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THE SPANISH FLU AND OTHER CAUSES OF DEATH IN VARAŽDIN FROM 1918 TO 1920

In this scientific paper the authors analyse the impact of the *Spanish flu* on the number of deaths in Varaždin from 1918 to 1920 as well as other causes of death in the period concerned. The research is based on the following registries of deaths: *Občeeniti grobovi (28. VI. 1917.-31. III. 1919.)* [Eng. General graves (28/VI/1917-31/III/1919)], *Knjiga mrtvacah općeniti grobovi III (1879) 1903 – 1918* [Eng. Book of the dead – general graves III (1879) 1903 – 1918] and *Knjiga mrtvacah obiteljskih grobnica (1902-1919)* [Eng. Book of the dead – family tombs (1902-1919)] which are kept in the State Archives in Varaždin. The research also included the *Grobni očevidnik (1919-1939.)* [Eng. Cemetery records (1919-1939)], kept in the municipal company Parkovi d.d.¹ The books comprise information on all deceased people buried in the Varaždin cemetery in the aforementioned three-year period. Beside their identity, profession, age, place of birth, marital status, and time of burial, the cause of death was also recorded. The analysis included the three-year period – from the beginning of 1918 until the end of 1920, i.e. the period when the *Spanish flu* appeared and disappeared from Varaždin. In order to investigate all causes of deaths in the period concerned, the authors processed 1,435 separate entries. The research results showed that 121 people died from flu in Varaždin (mostly in 1918 – 114 people, while the number of the dead reached the peak in Octo-

¹ The authors thank Sanja Županić for the translation into the English language. Also, they thank the employees of the State Archives in Varaždin and the municipal company Parkovi d.d. for the help provided during the research.

ber). In the years that followed the number of the people who died from flu decreased and the infection vanished – four people died in 1919 and three in 1920.

Key Words: *Spanish flu*; Varaždin; 1918; 1919; 1920; epidemic; mortality.

INTRODUCTION COMPRISING AN OVERVIEW OF HISTORIOGRAPHY

A research on mortality actually involves writing about people's intimacy and as the 20th century provides enough data on the deceased, it is possible to reconstruct details about their lives. The data is suitable for comparisons and this type of research comprises a study of everyday life history. Therefore, the information on mortality can tell us about the quality of life, health, diet, epidemics, and in rare cases, even about mass deaths.

As far as Varaždin is concerned, Vladimir Huzjan has been addressing the topic of mortality in the city during the 20th century in various scientific papers. In the paper "O ranjenicima i zarobljenicima u Varaždinu 1914. i 1915. te invalidima i ratnom groblju nakon *Velikog rata*" [Eng. On the wounded and imprisoned in Varaždin in 1914 and 1915, invalids and war cemetery after the *Great War*] the author analysed data on imprisoned, wounded and dead soldiers and civilians who were situated in Varaždin in 1914 and 1915 and on postwar relationship between the City of Varaždin and war invalids, while also dealing with the creation of the *Warriors' Section* in the town cemetery.² In the *Appendix*, for the first time ever, a list with data on several hundred foreign soldiers was published: Russian, Italian, German, Czech, Polish, Austrian, and Hungarian victims of the *Great War* who had been buried in the cemetery. In November 2018, on the occasion of marking the 100th anniversary of the end of the First World War, a commemora-

² Vladimir HUZZIAN, "O ranjenicima i zarobljenicima u Varaždinu 1914. i 1915. te invalidima i ratnom groblju nakon *Velikog rata*", *Varaždin i sjeverozapadna Hrvatska u Velikom ratu 1914.–1918.*, zbornik radova sa znanstvenog skupa s međunarodnim sudjelovanjem održanim u Varaždinu 3. i 4. srpnja 2014., gl. ur. Stjepan DAMJANOVIĆ, ur. V. HUZZIAN, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad u Varaždinu, Zagreb-Varaždin, 2014., 161-188. For more data on war invalids and their families in Varaždin and its vicinity after the First World War consult: Vladimir HUZZIAN, Jasmin MEDVED, "O korisnicima obiteljskih invalidnina sudionika Prvoga svjetskog rata – popis Narodnog odbora kotara Varaždin", *Radovi Zavoda za znanstveni rad Varaždin*, 25, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad u Varaždinu, Zagreb-Varaždin, 2014, 479-551; and Vladimir HUZZIAN, Jasmin MEDVED, "O korisnicima osobnih invalidnina sudionika Prvoga svjetskog rata - popis Narodnog odbora kotara Varaždin", in: *Varaždin i sjeverozapadna Hrvatska u Velikom ratu 1914. – 1918.*, zbornik radova sa znanstvenog skupa s međunarodnim sudjelovanjem održanim u Varaždinu 3. i 4. srpnja 2014., gl. ur. Stjepan DAMJANOVIĆ, ur. V. HUZZIAN, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad u Varaždinu, Zagreb-Varaždin, 2014., str. 189-246.

