

(PARA)MEDIC TRAINING FOR COMBAT GAS ATTACKS IN 1920–1939 IN POLISH VILNIUS AND LITHUANIAN KAUNAS: PROFESSIONAL AND CIVILIAN PERSPECTIVES

Aistis Žalnora

 ORCID ID: <https://orcid.org/0000-0002-2382-370X>

Viktorija Šimkutė

 ORCID ID: <https://orcid.org/0000-0003-2862-6438>

ABSTRACT

Between 1920 and 1939, Vilnius, the constitutional capital of Lithuania, was annexed by Poland, prompting the Lithuanian government and civil life to relocate to Kaunas, the temporary capital. Despite local tensions, both cities faced a shared geopolitical predicament in the 1930s, being between ‘Scylla and Charybdis’. Nazi Germany to the west and Bolshevik Russia to the east sought to revise the existing order, threatening Poland and the Baltic region respectively. Anticipating military attacks, both the Lithuanian and Polish governments began preparing in the early 1930s. Archival data reveal that the military, academic specialists and civilians underwent paramilitary training to address threats, such as gas and air attacks, and to develop crisis management strategies. Medical professionals played a critical role in devising measures to prevent and treat injuries from chemical warfare, leveraging medical expertise to mitigate potential losses. This article aims to examine and compare the medical and civilian preparedness for chemical attacks in Vilnius and Kaunas. Our research focuses on two objectives: analysing primary archival documents to uncover strategies by government bodies, military doctors, the Polish Red Cross, and related organisations; and reviewing the public press to understand societal perceptions of the looming military threat.

KEYWORDS: paramedic training, emergency preparedness, anti-gas attack measures, history of medicine, history of public health.

ANOTACIJA

1920–1939 m. konstitucinė Lietuvos sostinė Vilnius buvo aneksuota Lenkijos, todėl Lietuvos valdžia ir visuomeninis gyvenimas persikėlė į laikinąją sostinę Kauną. Nepaisant vietinių įtampų, abu miestai XX a. 4-ajame dešimtmetyje susidūrė su bendra geopolitine problema – buvimu „tarp Scilės ir Charibdės“. Nacistinė Vokietija vakaruose ir bolševikinė Rusija rytuose siekė revizuoti esamą tvarką, atitinkamai keldamos grėsmę Baltijos regionui ir Lenkijai. Tiek Lietuvos, tiek Lenkijos vyriausybės 4-ojo dešimtmečio pradžioje pradėjo ruoštis galimiems kariniams išpuoliams. Archyviniai duomenys atskleidžia, kad kariškiai, universitetų specialistai ir civiliai skatinti dalyvauti sukarintuose mokymuose, skirtuose tokioms grėsmėms kaip dujų ir oro atakos įveikti ir krizių valdymo strategijoms kurti. Medicinos specialistai atliko itin svarbų vaidmenį kuriant priemones, kaip išvengti cheminio karo metu patirtų sužalojimų ir juos gy-

dyti, naudojant medicinos žinias, kad būtų sumažinti galimi nuostoliai. Šio straipsnio tikslas – išnagrinėti ir palyginti medikų ir civilių pasirengimą cheminio ginklo atakoms Vilniuje ir Kaune. Tyrime daugiausia dėmesio skiriama dviem uždaviniams: pirminių archyvinių dokumentų analizei, siekiant atskleisti valdžios institucijų, karo gydytojų, Lenkijos Raudonojo Kryžiaus ir panašių organizacijų strategijas, ir viešosios spaudos apžvalgai, siekiant suprasti visuomenės požiūrį į galimą karinę grėsmę.

PAGRINDINIAI ŽODŽIAI: paramedikų rengimas; pasirengimas ekstremalioms situacijoms; kovos su dujų atakomis priemonės; medicinos istorija; visuomenės sveikatos istorija.

Dr Aistis Žalnora, associate professor, Center for Health Ethics, Law and History, Faculty of Medicine, Vilnius University, M. K. Čiurlionio g. 21/27, LT-03101 Vilnius, Lithuania. E-mail aistis.zalnora@mf.vu.lt.

Viktorija Šimkutė, MA, lecturer, Center for Health Ethics, Law and History, Faculty of Medicine, Vilnius University, M. K. Čiurlionio g. 21/27, LT-03101 Vilnius, Lithuania; doctoral student, Lithuanian Institute of History, Tiltų g. 17, LT-01101 Vilnius, Lithuania. E-mail v.simkute.vi@gmail.com.

Introduction

Today we live in a world where there is increasing talk that local conflicts in Europe, Asia, and other parts of the planet could escalate into a full-scale war, in which perhaps the most terrifying nuclear weapon could be used. However, this would not be the first weapon of mass destruction to be used in the history of humanity.

One of the first weapons used as a weapon of mass destruction was the poisonous gas used during the First World War. The first chemical attack was carried out by French troops in August 1914 (bromoacetone grenades fired from rifles were used). The first effective chemical attack took place on 22 April 1915 near Ypres. The use of chlorine by German troops caused the deaths of approximately 5,000 people. In the interwar period, chemical weapons were used by the English against the Bolsheviks (1919), the Soviet Union during the suppression of the Tambov Uprising (1921), the Spanish against rebels in Morocco (1922–1927), the Italians during the fighting in Abyssinia (1936), and the Japanese in China (1938–1939). During the Second World War, the use of chemical weapons on the battlefield was limited to the Sino-Japanese war. In Europe, neither side used chemical weapons on the battlefield at that time: they were afraid of condemnation by world public opinion and retaliation by the enemy. In 1942, Great Britain warned Germany that if it used chemical weapons against the USSR (intelligence reported such an eventuality), the British would launch a gas offensive against German cities from the the air.¹ Nevertheless, no one could clearly know the future scenarios; therefore, during the interwar period, European countries prepared for the worst they thought could happen.

If we move to interwar Lithuania and Poland, quite an anxious situation prevailed here. Only a few decades had passed since the First World War, but the idea of a new impending war found a clear place in the public discourse. It is not surprising that this topic came to the attention of the army and the public. Discussions and information articles about the future war, its nature, and the preparations for it, appeared in the press and other media. One of the most often discussed questions was the possibility of chemical weapons being used. The fear of bombing, including the use of chemical weapons, was clearly reflected in the professional medical press of medics and pharmacists. Reading their articles, we can see that they all agreed that aviation and chemicals would play a significant role in future warfare. Dr Bronius Sidaravičius stated: 'No one doubts today that chemical weapons will be widely used in the future

¹ KOPEĆ, Rafał. Broń chemiczna – historia i perspektywy zastosowania we współczesnych konfliktach zbrojnych. In *Bezpieczeństwo w nowych czasach*. Red. Zbigniew KWIASOWSKI, Katarzyna PABIS-CISOWSKA, Marek PIETRZYK. Kraków, 2016, s. 43–55.

war.² Kudulis, a pharmacy student at Vytautas Magnus University, wrote on this issue, stating that the aviation of that time was so developed that it was possible to fly hundreds of kilometres and drop large amounts of chemicals.³

Moreover, an additional approach could also be considered. After the broken Hague (1899 and 1907), Geneva (1925) and other agreements prohibiting the use of chemical weapons in any way, governments and organisations, such as the League of Nations and the Red Cross, realised that a future war without chemical weapons was impossible. As a result, it was suggested not to panic and focus all attention on preparing society for this kind of war. In addition, at the end of the First World War, a new narrative about a 'humane weapon' found its place. After forgetting the horrors of the first chemical weapon attacks and discovering reliable means of defence, arguments began to be made that gas was a much more humane weapon than conventional weapons. Army doctors, chemists and other specialists argued that chemical weapons kill far fewer soldiers, and only serve to remove enemy soldiers from the battlefield for a period of time without causing any long-term lasting damage to health.⁴

This 'humane weapon' narrative also found its place in interwar Lithuania. The army doctor Vladas Ingelevičius wrote: 'Since there is no belief in the total prohibition of war, efforts are being made to make it more humane.'⁵ Basically, in support of this statement, he relied on the arguments of the US army doctor Albert Francine, who said that anyone who witnessed a chemical weapons attack would rather choose it than a 'hot piece of steel'.^{6 7} Similar arguments were also shared in society. In 1939, an article entitled 'I would rather have gas ...' appeared in the public newspaper *Lietuvos Aidas*.⁸ The author wrote that fear-mongers spread fantastic tales about the deadly damage caused by chemical weapons, when in fact humanity had all the effective means of protection, including hiding places and gas masks. However, not all of society was imbued with such pacifist ideas. Although the idea of a 'humane weapon' tried to make its way, there was no denying that chemical weapons created new challenges for both medical science and society.

The issue of preparations for combat gas or other scenarios did not receive much attention in former Lithuanian or Polish historiography. In the case of Poland, we have managed to find only one piece of research that would correspond to our research

² SIDARAVIČIUS, Bronius. Gydytojo vaidmuo cheminiame kare. In *Penktojo Lietuvos gydytojų kongreso darbai*. Red. V. VAIČIŪNAS, Kaunas, 1937, p. 95.

³ KUDULIS, Pr. Dujos ateties kare. *Farmacijos žinios*, 1932, Nr. 5 (59), p. 12.

⁴ VAN BERGEN, Leo. The poison gas debate in the inter-war years. *Medicine, Conflict and Survival*, 2008, Vol. 24, No. 3, pp. 174–187.

⁵ INGELEVIČIUS, [Vladas]. Oro puolimų pavojus civiliniams gyventojams. *Lietuvos sparnai*, 1935, Nr. 1, p. 20.

⁶ *Ibid.*, p. 21.

⁷ INGELEVIČIUS, [Vladas]. *Cheminis karas*. Kaunas, 1935, p. 45.

