb



Рис. 2. Т.Е.Болдырев **Fig. 2.** Т.Е.Boldyrev



Рис. 6. И.И.Елкин Fig. 6. I.I.Elkin



Рис. 10. Н.Н.Спасский Fig. 10. N.N.Spassky

and Mecklenburg provinces, where refugees from many regions of Germany were settled and the number of typhoid fever cases among them reached 70 thousand, a serious epidemiological threat to our troops appeared. Thereat, emergency anti-epidemic commissions were created. The commissions included representatives of the command and of the military medical service - that allowed to take emergency measures to combat the typhoid epidemic among the local population. The impact of typhoid fever emergency situation on the epidemic well-being of our troops was ex-pressed by a certain increase in the number of typhoid cases among the personnel, which, however, did not affect the general epidemic state of units and formations of the active army. Vaccination of all personnel of the troops operating in this diwell-organized sanitary-epidemiological rection; reconnaissance; early detection and isolation of the sick and – above all – emergency measures taken to eliminate disease among the popu-lation protected the troops from the massive spread of typhoid fever.

The war experience proved that in certain epidemiological and epizootological condi-tions caused by military actions, some infectious diseases can spread in new ways that are not characteristic of them in normal conditions. During the



Рис. 3. В.М.Берман Fig. 3. V.M.Berman



Рис. 7. А.Я.Алымов **Fig. 7.** А.Ya.Alymov



Рис. 11. А.С.Каплан **Fig. 11.** A.S.Kaplan



Рис. 4. С.В.Висковский **Fig. 4.** S.V.Viskovsky



Рис. 8. В.И.Иоффе **Fig. 8.** V.I.Ioffe



Рис. 12. М.В.Земсков Fig. 12. М.V.Zemskov

postwar years, in the medical literature many reports on cases of aerosol infection with brucellosis, typhus, and with some infections of viral etiology were published. Thereat, a need for a wider and in-depth study of aerosol pathway of pathogens transmission and for an objective assessment of its importance in modern military epidemiology arose.

During the Great Patriotic War, due to specific conditions of hostilities and to the forced deployment of troops in sparsely populated or completely uninhabited woods, steppe, mountains and deserts, natural pestholes of unknown or littleknown infections were de-tected for the first time. For example, at the Crimean region, a disease of viral etiology, called the Crimean hemorrhagic fever, was discovered and described for the first time; at the Kalinin region –for the first time as well – a new pesthole of tick-borne encephali-tis was detected. Consequently, a possibility of emergence of new natural pestholes and even of new nosological forms of infections during hostilities in certain climatic and geographic conditions may succumb to reality and to require additional specific antiepidemic measures among the troops.

The Great Patriotic War put the country's military epidemiology on the hardest trial – that is why the study and the assessment of its activities during this period are of enor-mous – not only historical – interest. Russian military epidemiology successfully with-stood this trial, proved its organizational foundations to be practically relevant, viable and effective. Summing up the results of the work of the Red Army medical service during the years of the war, we can make a conclusion that for the first time in the histo-ry of wars, a well-managed implementation of preventive and anti-epidemic measures allowed to avoid massive epidemics. Nevertheless, the war experience testifies to the necessity to fully take into account the specific features of the impementation of anti-epidemic measures in the active army.

To a certain extent the success of the work was ensured by the implementation of prin-ciples of troops anti-epidemic protection. These principles are based on the preventive antiepidemic activities and on the main principle – it is easier to

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Thus, the Great Patriotic War proved to be the most important stage in the development of Russian military epidemiology – a stage on which a coherent and effective scientifically based system of anti-epidemic support of troops, respective to the given combat and epidemiological circumstances, was created. During the years of war, military epi-demiology, along with its organizational development, got enriched with new theoreti-cal concepts, and with new methods of work, ensuring further development of medical science and increase of the performance and efficiency of epidemiological work in the troops.

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