tive plaque was erected. In the next paper by V. Huzjan entitled “Vojne žrtve *Velikog rata* i poraća pokopane na varaždinskom groblju (1914.-1919.)” [Eng. Military victims of the *Great War* and afterwar period buried in Varaždin cemetery (1914-1919)] the author expands the previous research and publishes the list of fallen soldiers who were victims of the *Great War* and born in the area of today’s Austria, Bosnia and Herzegovina, Croatia, Slovenia and Serbia.³ The research revealed that the total number of soldiers, who were victims of the *Great War* and buried in the *Warriors’ Section* of the town cemetery in Varaždin, exceeded four hundred. Next, in the monograph *Varaždin i vojska u međuratnom razdoblju (1918.-1941.)* [Eng. Varaždin and army in the interwar period (1918-1941)] the same author published the *Popis preminulih vojnika pokopanih na gradskom groblju (1918.-1941.)* [Eng. List of deceased soldiers buried in the town cemetery (1918-1941)].⁴ It reports on 208 buried soldiers who mainly served in the Army of the Kingdom of Serbs, Croats and Slovenes / Yugoslavia and whose identity is familiar. Finally, a co-author paper under the title “O pokopanim vojnicima *Sila osovine* na varaždinskom groblju. U povodu 70. obljetnice završetka II. svjetskog rata” [Eng. On *Axis Powers* soldiers buried in Varaždin cemetery. On the occasion of 70th anniversary of the end of the Second World War]⁵ should also be mentioned. In this paper V. Huzjan and Jasmin Medved analysed data from the *Grobni očevidnik* reporting on the *Axis Powers* soldiers buried in Varaždin cemetery from 1941 to 1947. As in earlier papers, the appendix contains a table listing the names of 455 buried soldiers. It should be mentioned here that after the end of the Second World War the winners dug up, plowed through and destroyed the graves of their war enemies. Today, only around 10 graves of German war prisoners, who died in Varaždin up to 1945, have been preserved.

Nevertheless, what was the incentive to write this paper? The recent COVID-19 pandemic and the introduction of safety measures to prevent the further spread of the virus in the Republic of Croatia have motivated the authors to investigate similar events in the history of Varaždin. Even though historians were keen on looking into the causes of Austria-Hungary’s dissolution, the founda-

³ Vladimir HUZJAN, “Vojne žrtve *Velikog rata* i poraća pokopane na varaždinskom groblju (1914.-1919.)”, *Radovi Zavoda za znanstveni rad Varaždin*, 29, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad u Varaždinu, Zagreb-Varaždin, 2018., 179-222.

⁴ Vladimir HUZJAN, *Varaždin i vojska u međuratnom razdoblju (1918.-1941.)*, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad u Varaždinu, Zagreb-Varaždin, 2017.

⁵ Vladimir HUZJAN, Jasmin MEDVED, “O pokopanim vojnicima *Sila osovine* na varaždinskom groblju. U povodu 70. obljetnice završetka II. svjetskog rata”, *Radovi Zavoda za znanstveni rad Varaždin*, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad u Varaždinu, 26, Zagreb-Varaždin, 2015., 195-269.

tion of the State of Slovenes, Croats and Serbs, and later the Kingdom of Serbs, Croats and Slovenes, the impact of the *Spanish flu* has been poorly researched so far.⁶ The flu pandemic, which appeared in the spring of the final year of the Great War and lasted until the second half of 1919, left a trace in Varaždin's history. Although it was colloquially nicknamed *Spanish flu*, it appeared in the U.S. federal state of Kansas at the beginning of 1918 from where it spread via transatlantic transport of soldiers who arrived in western Europe and spread it across the continent. It was probably brought from France to homeland by Spanish and Portuguese workers and as Spain remained neutral in the *Great War* conflicts, it kept the press freedom, reporting on the spread of the flu. As the news spread from Spain, the emergence of the disease was named the *Spanish flu* in other countries. After the pandemic was over, it took more lives than all the losses in the First World War.⁷

Stella Fatović-Ferenčić and Snježana Šajn wrote on the emergence of the *Spanish flu* in Croatia in the paper "Španjolska gripa kao uzrok smrti u gradu Zagrebu 1918. godine" [Spanish flu as cause of death in Zagreb in 1918] where they state that: "From 1st January until the end of 1918, 861 people died from the *Spanish flu* and complications caused by pneumonia".⁸ On the other hand, Maja Vonić in the paper "Španjolska gripa u Osijeku 1918." [Eng. Spanish Flu in Osijek in 1918] states that in Osijek 75 people died of the disease from October 1918 to January 1919.⁹ The *Spanish flu* issue in northern Croatia was addressed

⁶ "The term influenza comes from the Italian name for this illness *influenza di fredo* [Eng. the impact of coldness] dating from 1358 when Italy was intensely struck by the disease. The Croatian term *gripa* derives from the French word *gripper* (grab, grip) which best describes the beginning of the illness which suddenly *grips* a person." Maja VONIĆ, "Španjolska gripa u Osijeku 1918.", *Scrinia Slavonica*, Hrvatski institut za povijest - Podružnica za povijest Slavonije, Srijema i Baranje, Slavonski Brod, 2014., 14, 218.

⁷ Beatriz ECHEVERRI, "Spanish influenza seen from Spain", *The Spanish influenza pandemic 1918-1919*, New Perspectives, London, 2003, 173; John BARRY, *The Great Influenza: The epic story of the deadliest plague in History*, New York, 2004, 169 – 170; Carolyn DAER, Antoni TRILLA, Guillem TRILLA, "The 1918. Spanish flu in Spain", *Clinical infectious diseases*, 2008, br. 5, 668.

⁸ Stella FATOVIĆ-FERENČIĆ, Snježana ŠAJN, „Španjolska gripa kao uzrok smrti u gradu Zagrebu 1918. godine“, *Liječnički vjesnik*, 113, 1991., 444. See also: Stella FATOVIĆ-FERENČIĆ, *Epidemiologija najčešćih infektivnih bolesti na području grada Zagreba od 1850. do 1950.*, magistarski rad, Zagreb, 1988.; Stella FATOVIĆ-FERENČIĆ, "Akutne zarazne bolesti na području grada Zagreba u razdoblju 1878.–1950.", *Rasprave i građa za povijest znanosti*, knj. 7, ur. I. Padovan, B. Belicza, Hrvatska akademija znanosti i umjetnosti, Zagreb, 1992., 205–254; Snježana ŠAJN, Stella FATOVIĆ-FERENČIĆ, B. BELICZA, "A retrospective analysis of the autopsy reports of the Zagreb pathological department made during the First World War", *Acta clin Croat*, Zagreb, 1991, 30, 155–163; Martin KUCHAR, Stella FATOVIĆ-FERENČIĆ, "Objede i porazi: borbe s pandemijama virusnih bolesti tijekom posljednjih stotinu godina", *Liječnički vjesnik*, Zagreb, 2020., 142, 107–113.