⁸ Man verčiau dujos. *Lietuvos aidas*, 1939-11-06, Nr. 672, p. 8.

questions, an article by Bożena Urbanek. In her research, she briefly describes the bibliographical context, that is, the primary sources which provide information about sanitary actions directed towards getting ready for the eventual threat of war. Later in her article, she presents the character of such courses in interwar Poland and their content.⁹

In the case of Lithuania, we found just one detailed analysis that describes the preparations for chemical weapons attacks in interwar Lithuania. Giedrė Jankevičiūtė, the author of the article, singles out and describes the most important changes related to these preparations: the creation of hiding places, the availability of gas masks, public education, etc.¹⁰ However, the author focuses more on the artistic context and legislative changes, but does not analyse the place of medicine in the event of chemical warfare. In all other articles written by Lithuanian authors, the topic of preparations for chemical warfare is mentioned only fragmentarily. For example, an article by Modestas Kuodys mentions the prevailing mood in interwar Lithuania regarding a future chemical war.¹¹ However, this article mostly reflects the attempts of the interwar Lithuanian press to calm the public. Lina Kasparaitė-Balaišė mentions a chemical weapons specialist, training by the army on the use of chemical weapons, and protection from them.¹² Some fragmentary notes about interwar military education, including chemical weapons, are also provided in the collective monograph by Algirdas Ažubalis, Rolanda Kazlauskaitė-Markelienė, Audronė Petrauskaitė, etc.¹³

To conclude, none of the previously mentioned works set themselves the task of researching the importance of medical knowledge or medical preparations in the context of chemical warfare. Until now, this issue has not been examined. Therefore, in our paper we will focus on the importance of the medical context in the case of chemical warfare. We have applied *several main goals* in our research. Firstly, to analyse the primary archival documents that would provide us with information related to the strategies created by the professionals: the government, military doctors, the Polish Red Cross, and other organisations in charge. Secondly, we have analysed the public press in order to trace public opinion regarding the threat of military attacks. Thirdly, we have set the goal to draw an overall picture of the preparation work, in

⁹ URBANEK, Bożena. Wileńskie kursy ratownictwa sanitarnego PCK w pierwszej połowie XX wieku. In *Zawód ratownika medycznego na ziemiach polskich w XIX i XX wieku*. Red. Bożena URBANEK. Warszawa, 2012, s. 241–252.

¹⁰ JANKEVIČIŪTĖ, Giedrė. Dujokaukės įvaizdis Lietuvos XX a. 4 dešimtmėčio vizualinėje kultūroje: karo nuojautos ženklai. In *Kaukė ir veidas: atvaizdo istorijos aspektai* (Acta Academiae Artium Vilnensis, t. 96). Sud. Tojanaa RAČIŪNAITĖ. Vilnius, 2020, p. 260–285.

¹¹ KUODYS, Modestas. Pacifizmo refleksija tarpukario Lietuvoje (XX a. 3–4 deš.). *Karo archyvas*, 2018, t. 33, p. 281–329.

¹² KASPARAITĖ-BALAIŠĖ, Lina. Lietuvos kariuomenės Varėnos poligonas XX a. 3-iajame dešimtmetyje. *Karo archyvas*, 2016, t. 31, p. 190–231.

¹³ AŽUBALIS, Algirdas; KAZLAUSKIENĖ-MARKELIENĖ, Rolanda; PETRAUSKAITĖ, Audronė, et al. *Karo pedagogika Lietuvoje (1918–1940 m.)*. Vilnius, 2007.

order to clarify whether they had a realistic or maybe a more declarative character. To achieve these goals, we have divided our research into *several smaller tasks*.

Firstly, we will show how chemical weapons and their effects on the body were described in the interwar popular and professional press. Secondly, we will reveal how the medical faculties of Vilnius University and Vytautas Magnus University became involved in the preparation of medical personnel for chemical attacks. Thirdly, we will disclose the role played by the government, military medical personnel, and organisations such as the Riflemen's Union and the Red Cross in spreading medical knowledge about chemical warfare and preparing the public for it. Moreover, we will analyse the main means of prevention and treatment against chemical weapons that existed at that time. By revealing this point, we will show what main challenges awaited medical personnel in the event of a chemical war. Finally, we will look at a comparison of the strategies and means. Since Kaunas and Vilnius were in different states in the interwar period, our analysis will reveal whether both cities (countries) used the same strategies in preparing for chemical warfare, if there were any differences in their goals, and if the real preparation work correlated with the strategies.

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Chemical weapons and their effects on the human organism

There was a tradition in the interwar period of classifying all substances used in chemical warfare according to the main clinical symptoms they caused. We can single out as the two most serious and life-threatening poisoning groups *choking gases* and *corrosive gases*.

Choking gases included compounds containing chlorine, the best-known of which were chlorine (Cl_2), phosgene (COCl_2), and diphosgene ($\text{C}_2\text{Cl}_4\text{O}_2$). It was declared that all the harmful effects of these substances were manifested precisely because of the chlorine in the molecules, which reacts with the water in cells, and the hydrochloric acid formed during this reaction has a negative effect on all the cells in the body.¹⁴ Moreover, the main danger of choking gases was associated with the annotatable effect on the body that only appeared after the onset of pulmonary edema,¹⁵ the main complication.

According to the doctor B. Sidaravičius, patients with a subjective symptom of irritation of the mucous membranes were quite often sent back home to breathe fresh air. Ultimately, such situations ended with patients returning within half an hour due to progressive pulmonary edema and other accompanying symptoms, eventually

¹⁴ SIDARAVIČIUS, B[ronius]. Apsinuodijimai cheminėmis karo medžiagomis. *Medicina*, 1935, Nr. 4, p. 262–263.

¹⁵ Pulmonary edema is a condition caused by too much fluid in the lungs.

dying within minutes from 'drowning in their own body fluids'.¹⁶ The mechanism of this drowning was associated with hydrochloric acid, which acts on the blood vessels, as they become very permeable, and the blood plasma that enters the lungs causes the lung volume to increase up to five times. Doctors emphasised that it was very important to prevent the development of pulmonary edema and the accompanying symptoms: cyanosis, difficulty breathing, coughing with foam or blood impurities. Of course, it should not be forgotten that after poisoning with these substances, other symptoms, such as increased blood pressure and irritation of the mucous membranes, were also observed.^{17 18}

Corrosive gases were considered perhaps the most dangerous. The most prominent examples of materials of this group, widely used during the First World War, were mustard gas ($\text{SCH}_2\text{CH}_2\text{Cl}$) and lewisite ($\text{C}_2\text{H}_2\text{AsCl}_3$). Like choking gas, these substances are characterised by the fact that their effects can be observed only four to six hours after contact. This, of course, made it very difficult to provide preventive measures and first aid at the right time. Substances in this group are dangerous for two more reasons. Firstly, they cause complex body burns, and at higher concentrations they poison the entire body. In addition, these substances can remain stable for a long time in the environment or in organisms they have entered. Dr D. Jasaitis responded about mustard gas as follows: 'With the help of [mustard gas] the Germans made the so-called impassable yellow fields. A person could not enter there for many months. While passing through those places, he would be poisoned ...'¹⁹ Regarding the main clinical symptoms of poisoning, interwar doctors distinguished the following: redness on the skin, which quickly turns to blisters, irritation and burning of the mucous membranes, nervous system agitation or weakness, and digestive disorders, vomiting, etc.²⁰

Two other groups of substances that have been used as chemical weapons in the 20th century are *tear gas* (bromine-containing compounds): bromoacetone ($\text{C}_3\text{H}_5\text{BrO}$), chloroacetone ($\text{C}_3\text{H}_5\text{ClO}$), and *sneezing gas* (arsines): diphenylchloroarsine ($(\text{C}_6\text{H}_5)_2\text{AsCl}$). These substances were not considered as dangerous as the two previously mentioned groups. Most of the time, they were not even used alone, but mixed with other dangerous substances. Their primary use was to force soldiers or civilians to remove their gas masks so that other substances that normally cannot pass through gas masks could take effect. However, their effectiveness was limited to individual use because they are volatile, so it was difficult to maintain a high concentration of them in the air that would cause serious injury. Moreover, these sub-

¹⁶ SIDARAVIČIUS, B[ronius]. Apsinuodijimai cheminėmis karo medžiagomis. *Medicina*, 1935, Nr. 4, p. 262.

¹⁷ Ibid., p. 262-263.

¹⁸ INGELEVIČIUS, V. *Cheminis karas...*, p. 9-10.

¹⁹ JASAITIS, D[omas]. Cheminės kovos medžiagos. *Medicina*, 1932, Nr. 12, p. 813.

²⁰ INGELEVIČIUS, V. *Cheminis karas...*, p. 14-16.

stances start working quickly, so it was easy to recognise the substances based on the main effects they caused (watery eyes or sneezing) and to take effective preventive measures.^{21 22}

Two more substances could also be mentioned: *hydrogen cyanide* (HCN) and *carbon monoxide* (CO). These poisons are very strong, but due to their volatility, they quickly disperse in the air and were not used as a combat poison.²³ For this reason, these compounds have not received much attention from doctors when discussing clinical effects. In addition, this argument has been used in the press to appease. In such cases, it has been argued that new chemical weapons will not be invented any time soon because it is difficult to create substances that remain stable and maintain high concentrations in the air. Meanwhile, older materials and preventive measures to protect against them have been known since the First World War.

The training of medical specialists for chemical warfare in Vilnius and Kaunas

Since between 1920 and 1939, Vilnius, the capital of Lithuania, was lost as it was annexed by Poland, the Lithuanian government and the entire civil life moved to Kaunas, the temporary capital. Both cities were once annexed by Tsarist Russia, and each of them was a centre of a governorate (province). The Vilnius governorate included most of the eastern territory of modern Lithuania, as well as some parts of modern Belarus. Later, during the Polish period, a territory similar in size, with a population of approximately 1.3 million people, was called the Vilnius voivodeship.²⁴ The former Kaunas governorate embraced mostly the northern and western parts of modern Lithuania, not including the Užnemunė part, the other side of the River Nemunas, which was part of Suwałki governorate. The former Kaunas governorate, counting approximately 1.5–1.7 million citizens,²⁵ became the basis of interwar Lithuania, with the temporary capital in Kaunas. Although Kaunas was the largest city in Lithuania, its population (around 100 thousand²⁶) was smaller in comparison with

²¹ Ibid.

²² JASAITIS, D. Op. cit., p. 814–819.

²³ INGELEVIČIUS, V. *Cheminis karas...*, p. 7.

²⁴ *Drugi powszechny spis ludności z dn. 9.XII 1931 r. Mieszkania i gospodarstwa domowe. Ludność Polska* (Statystyka Polski, seria C, zeszyt 94a). Warszawa, 1938, s. 1.

²⁵ Kauno gubernija. *Visuotinė lietuvių enciklopedija* [electronic source], URL: <<https://www.vle.lt/straipsnis/kauno-gubernija/>>, accessed 15.09.2024..