⁹ Maja VONIĆ, "Španjolska gripa u Osijeku 1918.", *Scrinia Slavonica*, 2014., 14, 228. For more in-

only in a few papers. Sonja Poljak states in the paper “Vjerski život u kotaru Ivanec u razdoblju Prvoga svjetskog rata” [Eng. Religious life in Ivanec District during the First World War] that in the Ivanec region 123 people died in October 1918.¹⁰ Next, Željko Martan states in the paper “Ustanak ‘pokvarenih elemenata’ protiv ‘izrabljivačkih elemenata’: nemiri u sjeverozapadnoj Hrvatskoj potkraj Prvoga svjetskog rata” [Eng. Insurrection of ‘rotten elements’ against ‘exploiting elements’: Riots in north-west Croatia in the final stages of the First World War] that in Varaždin 54 people died of the disease from 1st until 15th October 1918.¹¹ Furthermore, Nikola Anušić provided the most detailed study on the topic for the region of north Croatia in his monograph *U sjeni Velikog rata. Pandemija španjolske gripe 1918.-1919. u sjevernoj Hrvatskoj*. [Eng. In the shadow of the Great War. The 1918-1919 Spanish flu pandemic in north Croatia].¹² The author states that 95 people succumbed to the *Spanish flu* in Varaždin.¹³ This paper complements previous research work.

MORTALITY STRUCTURE IN VARAŽDIN FROM 1918 TO 1920

In this paper the authors research the extent of the effect the *Spanish flu* had on the number of deaths in Varaždin from 1918 to 1920 and other causes of death in the period concerned. The following registries of deaths were analysed for the

formation on the emergence of the *Spanish flu* in Croatia see: Goran HUTINEC, “Odjeci epidemije ‘španjolske gripe’ 1918. godine u Hrvatskoj javnosti”, *Radovi Zavoda za hrvatsku povijest*, Filozofski fakultet, Zagreb, 2006., 38, 227-242; Željko CVETNIĆ, Vladimir SAVIĆ, “Prije 100 godina španjolska gripa ‘majka’ svih pandemija poharala je svijet”, *Veterinarska stanica*, 2018., 5, 333-341. i dr.

¹⁰ Sonja POLJAK, “Vjerski život u kotaru Ivanec u razdoblju Prvoga svjetskog rata”, *Varaždin i sjeverozapadna Hrvatska u Velikom ratu (1914.-1918.)*, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad u Varaždinu, Zagreb-Varaždin, 2014., 522.

¹¹ Željko MARTAN, “Ustanak ‘pokvarenih elemenata’ protiv ‘izrabljivačkih elemenata’: nemiri u sjeverozapadnoj Hrvatskoj potkraj Prvoga svjetskog rata”, *Varaždin i sjeverozapadna Hrvatska u Velikom ratu (1914.-1918.)*, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad u Varaždinu, Zagreb-Varaždin, 2014., 603. For further information, see: Jasna POŽGAN, “Prilike u sjeverozapadnom dijelu Međimurja u razdoblju *Velikog rata* – izvori iz crkvenih (župnih) i privatnih arhiva”, *Varaždin i sjeverozapadna Hrvatska u Velikom ratu (1914.-1918.)*, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad u Varaždinu, Zagreb-Varaždin, 2014., 371-383; Klaudija (Ana) ĐURAN, “Doprinos uršulinskog samostana u Varaždinu za vrijeme *Velikog rata* 1914.–1918”, *Varaždin i sjeverozapadna Hrvatska u Velikom ratu (1914.-1918.)*, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad u Varaždinu, Zagreb-Varaždin, 2014., 481-500.

¹² Nikola ANUŠIĆ, *U sjeni Velikog rata. Pandemija španjolske gripe 1918. - 1919. u sjevernoj Hrvatskoj*, Srednja Europa, Zagreb, 2015.

¹³ *Ibid.*, 101.

research: the *Obćeniti grobovi (28. VI. 1917.-31. III. 1919.)*, then the *Knjiga mrtvacu općeniti grobovi III (1879) 1903 – 1918* and *Knjiga mrtvacah obiteljskih grobnica (1902-1919)*, kept in the State Archives in Varaždin. Beside these books, the research also included the *Grobni očevidnik (1919-1939.)*, kept in the municipal company Parkovi d.d. Those books comprise information on all the deceased people buried in the Varaždin cemetery in the period concerned. Alongside their identity, profession, age, place of birth, marital status and time of burial, the cause of death was recorded as well (there is also data on the exact burial site, but it was not included in the analysis). City officials entered the data into the books according to documents received from the hospital. In the process of the research the data was analysed for the three-year period – from the beginning of 1918 until the end of 1920, i.e. the time when the *Spanish flu* appeared and disappeared from Varaždin. In order to investigate all causes of deaths in the period concerned, the authors processed 1,435 separate entries on people buried in the Varaždin cemetery.¹⁴