²⁶ OŽELIS, K[azys]. Naturalinis ir mechaninis gyventojų keitimasis Lietuvoje 1915–1933 metais. In *Vytauto Didžiojo universiteto Medicinos fakulteto darbai*. T. 2, kn. 1. Red. P[etras] AVIŽONIS. Kaunas, 1934, p. 73.

Vilnius (around 200 thousand²⁷) in 1931. Until the middle of the 1930s, both cities were rather neglected in terms of general sanitary state and sanitary engineering,²⁸ as well as public education on hygiene.²⁹

Nevertheless, due to its geographical location, the Vilnius region, as a border region with Soviet Russia, was perceived as extremely unsafe territory, which was highly likely to become the first target in the event of an eventual military conflict.³⁰ One clear proof of this can be still found as the legacy of the eventual war. Fortifications were built on the eastern outskirts of the city, in expectation of an attack by the Soviets.

In the mid-1930s, realising the real threat of eventual war, the Polish government launched several actions of military preparation. One of the actions was provided by the law 'On the Defence against Aircraft and Gas Attacks' of 15 April 1934, in Article 5, called 'Organisation, training and providing equipment for personnel assigned to this defence'.³¹ According to this article, students at Polish universities received training in military medicine.

Nevertheless, according to Bożena Urbanek, the Polish Red Cross was the first organisation to initiate such courses, earlier than the government itself.³² Already in the mid-1930s, the very first 'Polish Red Cross Sanitary Rescue Course' (PRCSRC) started in Vilnius. The purpose of the course was to prepare paramedics for gas or airplane attacks.³³ The courses were organised at the Department of Pharmacy of the Faculty of Medicine. The lecturers who were supposed to perform theoretical teaching, as well as to organise practice, were professors at Vilnius' Stephen Bathory university: Stanisław Hiler (1891–1965), head of the Department of Histology, Włodzimierz Mozołowski (1895–1975), head of the Department of Pharmaceutical Chemistry,

²⁷ RUDZIŃSKI, Henryk. Zdrowotność publiczna na Wileńszczyźnie. *Pamiętnik Wileńskiego Towarzystwa Lekarskiego i Wydziału Lekarskiego Uniwersytetu Stefana Batorego*, 1932, rok 8, zeszyt 4–5, s. 230.

²⁸ ŻALNORA, Aistis. Development of Vilnius water supply and canalization systems in 16th–19th centuries. In *Czystość i brud. Higiena w XIX wieku: wokół przełomu bakteriologicznego*. Red. Walentyna KORPALSKA, Wojciech ŚLUSARCZYK. Bydgoszcz, 2016, s. 71–80.

²⁹ ŻALNORA, Aistis. Janina Bortkiewicz and Public Hygiene Education in Popular Magazines Published in Vilnius, 1930–1939. In *Defeating Disease in the Changing Society of the Southeast Baltic from the 18th to the 20th century* (Acta Historica Universitatis Klaipedensis, Vol. 43). Ed. by Milda KONTRIMĖ. Klaipėda, 2022, pp. 73–97.

³⁰ URBANEK, B. Op. cit., s. 241–242.

³¹ Ustawa z dnia 15 marca 1934 r. o obronie przeciwlotniczej i przeciwgazowej. *Dziennik Ustaw Rzeczypospolitej Polskiej*, 11 września 1934, Nr. 80, pozycja 742, s. 1463–1464.

³² URBANEK, B. Op. cit., s. 241–242.

³³ Protocols of the Examination Commission meeting regarding the Sanitary Rescue Course of the Polish Red Cross by the Faculty of Medicine of Vilnius' Stephen Bathory University, 16.12.1938. *Lietuvos centrinis valstybės archyvas* (Lithuanian Central State Archives, hereafter LCVA), f. 175, ap. 31XB, b. 212, l. 12–23.

Kornel Michejda (1887–1960), head of the Surgical Clinics, and Brunon Nowakowski (1890–1966), head of the Dermatovenerology Clinics.³⁴

After several years of work in this field, the need to systematise and unify instructions was evident. Therefore, in 1937 the 'Provisional Instruction on the Training of Rescue and Sanitary Units of the Polish Red Cross' (1937, Fig. 1) was published. The instruction embraced aspects such as: organising the emergency sanitation department, equipping the department, training patrols and rescuers, and equipping the first aid department.³⁵

According to the instructions, the smallest autonomous unit which was supposed to take part in rescue actions was called a rescue team. It consisted of seven people: one section chief, and two patrol teams of three people each, that is, one patrol and two rescuers. Patrol teams could work independently of each other under the command of a joint department. The sanitary rescue teams also differed in their tasks. The territorial rescue teams were supposed to leave for rescue operations from their fixed or mobile bases, or sanitary rescue camps. However, the ex-territorial rescue teams, which were supposed to work in industrial plants, mines, etc, were obliged to perform without the support of the sanitary rescue camp in autonomous mode. The following types of teams therefore needed to be provided with more equipment.³⁶

The staff of the territorial rescue team had to be provided with specific first-aid kits and other equipment. Since they were supposed to coordinate their actions with the above-mentioned ex-territorial sanitary rescue teams, their equipment had to be light. Their first aid kit contained remedies such as: ammonia (15 g); annogen in powder form (30 g); annogen with talc (100 g) (both annogen preparations were supposed to protect against the poisonous effect of mustard gas); aspirin at 0.5 (10 units); bromisol at 0.3 (10 units); iodine 5% in ampules of 1.5 g (10 units); caffeine (coff. natr. Benz.) pills 0.2 g (10 units) (instead of caffeine ampules); valerian drops (50 g); gutae inozemcowy drops (15 g); an electric torch; boric ointment in a tube (vnt 25 g); an individual anti-gas package with the date of expiration; anti-thermic-burning powder (100 g).³⁷

The sanitary rescue camp was supposed to keep heavier equipment, such as a specific anti-mustard gas (iperite) uniform: an impregnated coat (7 units); great stitched shoes (7 pairs); special steel helmets (7 units); hood (7 units); gloves (7 units); impregnated trousers (7 units); feet and calf wrapping cloths (*autai*) (7 units); anti-mustard

³⁴ URBANEK, B. Op. cit., s. 242.

³⁵ Protokół posiedzenia Komisji w sprawie ustalenie programu i kosztów kursów instruktorów Polskiego Czerwonego Krzyża, 15.06.1938. LCVA, f. 175, ap. 31XB, b. 212, l. 36–46..

³⁶ Tymczasowa instrukcja organizacji i szkoleniu sekcji ratowniczo-sanitarnych Polsk. Czerw. Krzyża, [draft version, no date]. LCVA, f. 175, ap. 31XB, b. 212, l. 175–185..

³⁷ Tymczasowa instrukcja o organizacji i szkoleniu sekcji ratowniczo-sanitarnych Polsk. Czerw. Krzyża. Warszawa, 1937, s. 19–27..

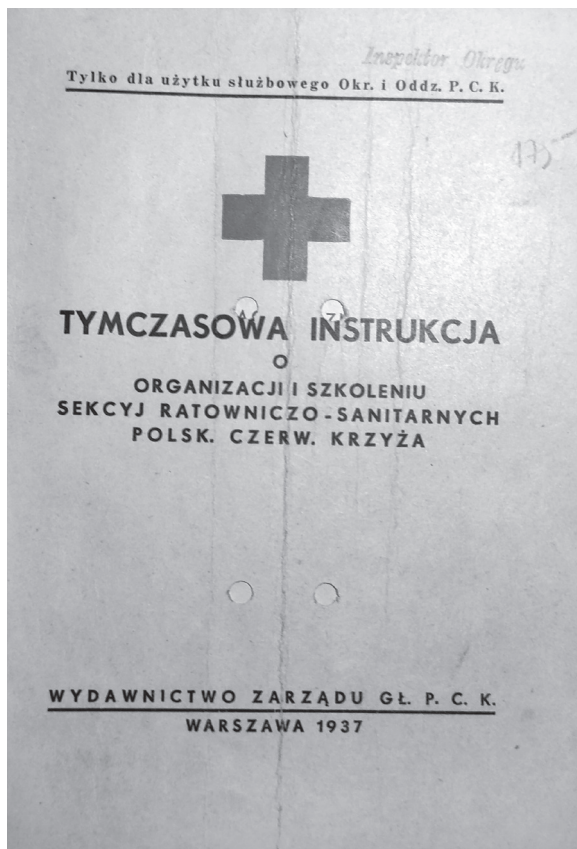


Figure 1. 'Provisional Instructions on the Training of Rescue and Sanitary Units of the Polish Red Cross' (1937)

gas ointment for shoes (1 box). This uniform was considered to be a lighter and more comfortable alternative to anti-mustard gas overalls.

The equipment also included such items as: military canteens (flasks) with a belt, for coffee or water (1 unit); jute belts (6 units); sanitary bags (4 units for rescuers); firefighter equipment for chief only (1 firefighter axe, 1 belt and 1 rope); 2 units of gas masks for each patrol (1 for self-use and 1 for the injured), in total 14 units; stretchers (2 units for each patrol); surgical inventory, such as: thermometer, two types of surgical knives and tweezers, fabric clips (*żiogelii*), bandages, plasters, hand-washing brush; oxygen apparatus with spare oxygen cylinders, a stove for coffee or water.³⁸

³⁸ Ibid., s. 19-27.

The sanitary rescue course instructions provided specified teaching programmes for each member of the rescue team. The scope of each programme varied in volume. The course for the patrols and rescuers took only 43 hours. However, the teaching of the section chief took 67 hours plus 30 hours of hospital practice. The most detailed programme was provided for the rescue course instructors themselves, as they were supposed to instruct the previous mentioned members. Instructor's courses took 264 hours.³⁹

The training for the patrols and rescuers was of the same volume and content. It had to be as practical and as simple as possible, and adapted to the general intelligence of the participants. The course included topics such as:

1. anatomy and physiology: bones, muscles, internal organs (2 hours)
2. general rescue principles: first aid, prevention of infectious diseases (3 hours)
3. rescue from gas attacks: typology of injuries caused by combat gas, first aid and transport of the poisoned (4 hours)
4. safe behaviour in burning objects (1 hour)
5. anti-airplane attack defence rules (1 hour)
6. aviation bombarding materials: high-explosives, fragmentation bombs, burning, gas bombs, recognition of combat gas in the environment (2 hours)
7. defence against combat gas attacks: typology and usage of gas masks and oxygen apparatus, safety clothing, general knowledge about hiding places, poisoned items safety (6 hours)

Since rescuers were expected to face different types of situations, they also received practical training on topics such as: general rescue situations (5 hours), transport of the injured (3 hours), sanitary discipline (5 hours), anti-combat gas masks, safety clothing, oxygen apparatus, gas chambers, and defining combat gas (6 hours). Lastly, the course was finished with theory and practice exams (5 hours). Moreover, the teaching included the basics of firefighting, and clinical practice in hospitals.⁴⁰

Meanwhile, training for section chiefs and instructors included a much broader scope on medicine and hygiene, since the task was to organise rescue operations and to manage crises in the long-term perspective. For example, they were supposed to recognise different contagious diseases, eliminate the sources of infection by disinfection, perform disinfection and rodent control, and other means to help to prevent epidemics. They were also supposed to mobilise and instruct civilians, who had to join sanitary rescue teams in the event of war.⁴¹

³⁹ Program wyszkolenia dla instruktorów sekcji ratownictwa-sanitarnego Polsk. Czerw. Krzyża, [draft version, no date]. *LCVA*, f. 175, ap. 3IXB, b. 212, l. 177–190..

⁴⁰ *Ibid.*, l. 190–222.

⁴¹ *Ibid.*

In 1937, according to a decree of the Polish Council of Ministers, the second type of courses 'Protection against Gas Attacks' (PAGA) was launched in the universities. The courses were intended for graduates in medical and pharmaceutical specialisations. In the first stage, like the previously mentioned courses, the training of future instructors for the courses was organised. Interestingly, all clinicians, regardless of their field of speciality, had to appoint a specialist within a brief period, in only three months.⁴²

The PAGA course programme was similar to the already-mentioned (PRCSRC) programme; however, it was focused specifically on gas attacks. It embraced 20 hours of lectures and exercises: the chemistry of combat gases (8 hours); toxicology of combat gases (5 hours); individual protection against combat gases together with exercises (6 hours); active and passive internal defence of the country (9 hours); first aid for victims of gas attacks (3 hours); bacteriological warfare (2 hours); treatment of skin burns caused by firearms (2 hours); the pharmaceutical and chemical industry (2 hours); demonstration of gas chambers (1 hour).⁴³

Lastly, in 1938 the course 'Protection against Airplane Attacks' (PAAA) was launched. From the programmes we have found, we can draw certain conclusions about the content of the course. The courses had several main objectives:

- To encourage the interest of students in all issues of air defence
- To acquaint students with the organisation of air defence in the country, paying special attention to the organisation of the air defence of industrial facilities
- To provide various institutions with professionally trained PAAA employees for management positions
- To prepare students as PAAA instructors in their future professional work environment.

The whole course was quite long. It consisted of 28 hours of lectures, 13 hours of practice, and 3 hours of demonstrations. The course lasted 44 hours.

The lectures covered issues such as national aviation threats likely on attacked targets. Weapons such as all kinds of bombs, bacteriological and chemical, were also discussed. One of the interesting things discussed in the course was the variety of bacteriological weapons, such as infected insects or parasites that destroy crops.⁴⁴

In Kaunas, facing a similar situation, special courses and training for chemical weapons attacks began in the 1930s. The first courses, as in Vilnius, were organised by the Lithuanian Red Cross organisation and the Lithuanian Riflemen's Union. However, in contrast to Vilnius, the courses were voluntary. In 1934 the first invitation

⁴² Ogłoszenia nr. 1392: Kurs przecywlotnyczy i gazowy, 24.06.1938. LCVA, f. 175, ap. 3IXB, b. 211, l. 1-13.

⁴³ URBANEK, B. Op. cit.

⁴⁴ The programme of the Defence Against Airplane and Gas Attack Course in Kurs O.P.L.G. (Defence Against Airplane and Gas Attack Course), 24.06.1938. LCVA, f. 175, ap 3IXB, b. 211, l. 52-53.

to the courses were published in the newspaper *Farmacijos žinios*. The pharmacist Česlovas Bankauskas (1896–1978) invited his fellow pharmacists to participate in anti-chemical protection courses organised by the Riflemen's Union and led by another pharmacist, Matas Žvirėnas (1892–1961). These courses were held on Monday, Tuesday and Thursday evenings for three hours each time.⁴⁵

However, the more serious preparation of medical specialists for likely chemical attacks began in the spring of 1936, when the mandatory course 'Anti-Chemical Protection' (ACP) was introduced for all final-year students in the Faculty of Medicine at Vytautas Magnus University. The courses were organised at the behest of the government, which at the same year issued the law 'Rules for Rescuing Victims of Air Attacks'. The law set out mandatory training for medics, pharmacists and other medical specialists for a future war. The course programme was prepared by a commission appointed by the Council of the Faculty of Medicine at Vytautas Magnus University, consisting of the doctors Kazys Oželis (1886–1960), Bronius Sidaravičius (1897–1969), Vincas Kauza (1896–1949), and M. Žvirėnas. At the same time, medical representatives from the army also contributed: Vladas Ingelevičius (1889–1985) and Jonas Steponavičius (1880–1947), both army doctors. The program 'Anti-Chemical Protection' consisted of the following topics:

- Anti-aircraft and anti-chemical protection organisation in Lithuania
- Combat chemical materials and their preparation
- Methods and conditions of use of chemical weapons
- Effects of chemical warfare agents on living and non-living nature
- Protection of individual and collective, food, objects, animals;
- Protection of treatment facilities
- Protection against aerobacilli
- Evacuation of first aid stations
- Degassing
- Diagnostics, first aid and treatment of those poisoned by chemical warfare agents
- Bacteriological warfare

The course took four hours, later two hours a week. It consisted of both theoretical and practical training. Dr Sidaravičius, one of the creators of the course, admitted that at the beginning there was a lack of tools for practical training, but the students had the opportunity to familiarise themselves with gas masks and other means of protection. Among the tools used in the practical training were several types of gas mask, as well as educational strainers for them, oxygen apparatus, and exemplary anti-corrosive sets of gas clothing. During the practical part, students watched films about chemical

⁴⁵ BANKAUSKAS, Č[eslovas]. Aktualus dalykas. *Farmacijos žinios*, 1934, Nr. 10 (87), p. 6–7.

weapons, learned to use gas masks, and visited the War Museum, where they got to know the exhibits in anti-chemical defence. Both the practical and the theoretical part of the course were taught not only by civilians (Sidaravičius, Oželis, Kauza, Vytautas Girdzijauskas (1904–1972), but also by military doctors, representatives from the Rifle-men's Union anti-chemical courses (Žvirėnas), the Anti-Aircraft Squad (Babickis), and the Armaments Board (Jasaitis). Students had the opportunity to get acquainted with chemical weapons from both a medical and a military perspective. During the practice, they were also introduced to anti-aircraft artillery, aircraft attack and defence.⁴⁶

In 1936 the 'Rules for Rescuing Victims of Air Attacks' stipulated that in the event of chemical attack, the heads of the first aid stations were primarily expected to be chosen from non-mobilised and at least 20-year-old health specialists. Their training was entrusted to the Red Cross, and the programme was prepared by the Ministry of National Defence. It is interesting that due to the lack of specialists in medicine, biologists, chemists and graduates from the Academy of Agriculture were also supposed to take part as deputy heads of first aid stations. Therefore, a mandatory anti-chemical protection course at universities for students of these specialties was introduced.⁴⁷

It is also worth mentioning that although mandatory training for doctors on chemical warfare in Lithuania started quite late, doctors and pharmacists themselves constantly discussed this issue. The Lithuanian doctor Vldas Ingelevičius singled out the most significant changes that should take place in army sanitation in the event of a chemical attack. At the annual meeting of the Military Sanitary Science Society in 1936, he claimed that chemical weapons completely changed the organisation, supply and tactics of the army, including the military sanitary service. 'It is not enough for army sanitary personnel to be able to care for wounded or sick soldiers, they also need to know the chemical weapons and their effects on the body and the environment, both medically and chemically,' he stated. In addition, another extremely important function, supply, had to be expanded, which should be complemented by the obligation to provide the army and its medical institutions with oxygen apparatus and special preventive measures: gas masks, clothing for personnel involved in the disinfection and treatment of people exposed to mustard gas, etc. The evacuation of victims had also to go through changes, as the evacuation of those poisoned by chemical substances had to be much faster, and the medical facilities and staff had to be specially prepared to receive these patients.⁴⁸

⁴⁶ SIDARAVIČIUS, Br[onius]. Medicinos Fakulteto studentų ruošimas priešlėktuvinei apsaugai. *V. D. Universiteto žinios*, 1936, Nr. 4, p. 112–115; Fakultetų veikimo nuo 1932.II.16 d. iki 1937.II.16 d. apžvalga. *V. D. Universiteto žinios*, 1937, Nr. 1–5, p. 120–121.

⁴⁷ Nukentėjusiems nuo orinių puolimų gelbėti taisyklės. *Vyriausybės žinios*, 1936-05-09, Nr. 533, p. 7–8.

⁴⁸ INGELEVIČIUS, V[ldas]. Cheminiai kovos nuodai, avijacija ir sužeistųjų, apnuodytųjų ir ligonų globa bei gydymas. *Medicina*, 1936, Nr. 7–8, p. 524–525.

It was also discussed how civilian medicine should prepare for chemical attacks. The doctor Bronius Sidaravičius emphasised that every doctor had to know the law related to anti-aircraft and anti-chemical protection, and follow changes to it. The doctor also had to be able to use all protective measures, to understand the pathological effects of chemical substances, to know and apply therapeutic measures, and to recognise chemical poisons using the senses and information received from the patient, without waiting for the substances to be identified in the laboratory.⁴⁹

Dr Ingelevičius emphasised that civilian medical authorities and doctors had to prepare all sanitary systems properly, and the university had to acquaint students with the pathology and therapy of chemical weapons.⁵⁰

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Civilian doctors were often criticised for being too busy with numerous other things than the anti-aircraft and anti-chemical defence of the country. However, it is difficult to judge to what extent this criticism was justified, since not so many cases are noted in the press. Moreover, these criticisms were voiced by army doctors who, being in the military, were more familiar with potential future threats. Nevertheless, it was widely known that chemical warfare would affect both the front line and civilians behind the front line. Therefore, the call for civilian doctors to get involved in the preparations was particularly important.