Before the analysis is performed, one should also look into the health system in Varaždin at that time. Namely, during the Great War, many doctors were mobilised and the city hospitals turned into military hospitals. Varaždin had already had a military hospital within the military complex in Optujska street; however, as the number of the wounded was rising, with time, Francis Joseph I General Hospital (temporarily) became a military hospital. Some wounded soldiers were situated in the building of the grammar school, private houses and the Red Cross hospital while the help with transport and care of the wounded was provided by various worldly and religious organisations. Despite the precautionary measures, the danger of the spread of the infection existed, and Pero Magdić, the then city head, wrote in a letter to county prefect Stjepan Belošević: "Since the army barracks and school buildings here have been turned into spare military hospitals, there are so many faeces in the toilets that the cesspools in all these buildings should be cleared every other day. Moreover, as all the water used in the kitchens and for bathing and cleaning of wounds drains into the toilets, there is even a need to clean the accumulated quantity of waste every single day. The reason it should be carried out as suggested is the fact that typhus is present among soldiers, so the whole city could get infected".¹⁵ During the entire war the City of Varaždin provided medical supplies, food and firewood for spare military hospitals. With such a

¹⁴ It is important to mention that for the needs of the research the *Knjiga ukopa sa židovskog groblja Varaždin 1875.-1928.* [Eng. Burial book from Varaždin Jewish cemetery], kept in the Varaždin City Museum, was also analysed. On 24th and 25th page there is a list of 44 buried people who died from 1918 to 1920; however, there is no information on causes death (*author's annotation*).

¹⁵ Državni arhiv u Varaždinu (dalje: HR-DAVŽ), Redovni spisi Gradskog poglavarstva Varaždin, 1915., br. 796.

poor health system facing numerous challenges, Varaždin witnessed the last year of the *Great War*. When *the Spanish flu* appeared, the town government acted immediately and published the notice: “How to protect ourselves from and treat the *Spanish flu*” (see illustration below). At the same time a city funeral parlour published an appropriate advertisement for great selection of tombstone wreaths.

Kako da se čuvamo i liječimo od španjolske bolesti.

1. Izbjegavaj ljude, koji kišu i kašlju. Slina i pljuvačka prenosi uzročnika španjolske bolesti.
2. Grgljaj i peri usta više puta na dan čistom vodom ili grgaćom iz ljekarne.
3. Peri ruke više puta na dan osobito ako imaš mnogo posla s ljudima ili novcem.
4. Ne posjećuj bolesne, ako nije prijeko potrebno.
5. Legni se odmah u postelju čim osjetiš znakove bolesti i umornosti, groznicu i kašalj. Kod nijedne druge bolesti nije toliko potrebna postelja na početku bolesti, kao kod španjolske groznice, jer inače lako nastupa upala pluća.
6. Pij vrući čaj, lipov, bazgov ili ruski čaj svaka dva sata da se dobro uznojiš. Jako znojenje može da svlada bolest, ako je u začetku.
7. Uzimlj mokr obloge oko prsiju. Prva se krpa nemoći u odležanoj vodi, a preko nje dodje jak, suh ovoj. Ako imaš veliku vrućinu mijenjaj obloge svaku uru.

Dobro se pokrij, kad se znojiš. Niti ruke ne smiju biti vani.

Zovi odmah liječnika, jer od španjolske bolesti lako umiru ljudi koji imaju slabo srce ili druge griješke koje može znati i pomoći im samo liječnik.



Solidne cijene! Solidne cijene!

Veliki izbor

-- nadgrobnih vijenaca --

kod tvrtke **LAZAR DEUTSCH, Varaždin,**
Petrovićev trg 6.

Solidne cijene! Solidne cijene!

Photo 1 and 2. Published in the local newspaper in October of 1918: Guidelines¹⁶ from *Volja naroda*¹⁷ and an appropriate advert for the tombstone wreath selection¹⁸

¹⁶ The translation of the guidelines into the English language: “How to protect ourselves from and treat the Spanish flu. 1. Avoid people who are sneezing and coughing. Saliva and sputum transmit the Spanish flu virus. 2. Gargle and rinse your mouth with clean water or medicated mouthwash several times a day. 3. Wash your hands several times a day especially if you work with people and money. 4. Don’t visit sick people if it is not necessary. 5. Immediately go to bed if you have signs of illness or feel fatigue with symptoms of fever and cough. At the start of the Spanish flu infection it is of outmost importance to rest in bed as otherwise you are likely to get pneumonia. 6. Drink hot lime, elderflower or *Russian* tea every two hours in order to sweat well. Profuse sweating can prevent the disease if it is at its start. 7. Apply wet towels around your chest. Dip the first towel into stale water and cover it with a firm dry wrap. In case of high fever, change the towels once in an hour. / Cover yourself well when you are sweating. Even your hands must be covered. / Contact a doctor immediately because people who have a weak heart or other medical conditions die from the Spanish flue easily if a professional does not treat them.”

¹⁷ “Kako da se čuvamo i liječimo od španjolske bolesti”, *Volja naroda*, 24. 10. 1918., 3.

¹⁸ *Volja naroda*, October 10th 1918., 7.

ustni tekući broj	ime, prezime i zanimanje	doba, stališ i rodno mjesto	nadležnost i tekući broj razglednice	mjesto obitavanja	posljedna bolest, s koje je umro	dan i godina, kada je sahranjen	je ukopan	za
1	Florijane Kirzin hrvatski promislak	16 god. star merzejen Varaždin	1	bolnica	Tarata vera	2/I. 1919. u 8 sati.	polje 7 red 43 broj groba 20 br. grobnice	grob IV razr. kopanje groba odar razr. mrvozor najamn. za grob- nicu Ukupno
2	Bronko Toljak majha učiteljica	3 godina star masakmit Varaždin	2	Kudrečki ulica 4.	Gastrocnite netis	3/I. 1919. u 8 sati.	polje 7 red 33 broj groba 47 br. grobnice	grob IV razr. kopanje groba odar razr. mrvozor najamn. za grob- nicu Ukupno
3	Marija Lechter posebnica	64. god. staros uslova Proha leška	3.	Boškupička ulica 4.	carcinoma ventriculi	3/I. 1919 u 9 sati.	polje 3 red 14 broj groba 53 br. grobnice	grob II razr. kopanje groba odar razr. mrvozor najamn. za grob- nicu Ukupno
	Johan	25 god. star merzejen		bolnica	Influenca	7/I. 1919 u 9 sati.	polje 7 red 43	grob II razr. kopanje groba odar razr. mrvozor