The part of pharmacists was also considered very important in preparing for possible chemical warfare. In interwar Lithuania, members of this profession were valued both as health-care system specialists and as well-prepared chemists. In 1932, the editorial staff of the pharmacists' professional magazine *Farmacijos žinios* wrote: 'Gas is a chemical product. It is easy for pharmacists to understand them, to delve into their essence, and to explain their danger and ways to protect themselves to other ordinary citizens.'⁵¹

The pharmacist Česlovas Bankauskas, who became a chemical weapons expert in the Lithuanian army in 1939, wrote quite a lot on this issue. With his writing, he sought to familiarise his fellow pharmacists and doctors with the substances used in chemical warfare, and to recognise them, their effect on living organisms, their treatment, and preventive means against their effects. He believed that pharmacists could be excellent mediators in the transmission of information to the public. According to Bankauskas, such a practice would be especially useful in the provinces, where pharmacists were the only specialists who knew the science of chemistry and who could convey clear information to the common citizen.⁵²

⁴⁹ SIDARAVIČIUS, B. *Gydytojo vaidmuo...*, p. 96–98.

⁵⁰ INGELEVIČIUS, V. *Cheminis karas...*, p. 3–4.

⁵¹ [Redakcijos komentaras straipsniui:] KUDULIS, Pr. Dujos ateities kare. *Farmacijos žinios*, 1932, Nr. 5, p. 12.

⁵² BANKAUSKAS, Č. *Op. cit.*

In the later stage of our research, we have also tried to indicate the level of the Lithuanian military's medical preparation for possible chemical attacks, as well as the specific arsenal of means they suggested using. One of the sources that helped was the temporary instructions issued by the Lithuanian army in 1930: 'Defence against Chemical Warfare Agents'. The instructions indicated the functions of military commanders, the role of chemists in the military, and the analysis of individual and collective protective measures in the event of a chemical weapon attack. This publication also specifies the evacuation and first aid for the poisoned. Like the Vilnius instructions (Provisional Instructions on the Training of Rescue and Sanitary units of the Polish Red Cross), the content of a first aid kit was described: oxygen, soda, 2.25% soda solution, 0.2% potassium permanganate solution, ether, ethereal drops of valerian, chloral lime, distilled water, boric acid solution, bandages, cotton wool, gauze, towel, soap, pyramidon, Dakin's solution, absorbent paper, glycerine, eyewash, codeine tablets, chloramine, and drugs to stimulate the heart. The instructions also include a 'Mask Exercise Programme' that tells what exercises needed to be done to build the best endurance while wearing a gas mask. It is interesting that this book indicates how the army had to contribute to the medical preparation of society in the event of a chemical attack: 'To public representatives (doctors, teachers and others), the head of the army's chemistry explains how to use chemical protective equipment, and the chemical sanitation officer explains about the medical equipment that can be used in the event of exposure to chemical gases.'⁵³

Information about the degassing operations was described in a textbook of the Lithuanian military paramedics (1938). Like Polish paramedics, sanitary rescuers, degassers, were to wear protective clothes, but of a higher category, anti-mustard-gas overalls. Nevertheless, in practice, the effectiveness of the clothing was also limited. It could protect the wearer from mustard gas or lewisite from one to six hours, since both the mentioned materials had highly corrosive, burning qualities, and could penetrate almost all materials, including brick or stone.⁵⁴ Moreover, since the overalls were extremely hermetic at higher air temperatures, e.g. up to plus 25 degrees centigrade, a person could work effectively with it for 30 minutes only because of the heat. After using the overalls in the operation, they had to be removed and cleaned, and the person had to clean themselves in a mobile bath (Fig. 2).⁵⁵ Because of the last actions, it was recommended to avoid creating mixed sex teams, as the ladies were ashamed of undressing in front of their male colleagues, so that would result in the cleaning up actions becoming clumsy, which would take much longer, and the team would not work as effectively as it should.⁵⁶

⁵³ *Gynimasis nuo chemiškų karo priemonių: laikinieji nurodymai*. Kaunas, 1930.

⁵⁴ KENSTAVIČIUS, L[eonas]. *Pirmoji pagalba: kariuomenės sanitarų mokymas*. Kaunas, 1938, p. 152–155.

⁵⁵ KAREIVA, M[ėčys]. *Degazacija*. Kaunas, 1937, p. 16.

⁵⁶ *Ibid.*, p. 8.

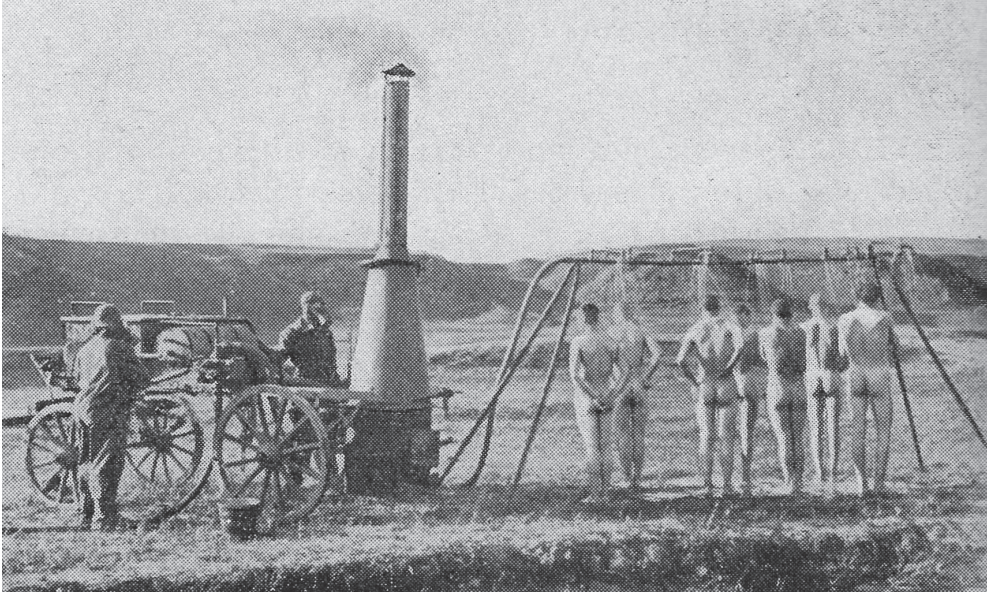


Figure 2. A mobile bath. Source: KENSTAVIČIUS, L[eonas]. *Pirmoji pagalba: kariuomenės sanitarių mokymas*. Kaunas, 1938

The perception of combat gas and eventual war attacks at the civilian level

The perception of combat gas and other threats at the civilian level were naturally different in comparison with the professional level; however, in about the middle of the 1930s, the awareness of combat gases began to rise. Organisations which assumed a role as mediator between the army and civilians in the national security needs in Lithuania were Lithuanian Aeroclub (Lietuvos Aero klubas) and the Lithuanian Riflemen's Union (Lietuvos Šaulių sąjunga). The aim of the first organisation was to familiarise the population with means of anti-aircraft defence, which also included anti-chemical protection. At the annual meeting of the Lithuanian Aeroclub held in 1933, this organisation set itself the goal of taking care of anti-aircraft national defence and the propagation of the issue in society.⁵⁷

In the same year, 70,000 copies of the brochure 'What everyone should know about anti-aircraft defence' were published.⁵⁸ The organisation's periodical *Lietuvos sparnai* regularly published articles on anti-aircraft and anti-chemical defence. Articles about

⁵⁷ ŽEMAITIS, Z. LAK artimiausio veikimo gairės. *Lietuvos sparnai*, 1935, Nr. 4, p. 85–88.

⁵⁸ PL. Priešlėktuvinės Apsaugos S-ga. *Lietuvos sparnai*, 1935, Nr. 4, p. 109.



Figure 3. An anti-gas bag for an infant (opened). Source: KAUZA, Vincas. *Pirmoji pagalba cheminiame kare. 2-oji laida*. Kaunas, 1937

first aid in the event of a chemical attack,⁵⁹ the latest protective measures (for example, portable anti-gas tents,⁶⁰ anti-gas bags for infants (Fig. 3), and anti-gas strollers for children⁶¹ were described.

Other medical issues, like anti-gas breathing training,⁶² and the doctor's role in chemical warfare,⁶³ were analysed in the periodical. Advertisements urging people to buy a gas mask were also seen in *Lietuvos sparnai* (Fig. 4).

The public criticised the high price of gas masks, but the head of anti-aircraft defence argued that the masks sold in Lithuania were of high quality compared to the cheap masks in neighbouring countries.⁶⁴

The other organisation mentioned, the Lithuanian Riflemen's Union, focused more specifically on anti-chemical defence and the theoretical and practical dissemination of the topic in society. This organisation focused on the dissemination of written propaganda, as well as organising many lectures and training courses. As an

⁵⁹ CHM., V. Pirmoji pagalba nukentėjusiems nuo cheminių medžiagų. *Lietuvos sparnai*, 1936, Nr. 6, p. 186–188.

⁶⁰ PLAUŠINAITIS, A[ntanas] V[ytautas]. Kilnojamosios priešdujinės palapinės. *Lietuvos sparnai*, 1938, Nr. 5, p. 169–170.

⁶¹ Slėptuvės. *Lietuvos sparnai*, 1939, Nr. 2, p. 33.

⁶² PL[AUŠINAITIS], A[ntanas] V[ytautas]. Priešdujinė kvėpavimo treniruotė. *Lietuvos sparnai*, 1936, Nr. 12, p. 368–370.

⁶³ SIDARAVIČIUS, Br[onius]. Gydytojo vaidmuo cheminiame kare. *Lietuvos sparnai*, 1937, Nr. 4–5, p. 94–95; Nr. 6, p. 136.

⁶⁴ NOREIKA. Apie mūsų priešlėktuvinę apsaugą. Pasikalbėjimas su priešlėktuvinės apsaugos viršininku pulkininku Alanta. *Lietuvos sparnai*, 1938, Nr. 11, p. 323.



Figure 4. An advertisement in *Lietuvos sparnai* (1937, No 10) recommending people to buy a gas mask

example, lectures on anti-chemical and anti-aircraft defence were organised by the Riflemen's Union in 1938, led by the pharmacist-chemist Matas Žvirėnas.⁶⁵

It is worth mentioning that, together with the previously mentioned Lithuanian Aero Club, this organisation held the first anti-aircraft and chemical defence exhibition in Lithuania in 1935. The exhibition was organised in Kaunas, later it was transported by seven train wagons to other Lithuanian cities. The exhibition consisted of two main sections: anti-aircraft protection and anti-chemical protection. The work of the latter section was taken care of by the Riflemen's Union. The exhibition demonstrated gas masks and other personal protective equipment for both humans and animals, oxygen machines, and cradles for small babies with an oxygen machine. Visitors could see photographs of people exposed to mustard gas and other chemicals.

The exhibition focused a lot on practice. For example, visitors could smell chemicals, and tear gas was sprayed at one of the entrances. As could be expected, this 'entertainment' caused some accidents. One of the visitors who was affected by the tear gas began to argue that she had been affected by mustard gas and had had her skin burned. In order to convince her that it was tear gas, and not mustard gas, the organisers gave her a smell of real mustard gas to demonstrate the obvious difference. The exhibition also explained in detail how to provide first aid to victims, and how to protect themselves during a chemical gas attack.^{66 67}

Meanwhile, another important aspect should be mentioned. Although the private initiatives of the Lithuanian Aeroclub and the Lithuanian Riflemen's Union and others could be traced from the year 1929, when the first book regarding gas attacks was published,⁶⁸ governmental level action was lagging. Only after six years, in 1935, was the 'Law on Protection against Danger from Airplanes' published. Issues such as

⁶⁵ Dėmesio priešlėktyvinei apsaugai! Savanoriai suruošė priešlėktyvinės apsaugos kursus. *Lietuvos sparnai*, 1938, Nr. 10, p. 308.

⁶⁶ Pirmoji priešlėktyvinė paroda Lietuvoje. *Lietuvos sparnai*, 1935, Nr. 5, p. 124.

⁶⁷ DŽENKAITIS, [Jonas]. Pirmoji priešlėktyvinė-priešcheminė paroda Lietuvoje. *Lietuvos sparnai*, 1935, Nr. 7, p. 190–192.

⁶⁸ ŠIMKUS, [Jonas]. *Priešdujinė apsauga*. Kaunas, 1928.

preparing private and public buildings for protection, equipping hiding places with gas masks and other inventory, tracking attacks, evacuation, self-defence and the mandatory teaching of it in schools, etc, were discussed. The Aircraft Danger Commission, which was to operate under the Ministry of Defence, was established.⁶⁹

In 1937 instructions were published in Kaunas by the Lithuanian Riflemen's Union in the form of the textbook *Degazacija* (Degassing), intended for the army, as well as 'every citizen who cares about the security of our land'. The author Mečys Kareiva (1901–1944) admitted that the need to prepare such a textbook came from governmental policy, namely the 'Rules on Creating Degasser Teams' in *Vyriausybės žinios* was published in 1935.⁷⁰ However, since none of the accompanying instructions were published, he felt it was his duty to prepare these instructions in a detailed way as it had to be done. The object of the instructions was the actions needed to clean territories poisoned with combat gas, mostly mustard gas, usually neutralising it with different forms of chlorine lime (Fig. 5). The smallest autonomous unit which could take actions was the chain. A chain consisted of ten people: one chain chief, five degassers, and four assistants. Three chains consisted of a team of 32 people, including the head of the team and his deputy. The profession of degasser was relatively open to the public as, according to the instructions, every person older than 21 years old, of either sex, could choose to become a degasser. However, since the task was considered to be a tough one, well-built people were preferred. Moreover, since at the time no specific devices were used to detect the odour of gas, at least two people with a good sense of smell were needed in each degasser chain.⁷¹

In Vilnius and in Poland, civilians were also informed about the eventual threat of wartime attacks via the media and small informative textbooks. Interestingly enough, some Polish-language instructions were found in a Szczecin library. However, Szczecin became part of Poland only after the Second World War, which does not match with the need of such instructions in the Polish language before the Second World War. Nevertheless, the instructions originally published in Warsaw, and likely circulated in all of Poland, describe in detail the actions of residents that were supposed to help protect them, or at least minimise the possible damage of attacks.

In 1939 the 'Instructions on the Sanitary Organisation of Rescue from Airplane and Gas Attacks' required the appointment of one or two people responsible for defence, a rescue committee, for each house or several houses, in quarters inhabited by civilians, who had to be able to provide first aid to victims of attacks and coordinate rescue actions related to transporting the victims to hospital. Each apartment or family was also obliged to have one person who knew how to provide first aid, especially in case of poisoning with poisonous gas and other substances, and to

⁶⁹ Įstatymas apsaugos nuo pavojaus iš lėktuvų. *Vyriausybės žinios*, 1935-04-13, Nr. 479, p. 2–3.

⁷⁰ Taisyklės degazuotojų komandoms steigti. *Vyriausybės žinios*, 1935-12-24, Nr. 517, p. 2–3.

⁷¹ KAREIVA, M. Op. cit., p. 7.



Figure 5. Degasers equipped with anti-mustard gas overalls filling up the chlorine lime roll. Source: KAREIVA, M[ečys]. Degazacija. Kaunas, 1937

help doctors-health workers. The instructions also provided for the general training of civilians on how to behave during military attacks. The committees had to be equipped with precise first aid instructions, as well as clothes, gas masks, medicines, stretchers, bandages, etc.⁷²

Other instructions were published in the same year: 'Advice for Ordinary People on Defence against Airplane and Gas Attacks'. Civilians were introduced to the characteristics of the bombs used in airplane attacks, as well as to poisonous gas and its effects. Recommendations were given on how to build a shelter from gas attacks at home. It was suggested to build a hiding place in the toilet/bathroom of the apartment. It suggested darkening the windows in the evenings so that no light would come from the apartment, limiting the lighting of the apartment to only what was most necessary. It also suggested preparing gas masks, food and water supplies in advance, as well as keeping clothes and other necessary things nearby before going to bed, so that when/if the alarm signal rang it would be possible to leave the house immediately to go to the underground bunkers, which would protect against bombing.⁷³

⁷² *Instrukcja o organizacji ratownictwa sanitarnego w samoobronie przeciwlotniczej i przeciwgazowej* (Ministerstwo Opieki Społecznej, W. 1/5-9). Warszawa, 1939.

⁷³ *Wskazówki dla ogółu ludności o obronie przeciwlotniczej i przeciwgazowej* (Ministerstwo Spraw Wewnętrznych, Nr Wojsk. opl. 9/10/1). Warszawa, 1939.

The treatment of the injured during gas attacks

During interwar period, many agreed that prevention (gas masks and special clothes, and even special ointments) were the most important means in the case of gas poisoning, as there was no antidote for combat gases and the treatment was entirely symptomatic.

Since most of the combat gas chemicals produced similar symptoms, the therapy was identical in such cases. However, in the case of poisoning with particular substances, the use of medication was not the first step. In the case of choking and corrosive gases, the primary aim was to prevent the substances from being transferred to other people and medical personnel. For example, in the case of mustard gas poisoning, the victims were transported to separate rooms, their clothes and all items and stretchers with which they were brought were degassed, and medical personnel were recommended to work with special clothes. All body hair had to be cut/shaven as well.⁷⁴ It was necessary to neutralise immediately the poison left on the body or in the body. In the case of mustard gas poisoning, the following poison neutralisation technique was used:

- The body (skin) was cleaned with kerosene, gasoline, warm water and soap, dry chloral lime or their mortar, sol. *Kalii hypermanganici*, sol. *Hydrogenii hyperoxydati*, *Natrii bicarbonati* (natron). If there were burns/irritations of the whole body, it was suggested to prepare a bath: 500.0 flour and 500.0 *Natrii bicarbonati* in 100 litres of water;
- Mucous membranes (eyes, mouth, nose, etc) were cleaned with 1-2% *Natrii bicarbonati*, *Kalii hypermanganici* 1:4000.⁷⁵

Turning specifically to drug therapy, we will present the most important and basic measures used to relieve the symptoms, because although the treatment was symptomatic, the options for drugs were already quite wide in the interwar period. Firstly, in the case of choking gas poisoning, the primary goal was to control pulmonary edema. Medications were used to normalise the amount of fluids in the lungs, and stabilise respiratory function and heart activity. For example, warming compresses, *atropinum sulfuricum* (sub-q) or *emetinum hydrochloricum* (sub-q), were recommended to reduce fluid in the lungs (Fig. 6). In less complicated cases, it was suggested to drain up to 500 millilitres of blood (in order to facilitate both the breathing and circulatory activity). Oxygen was used for respiratory support. First of all, it was recommended to choose oxygen machines that ensured the right concentration of oxygen. Also, intravenous, subcutaneous and nasopharyngeal administration were distinguished as separate methods. However, due to certain shortcomings, such as imprecise dosages, these methods were not always applied.⁷⁶ For cardiac disorders

⁷⁴ INGELEVIČIUS, V. *Cheminis karas...*, p. 16–18.

⁷⁵ *Ibid.*, p. 19.