Photo 3. A page comprising data from the *Grobni očevidnik (1919.-1939.)* for January 1919¹⁹

The basic analysis of the data shows that in the studied three-year period the majority of people in Varaždin died and were buried in 1918 – 756 people or 53 percent.²⁰ That was the last year of the war and beside citizens, the wounded and prisoners of war made up even 36 percent of the deceased that year. After the *Great War*, the peaceful years indicate a decline in the number of the dead and almost uniform numbers: in 1919, 320 people (22 percent) were buried in the Varaždin cemetery, and in 1920 slightly more - 359 people (25 percent). The men constituted 62 percent of the dead, women 37 percent, while the sex identity of one percent of the deceased is unknown. Next, the gathered information indicates that 55 percent of the deceased were married, 28 were single and 14 percent were widowers/widows, while there is no information for the remaining

¹⁹ *Grobni očevidnik (1919.-1939.)*, 1919., str. 1.

²⁰ Ante Gabričević states that in Varaždin 15.102 people lived in 1915, and there were 15.334 residents in in 1920. Ante GABRIČEVIĆ, *Stanovništvo Varaždina tijekom minulih stoljeća*, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad u Varaždinu, Grad Varaždin, Zagreb-Varaždin, 2002., str. 229.

three percent. Regarding the state of birth, 82 percent of the dead were born in the area of today's Croatia and 18 percent abroad.²¹ Moreover, 66 percent of those from Croatia²² were born in the region of today's Varaždin County – the majority of whom were born in Varaždin, as expected.²³

The processed data offers an opportunity to analyse the age of the deceased. The majority of the deceased people were 20 to 29 years of age – 15 percent, immediately followed by the 30 to 39 age group – 13 percent. The mortality of children was significant in the period concerned. Even 13 percent of the deceased were less than one year old which equals to the deceased grown-ups! It was also recorded if the dead child was legitimate or illegitimate – in only 17 cases there is an annotation that the child was illegitimate. Six percent of

²¹ People buried in the Varaždin cemetery from 1918 to 1929 came from the following countries: Austria - 35, Montenegro - 2, Hungary - 47, Russia - 16, Slovenia - 50, Czech Republic - 15, Kosovo - 28, Serbia - 12, Ukraine - 26, North Macedonia - 4, Slovakia - 4, Germany - 1, Poland - 3, Italy - 13, Bosnia and Herzegovina - 4, Croatia - 1.175. Altogether, 1,435 buried people.

²² People buried in the Varaždin cemetery from 1918 to 1920 came from the following cities and places in the Republic of Croatia (Varaždin County excluded): Benkovac – 2; Bičevac – 1; Biljevec – 1; Bistra – 1; Bjelovar – 1; Bosiljevo – 1; Božinci – 1; Brdovec – 2; Gornje Brezno – 1; Brinje – 1; Budinščina – 4; Budiščak – 1; Budovac – 3; Buzin – 2; Cista – 1; Crkovičan – 1; Čakovac – 21; Dekanovec – 1; Drnje – 1; Dubrava – 1; Dubravica – 1; Dunjkovec – 1; Đurđevac – 1; Đurmanec – 2; Gardinovac – 1; Glina – 3; Goričan – 1; Gornja Rijeka – 1; Gospić – 2; Grešćevina – 1; Gruškovec – 2; Gudinovci – 1; Hodošan – 1; Hrašćan – 4; Hruševac – 1; Ivanovec – 1; Jablanac – 1; Jarek – 1; Jaska – 1; Jelovec – 1; Jertovec – 1; Jesenje – 2; Jurčevac – 1; Kapela – 2; Karlovac – 3; Klanjec – 1; Ključ – 1; Komiža – 1; Konjsko – 1; Koprivnica – 2; Kostajnica – 1; Kostelj – 1; Kotor – 1; Kotoriba – 2; Kovinja – 1; Kozarac – 1; Kraljevac – 1; Krapina – 5; Krč – 1; Križevci – 3; Lobor – 1; Lokve – 1; Lovinac – 1; Mačkovci – 1; Marija Bistrica – 1; Mihovljan – 2; Modruš – 2; Mošćenica - 1; Mursko Središće – 1; Nedelišće – 14; Novaki – 1; Novakovec – 1; Novo Selo – 7; Okučani – 1; Osijek – 1; Otočac – 3; Palinovec – 1; Pavlovac – 1; Petrijanec – 5; Petrova Gora – 1; Pisarovina – 1; Podturen – 3; Poreč – 1; Pregrada – 5; Prelog – 8; Preseka – 1; Puhovec – 1; Punikve – 1; Pustakovec – 1; Radoboj – 1; Rijeka – 3; Samobor – 2; Savska Ves – 1; Selnica – 2; Senj – 1; Sestvete – 3; Slatina - 2; Slivno – 1; Slunj – 2; Smiljan – 1; Sopot – 2; Staroselo – 1; Strahoninec – 2; Strmec – 1; Sudovec – 1; Supetar – 1; Sv. Ivan Zelina – 3; Sv. Križ – 1; Sv. Juraj u Trnju – 4; Sv. Martin – 4; Šibenik – 1; Špičkovina – 2; Špišić – 1; Štrigova – 7; Turnišće – 1; Velika Gorica – 1; Velika Nedjelja – 1; Virovitica – 3; Vrapče – 1; Vratišinec – 4; Vrbovec – 2; Vučedol – 1; Vuglovec – 2; Vugrovec – 1; Vukovar – 1; Zabok – 1; Zadar – 2; Zagreb – 12; Zajezda – 1; Završje – 3; Zlatar – 2; Žabnik – 1; Železna Gora – 1; Unknown – 125. Altogether, 394 buried people.

²³ The Varaždin County based places of birth of the people buried in the Varaždin cemetery from 1918-1920 (in alphabetical order): Bednja – 4; Biškupec – 4; Cvetlin – 1; Čalinec – 1; Čanjevo – 1; Črnc – 1; Donja Voća – 1; Donje Ladanje – 1; Donji Kučan – 2; Druškovec – 1; Gačice – 1; Gojanec – 2; Golubovec – 1; Gornja Voća – 2; Ivanec – 15; Jakopovec – 1; Jalžabet – 1; Kamenica – 1; Kelemen – 5; Klenovnik – 3; Knežinec – 8; Ladanje – 3; Lepoglava – 2; Lovrečan – 1; Ludbreg – 6; Lužan – 2; Ljubeščica – 1; Mađarevo – 2; Majerje – 2; Makojišće – 1; Mali Bukovec – 2; Maruševec – 4; Nedeljanec – 2; Nova Ves – 3; Novi Marof – 5; Petrijanec – 5; Podbela – 1; Podevčevo – 1; Podrute – 1; Remetinec – 2; Selnik – 2; Sračinec – 5; Sv. Ilija – 6; Šemovec – 4; Štefanec – 2; Trnovec – 2; Tuhovac – 1; Varaždin – 619; Varaždin Breg - 11; Varaždinske Toplice – 4; Veliki Bukovec - 2; Vidovec – 7; Vinica – 3; Visoko – 1; Višnjica – 4; Vratno – 2; Vuglovec – 2; Zamlaka – 1. Altogether, 781 buried people.

the children were stillborn, and in eight cases an abortion was performed. The unfavourable political and social situation caused belated development of medicine in Croatia, while the lack of medical staff had an impact on many causes of death, perinatal mortality included. On the other hand, in the period concerned seven people over 90 years of age were also buried in Varaždin.

Furthermore, the gathered information also provides data on professions of the deceased. The majority of them were soldiers – 20 percent, which can be linked to the last year of the *Great War* when a larger number of foreign and domestic soldiers died from military wounds. They are followed by workers or people who provided services (e.g. land workers, publicans, day labourers, photographers, waiters, daily wage earners, housewives, cooks, coachmen, laundresses, servants, housemaids) – 14 percent. The field workers constitute 14 percent of the dead, while for 24 percent the occupation was unaccounted for. Namely, when a child died, as for example in the case of 15-month-old Vladko Gjurin, it was annotated that his mother was a servant, or for eleven-month-old Jelka Drechsler that her father was a constructor, etc.²⁴ For women, for example, it was recorded that Marija Gal was a wife of a land worker,²⁵ Gizela Vuk, a wife of a baker, and Katarina Žigman, a widow of a shoemaker.²⁶ In one case it was recorded that human remains had been found.²⁷ Among professions there were also artisans (e.g. bootmakers, tailors, carriagemakers, blacksmiths, leather smiths, tinkers, butchers, artisan processing ashes, shoemakers, beltmakers, millers, sausage makers, house painters, chimney sweeps, ropemakers, hatmakers, locksmiths, bricklayers, weavers or carpenters) who all make up nine percent of the deceased. Then there were also private businessmen as landlords, individual entrepreneurs, ragmen, lawyers or cattle sellers who constituted six percent of the deceased, while public servants as clerks, postmen, teachers, hospital employees, foresters, railway workers etc. made up 5 percent. Poor people living in the city were listed separately being described as *ubogari* (Eng. the miserable), constituting eight percent of the deceased. Then schoolchildren made up two percent and priests, monks and nuns one percent, while for Mara Horvat's occupation the term *Gipsy* was entered.²⁸

²⁴ For further information, see: HR-DAVŽ, 345. *Občneniti grobovi 28. VI. 1917.-31. III. 1919., 1918., red. br. 111; 123.*

²⁵ For further information, see: HR-DAVŽ, 345. *Občneniti grobovi 28. VI. 1917.-31. III. 1919., 1918., red. br. 231.*

²⁶ For further information, see: *Grobni očevidnik (1919-1939.)*, 1919., red. br. 66; 216.

²⁷ HR-DAVŽ, 345. *Občneniti grobovi 28. VI. 1917.-31. III. 1919., 1918., red. br. 151.*

²⁸ For further information, see: *Grobni očevidnik (1919-1939.)*, 1920., red. br. 318.