⁷⁶ ŽEMAITIS, J. Priešdujinė receptūra. *Farmacijos žinios*, 1938, Nr. 5 (125), p. 13–16.

following breathing disorders, i.e. to promote its activity, it was suggested to use the following substances: strophanthin (i.v.⁷⁷), camphora (i.v.), *coffeinum natrium benzoicum* (i.v.), etc.⁷⁸

In the case of corrosive gas poisoning, attention was paid to the care and treatment of wounds and blisters. The principles of asepsis were very important in this case, because antibiotics that could prevent secondary infections did not yet exist. It was recommended to use Carrel-Dakin solution (dilute sodium hypochlorite [NaClO]), or physiological saline (0.9% sodium chloride solution), 3% *hydrogenium hyperoxidatum* for washing wounds. It was suggested to pierce the blisters with a sterile syringe and extract the exudate, leaving a film on the wound, which would help it to heal faster. For better healing, doctors recommended using light therapy: heliotherapy (15 minutes of natural sunlight) or ultraviolet (UV) light therapy for three to five minutes, as it was known that the sun has specific antibacterial properties.⁷⁹

In the case of corrosive gases, other body systems were also affected; therefore, appropriate symptomatic treatment had to be applied. For example, in the event of difficulty breathing, oxygen therapy was used. In cases of severe damage to the mucous membranes, the victims felt great pain, so doctors suggested using drops (to the eyes) or ointments (to the nose) with cocaine or novocaine, which quickly and locally relieved pain. In the case of suppuration, protargol or collargol was used. These two substances, containing silver in a colloidal state, were considered to have quite strong antibacterial properties at that time.^{80, 81}

The effects of tear gas and sneezing gas are not very dangerous, and usually do not require specific complex treatment. The main goal of the therapy was to reduce the tears and stop sneezing, as well as to prevent complications, especially infections. In the case of tear gas poisoning, it was recommended to wash the eyes first with physiological saline (0,75-0,9% NaCl) or 3% boric acid warm solution. After washing the eyes, it was suggested to apply zinc drops, which reduce lacrimation and form a protective film or soothing, and disinfecting ointments. In order to avoid additional physical pressure, bandaging was often prohibited. Keeping the eyes in the dark was recommended.⁸² In the case of sneezing gases, to make the patient less bothered by

⁷⁷ Latin *intra venum*, 'into a vein'.

⁷⁸ INGELEVIČIUS, V. *Cheminis karas...*, p. 13.

⁷⁹ During the interwar period, heliotherapy (sunlight therapy) and ultraviolet light therapy were considered important bactericidal (bacteria-killing) measures. Therefore, they were believed to help wounds heal faster. – ŽEMGULYS, J. Apie gydymą ultrafioletaisiais spinduliais. *Medicina*, 1920, Nr. 1, p. 6–12; Nr. 2, p. 37–43; KENSTAVIČIUS, L[eonas]. Dėl kelio sąnario tuberkuliozės konservatiško ir operatiško gydymo. *Medicina*, 1927, Nr. 8, p. 424–439; Nr. 9, p. 509–520; Nr. 10, p. 583–599; Nr. 11, p. 643–666; Nr. 12, p. 720–732.

⁸⁰ INGELEVIČIUS, V. *Cheminis karas...*, p. 18–19.

⁸¹ JASAITIS, D. Op. cit., p. 812.

⁸² KAUAZA, V[incas]. Pirmoji pagalba cheminiame kare. *Trimitas*, 1935, Nr. 22, p. 401.

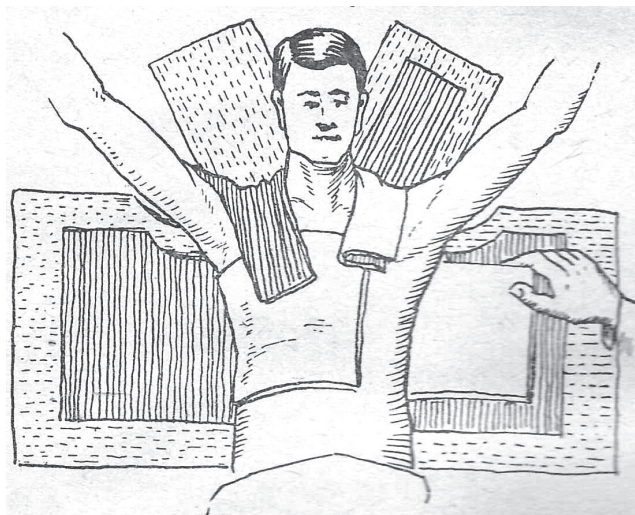


Figure 6. The correct application of heating compresses to a victim of choking gases. Source: KAUZA, Vincas. *Pirmoji pagalba cheminiame kare*. 2-oji laida. Kaunas, 1937

the sneezing, it was recommended to inhale compounds that reduce the sneezing, such as *spiritus vini* 95⁰-40,0, *chloroformum* - 40,0, *aether sulfuricum*-15,0, *ammonium causticum*-5,0.⁸³ All other complaints were treated symptomatically.

Conclusions

To sum up, it looks as if the topic of chemical weapons definitely found its place in various types of press, both public and professional. However, the information provided in different sources differed much in their character. The non-specialist press focused mostly on the mood, and a superficial level of public preparations. Articles were quite often based on emotions rather than facts. Some of the information provided was commercialised and misleading, such as the popular myth that gas attacks could easily be neutralised by gas masks only. That raises additional questions, such as whether there was any control of war threat-related information by the government, or whether this popular myth was supported by the government itself, since it was useful in creating the illusion of a controlled situation.

⁸³ KUDULIS, Pr. Dujos ateities kare. *Farmacijos žinios*, 1932, Nr. 6 (60), p. 5.

Meanwhile, the information provided for doctors and pharmacists was more detailed and informative. They were provided with detailed instructions, especially in the event of cleaning a mustard gas-polluted environment, as well as treating injured patients. The instructions that were publicly available also provided valuable information regarding both the war threats such as bombing and gas attacks, as well as basic means which could help to survive a crisis, with the condition that the civilian would purposefully search for the information themselves.

Concerning the involvement in the preparations for eventual war by public organisations as well as professionals, a characteristic remark should be mentioned. Namely, in both Vilnius and Kaunas, as well as in Poland and Lithuania, governmental institutions were late in corresponding with the actual public needs of preparation for the eventual war. To some extent, war preparation actions were ignited primarily by the concern of civil and medical organisations. In the case of Poland and Vilnius, already in the mid-1930s, the first anti-gas attack courses were launched at the initiative of the Polish Red Cross organisation. In the case of Kaunas and Lithuania, the first books about the future war threats were published in 1930–1935 already by members of the army and aviation club, the paramilitary organization the Riflemen's Union, and others, before the official anti-gas attack laws were published. After the official acts were eventually published, they were supplemented by public and professional initiatives.

Further historical events showed that some of the strategies worked, while others were rendered useless by the changed circumstances. Contrary to expectations, the first military actions began in the western part of Poland, and the dreaded gas attack was replaced by a much more terrible weapon, the nuclear bomb. Fortunately, this weapon was not used in Europe. If it was used, the instructions were very likely to fail. However, the dreaded gas attacks were not used either.

Whether the anti-airplane and anti-gas attack instructions would have worked is a debatable question. Generally, it looks as if the government-level preparations were not very coordinated, lacking a clear strategy and leadership. Public and professional activities, which seemingly catalysed the very process, started in the middle of the 1930s. Despite some differences in the public sector, the government-level actions seemingly started at a similar time in both countries, in both the cities of Vilnius and Kaunas. Nevertheless, thanks to the involvement of professionals, namely medical doctors and pharmacists, aviators and paramilitary organisations, the goals and strategies set by the instructions in both cases of Vilnius and Kaunas seem to be quite similar, clear and consistent. They mostly targeted preventive actions, which had to ensure the effective saving of civilians and soldiers, as it was clear enough that the medical treatment of the injured would have been much more complicated

and not very effective. The very structure of anti-gas units, as well as their equipment, demonstrates that military physicians were informed to some extent. On the other hand, according to some sources, the preparations did not involve all the civilian doctors or civilians, which would likely have caused serious problems if real gas attacks had happened.

Today the military doctors' instructions, as well as the civilian-level information, looks like an interesting monument of the past; however, an analysis of the very cooperation between government, private and professional initiatives could give some valuable insights into solving a modern military crisis. It could lead to valuable conclusions, taking into account the importance of timely leadership and the public involvement of all citizens in such actions, which could play a key role in their success or failure.

List of printed sources quoted in the article

- BANKAUSKAS, Č[eslovas]. Aktualus dalykas. *Farmacijos žinios*, 1934, Nr. 10 (87), p. 6–7.
- Drugi powszechny spis ludności z dn. 9.XII 1931 r. Mieszkania i gospodarstwa domowe. Ludność Polska* (Statystyka Polski, seria C, zeszyt 94a). Warszawa, 1938.
- DŽENKAITIS, [Jonas]. Pirmoji priešlėktuvinė-priešcheminė paroda Lietuvoje. *Lietuvos sparnai*, 1935, Nr. 7, p. 190–192.
- Gynimasis nuo chemiškų karo priemonių: laikinieji nurodymai*. Kaunas, 1930.
- INGELEVIČIUS, V[ladas]. Cheminiai kovos nuodai, avijacija ir sužeistųjų, apnuodytųjų ir ligonių globa bei gydymas. *Medicina*, 1936, Nr. 7–8, p. 524–529.
- INGELEVIČIUS, [Vladas]. *Cheminis karas*. Kaunas, 1935.
- INGELEVIČIUS, [Vladas]. Oro puolimų pavojus civiliniams gyventojams. *Lietuvos sparnai*, 1935, Nr. 1, p. 20–23.
- Instrukcija o organizacji ratownictwa sanitarnego w samoobronie przeciwlotniczej i przeciwigazowej* (Ministerstwo Opieki Społecznej, W. 1/5-9). Warszawa, 1939.
- JASAITIS, D[omas]. Cheminės kovos medžiagos. *Medicina*, 1932, Nr. 11, p. 710–721; Nr. 12, p. 806–819.
- KAREIVA, M[ečys]. *Degazacija*. Kaunas, 1937.
- KAUZA, V[incas]. Pirmoji pagalba cheminiame kare. *Trimitas*, 1935, Nr. 22, p. 400–401.
- KAUZA, Vincas. *Pirmoji pagalba cheminiame kare*. 2-oji laida. Kaunas, 1937.
- KENSTAVIČIUS, L[eonas]. Dėl kelio sąnario tuberkuliozės konservatiško ir operatiško gydymo. *Medicina*, 1927, Nr. 8, p. 424–439; Nr. 9, p. 509–520; Nr. 10, p. 583–599; Nr. 11, p. 643–666; Nr. 12, p. 720–732.
- KENSTAVIČIUS, L[eonas]. *Pirmoji pagalba: kariuomenės sanitarų mokymas*. Kaunas, 1938.
- KUDULIS, Pr. Dujos atėities kare. *Farmacijos žinios*, 1932, Nr. 5 (59), p. 11–12; Nr. 6 (60), p. 1–6.
- KUDULIS, Pr. Dujos atėities kare. *Farmacijos žinios*, 1932, Nr. 6 (60), p. 1–6.
- NOREIKA. Apie mūsų priešlėktuvinę apsaugą. Pasikalbėjimas su priešlėktuvinės apsaugos viršininku pulkininku Alanta. *Lietuvos sparnai*, 1938, Nr. 11, p. 322–323.
- OŽELIS, K[azys]. Naturalinis ir mechaninis gyventojų keitimasis Lietuvoje 1915–1933 metais. In *Vytauto Didžiojo universiteto Medicinos fakulteto darbai*. T. 2, kn. 1. Red. P[etras] AVIŽONIS. Kaunas, 1934, p. 71–25.