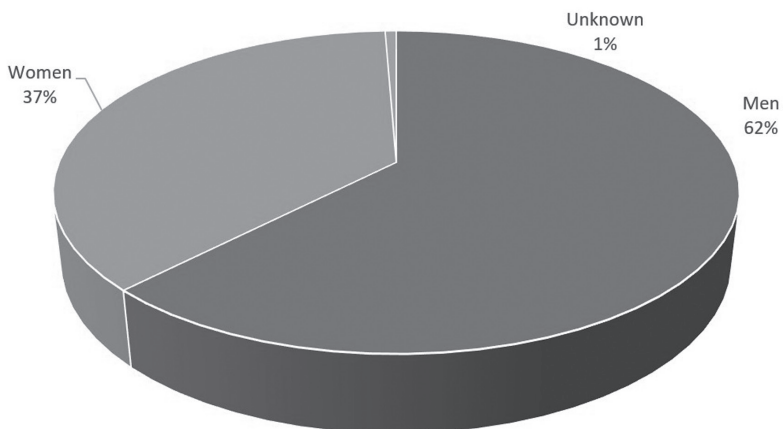


Chart 1. People buried in Varaždin cemetery (1918-1920) divided according to sex

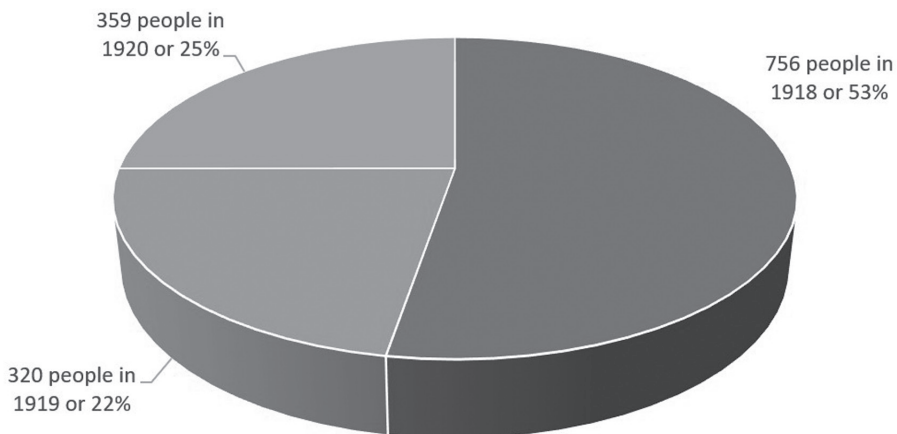


Chart 2. People buried in Varaždin cemetery (1918-1920) divided according to burial year

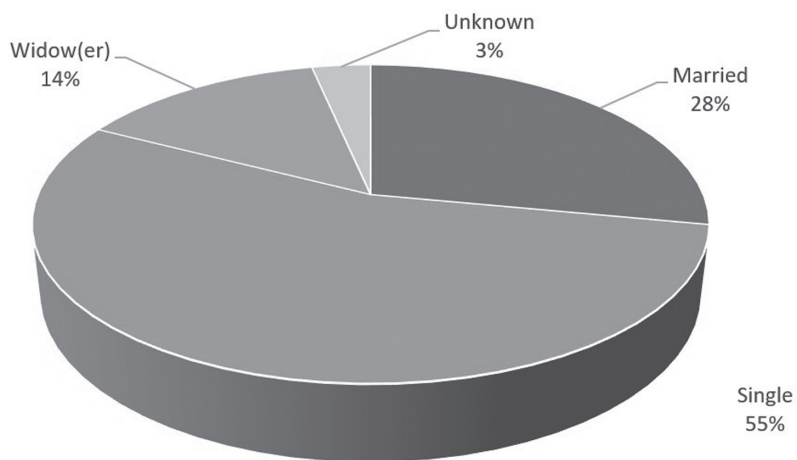


Chart 3. People buried in Varaždin cemetery (1918-1920) divided according to marital status

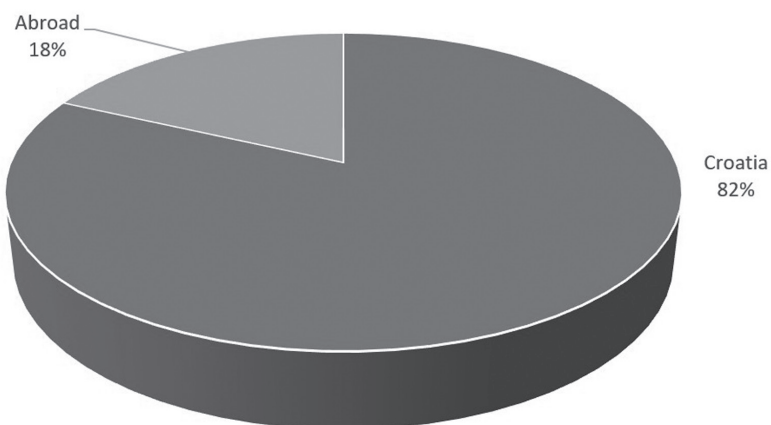


Chart 4. People buried in Varaždin cemetery (1918-1920) divided according to state of birth

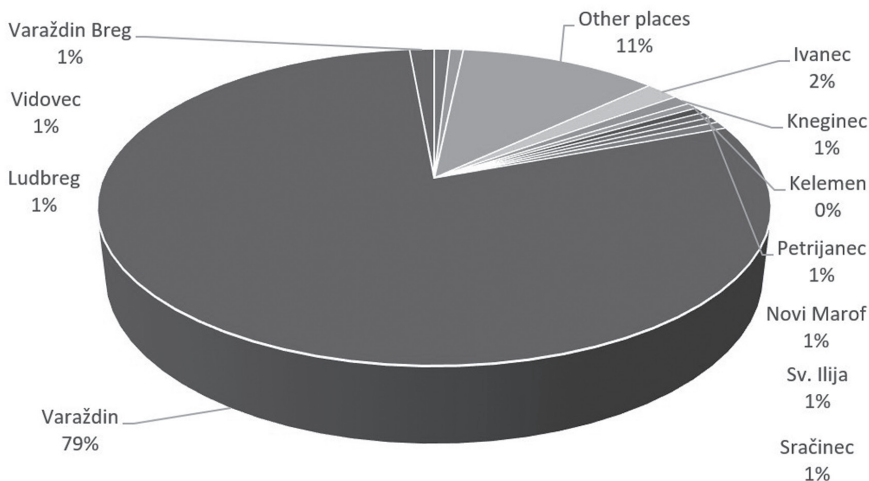


Chart 5. People buried in Varaždin cemetery (1918-1920) divided according to place of birth in Varaždin County