- PLAUŠINAITIS, A[ntanas] V[ytautas]. Kilnojamosios priešdujinės palapinės. *Lietuvos sparnai*, 1938, Nr. 5, p. 169–170.
- PL[AUŠINAITIS], A[ntanas] V[ytautas]. Priešdujinė kvėpavimo treniruotė. *Lietuvos sparnai*, 1936, Nr. 12, p. 368–370.
- RUDZIŪSKI, Henryk. Zdrowotnosc publiczna na Wileńszczyźnie. *Pamiętnik Wileńskiego Towarzystwa Lekarskiego i Wydziału Lekarskiego Uniwersytetu Stefana Batorego*, 1932, rok 8, zeszyt 4–5, s. 217–280.
- SIDARAVIČIUS, B[ronius]. Apsinuodijimai cheminėmis karo medžiagomis. *Medicina*, 1935, Nr. 4, p. 254–266; Nr. 5, p. 339–352.
- SIDARAVIČIUS, Bronius. Gydytojo vaidmuo cheminiame kare. In *Penktojo Lietuvos gydytojų kongreso darbai*. Red. V. VAIČIŪNAS, Kaunas, 1937, p. 95–102.
- SIDARAVIČIUS, Br[onius]. Medicinos Fakulteto studentų ruošimas priešlėktuvinei apsaugai. *V. D. Universiteto žinios*, 1936, Nr. 4, p. 112–115.
- ŠIMKUS, J[onas]. *Priešdujinė apsauga*. Kaunas, 1928.
- Tymczasowa instrukcja o organizacji i szkoleniu sekcji ratowniczo-sanitarnych Polsk. Czerw. Krzyża*. Warszawa, 1937.
- Wskazówki dla ogółu ludności o obronie przeciwlotniczej i przeciwgazowej* (Ministerstwo Spraw Wewnętrznych, Nr Wojsk. opl. 9/10/1). Warszawa, 1939.
- ŽEMAITIS, J. Priešdujinė receptūra. *Farmacijos žinios*, 1938, Nr. 5 (125), p. 13–16.
- ŽEMAITIS, Z. LAK artimiausio veikimo gairės. *Lietuvos sparnai*, 1935, Nr. 4, p. 85–88.
- ŽEMGULYS, J. Apie gydymą ultrafioletaisiais spinduliais. *Medicina*, 1920, Nr. 1, p. 6–12; Nr. 2, p. 37–43.

List of previous studies quoted in the article

- AŽUBALIS, Algirdas; KAZLAUSKIENĖ-MARKELIENĖ, Rolanda; PETRAUSKAITĖ, Audronė; PUZINAVIČIUS, Bronius; ŽIGARAS, Feliksas. *Karo pedagogika Lietuvoje (1918–1940 m.)*. Vilnius, 2007.
- JANKEVIČIŪTĖ, Giedrė. Dujokaukės įvaizdis Lietuvos XX a. 4 dešimtmečio vizualinėje kultūroje: karo nuojautos ženklai. In *Kaukė ir veidas: atvaizdo istorijos aspektai* (Acta Academiae Artium Vilmensis, t. 96). Sud. Tojanaa RAČIŪNAITĖ. Vilnius, 2020, p. 260–285.
- KASPARAITĖ-BALAIŠĖ, Lina. Lietuvos kariuomenės Varėnos poligonas XX a. 3-iajame dešimtmetyje. *Karo archyvas*, 2016, t. 31, p. 190–231.
- Kauno gubernija. *Visuotinė lietuvių enciklopedija* [electronic source], URL: <<https://www.vle.lt/straipsnis/kauno-gubernija/>>, accessed 15.09.2024.
- KOPEĆ, Rafał. Broń chemiczna – historia i perspektywy zastosowania we współczesnych konfliktach zbrojnych. In *Bezpieczeństwo w nowych czasach*. Red. Zbigniew KWIASOWSKI, Katarzyna PABIS-CISOWSKA, Marek PIETRZYK. Kraków, 2016, s. 43–55.
- KUODYS, Modestas. Pacifizmo refleksija tarpukario Lietuvoje (XX a. 3–4 deš.). *Karo archyvas*, 2018, t. 33, p. 281–329.
- URBANEK, Bożena. Wileńskie kursy ratownictwa sanitarnego PCK w pierwszej połowie XX wieku. In *Zawód ratownika medycznego na ziemiach polskich w XIX i XX wieku*. Red. Bożena URBANEK. Warszawa, 2012, s. 241–252.
- VAN BERGEN, Leo. The poison gas debate in the inter-war years. *Medicine, Conflict and Survival*, 2008, Vol. 24, No. 3, pp. 174–187.
- ŽALNORA, Aistis. Development of Vilnius water supply and canalization systems in 16th–19th centuries. In *Czystość i brud. Higiena w XIX wieku: wokół przełomu bakteriologicznego*. Red. Walentyna KORPALSKA, Wojciech ŚLUSARCZYK. Bydgoszcz, 2016, s. 71–80.
- ŽALNORA, Aistis. Janina Bortkiewicz and Public Hygiene Education in Popular Magazines Published in Vilnius, 1930–1939. In *Defeating Disease in the Changing Society of the Southeast Baltic from the 18th to the 20th century* (Acta Historica Universitatis Klaipedensis, Vol. 43). Ed. by Milda KONTRIMĖ. Klaipėda, 2022, pp. 73–97.

(PARA)MEDIKŲ RENGIMAS KOVINĖMS DUJŲ ATAKOMS 1920–1939 M. LENKIJOS VILNIUJE IR LIETUVOS KAUNE: PROFESINĖS IR PILIETINĖS PERSPEKTYVOS

Aistis Žalnora

Viktorija Šimkutė

Santrauka

Šiuo tyrimu visų pirma siekta išanalizuoti pirminius archyvinus 1920–1939 m. dokumentus, kurie suteiktų informacijos, susijusios su specialistų (vyriausybės, karo gydytojų, Lenkijos Raudonojo Kryžiaus ir kitų atsakingų organizacijų) sukurtomis strategijomis, kaip miestams (Vilniui ir Kaunui) apsisaugoti nuo cheminio ginklo. Antra, analizavome viešąją spaudą, siekdami atsekti visuomenės nuomonę apie karinių išpuolių grėsmę. Taip pat norėjome susidaryti bendrą pasirengimo darbų vaizdą, kad išsiaiškintume, ar jie buvo realistinio, o gal labiau deklaratyvaus pobūdžio.

Straipsnyje atskleidžiama, kaip cheminis ginklas ir jo poveikis organizmui buvo aprašomas populiariojoje ir profesinėje spaudoje tarpukariu. Antra, kaip Vilniaus universiteto ir Vytauto Didžiojo universiteto Kaune medicinos fakultetai įsitraukė į medicinos personalo rengimą cheminio ginklo atakoms. Trečia, kokį vaidmenį skleidžiant medicininės žinias apie cheminį karą ir rengiant jam visuomenę vaidino atitinkamos vyriausybės, karo medicinos personalas ir tokios organizacijos kaip Šaulių sąjunga bei Raudonasis Kryžius. Be to, straipsnyje nagrinėtos pagrindinės tuo metu egzistavusios prevencijos ir gydymo nuo cheminio ginklo priemonės. Atskleidžiama, kokie pagrindiniai iššūkiai laukė medicinos personalo cheminio karo atveju. Galiausiai atkreipėme dėmesį į strategijų ir priemonių palyginimą Kaune ir Vilniuje, kurie tarpukariu priklausė skirtingoms valstybėms.

Tyrimo medžiaga apėmė kelių tipų pirminius šaltinius, kurie buvo lyginami tarpusavyje, tai: Stepono Batoro universiteto Medicinos fakulteto sanitarinių kursų programos, kariuomenei ir civiliams skirtos instrukcijos ir vieši straipsniai, kuriuos teikė Karinės vadovybės ir Raudonojo Kryžiaus organizacija Vilniuje, Kaune.

Tyrimas atskleidė, kad vyriausybės lygmeniu pasirengimas galimiems kariniams veiksams prasidėjo apytikriai 4-ojo dešimtmečio viduryje. Vis dėlto privačios ir profesinės iniciatyvos ruošiantis kariniams veiksams prasidėjo dar prieš kelerius metus nei vyriausybės veiksmai. Viešuoju lygmeniu pateikta informacija apie galimus karinius veiksmus vertintina kaip prieštaringa. Kai kurios tuo metu valdžios institucijų iškomunikuotos idėjos buvo paviršutiniškos ir klaidinančios visuomenę, kadangi jos kūrė klaidingą iliuziją apie valdžios kontroliuojamą situaciją, nors ji tokia nebuvo. Kyla abejonių dėl to meto valdžios institucijų organizuotumo ir koordinacijos rengiantis galimiems kariniams veiksams. Kai kurie įstatymai, skirti šiems klausimams, buvo pavėluoti, nepakankamai išsamūs ir detalūs, taigi tai galimai liudytų konsultacijų su šios srities žinovais stoką.

Vertinant profesionalų informaciją karinio pasirengimo klausimais, būdinga tai, kad instrukcijos, pateikiamos karo gydytojams ir paramedikams, suteikė esminę informaciją, kuri turėjo padėti galimų dujų ir bombardavimo atakų atveju. Ypač detalios instrukcijos pateikiamos kalbant apie kovinėmis dujomis užnuodytų teritorijų valymą ir apnuodytų pacientų gydymą. Tačiau šių specifinių karinių veiksmų žinių sklaidos lygis tarp gyventojų ir civilių gydytojų vertintinas kaip abejotinas. Peršasi išvada, kad realios karinės krizės atveju tai galėjo sukelti tam tikrų nesklandumų įgyvendinant prevencinius veiksmus praktikoje, kadangi civiliai gydytojai nebuvo visiškai įsitraukę į pasirengimo karo veiksmams darbus, taip pat didelio susidomėjimo šios temos nesulaukė ir to meto visuomenėje apskritai.