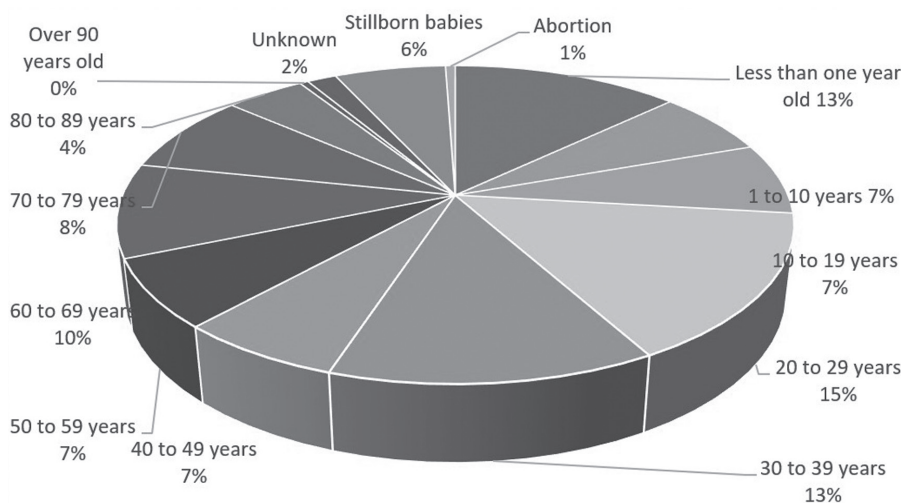


Chart 6. People buried in Varaždin cemetery (1918-1920) divided according to age

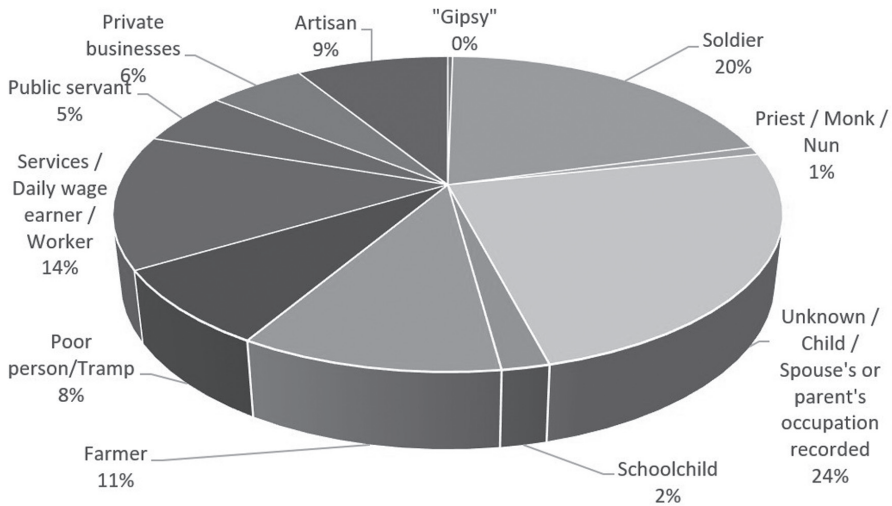


Chart 7. People buried in Varaždin cemetery (1918-1920) divided according to occupation

ON SPANISH FLU AND OTHER CAUSES OF DEATH IN VARAŽDIN FROM 1918 TO 1920

In Croatia the *Spanish flu* reached its peak in the late summer and early autumn of 1918. According to guidelines by the Royal Provincial Government of Croatia, Slavonia and Dalmatia and its Health Department, the trains, trams and restaurants had to be disinfected, while schools were closed. Citizens received recommendations to improve their personal hygiene and not to gather in large numbers.²⁹ However, it was hard to follow the latter as the *Great War* ended, the Austria-Hungary Monarchy collapsed, welcome home ceremonies were organised for soldiers returning from the fronts and the new State of Slovenes, Croats and Serbs was being founded.³⁰ Thus, public gatherings were inevitable which

²⁹ Hrvatski državni arhiv (further in the text: HR-HDA), Odsjek za zdravstvo Odjela unutrašnjih poslova Kraljevsko-hrvatsko-slavonsko-dalmatinske vlade, 83, September 1918. - February 1919.

³⁰ In Varaždin, after the *Great War* ended there was a peaceful transition of power, i.e. there were no victims in the *National upheaval* and the news of the proclamation of the State of Slovenes, Croats and Serbs was greeted with excitement. There was the same excitement when the Kingdom of Serbs, Croats and Slovenes was proclaimed on 1 December 1918. However, at the beginning of the foundation of the young kingdom problems arose which will not be solved even after the fall of the King-

meant that the disease could spread easily. In the local newspaper the following was recorded: "This new disease, the cause of which is unknown, has appeared as a transmissible infection and arrived in our city as well. Two employees of the military hospital contracted the disease".³¹ Newspaper articles that followed got more serious: "Last week health situation in our town was quite unfavourable. The so-called Spanish influenza appeared, causing serious fever, fatigue and loss of appetite. According to trustworthy news, up to 400 people have become ill, but without larger consequences, so most of them are on the road to recovery". Soon tragic reports followed: "One must notice that never before had so many people died as in October, the plague affecting the city to a great extent, especially due to the disease *Pneumonia in Influenca*".³²

In the vicinity of Varaždin the cases of the *Spanish flu* infections were also recorded: "We have received news from Cerje Tužno that there the Spanish disease has also been spreading relentlessly for some two weeks. There are especially many cases of Spanish influenza among workers employed at Kittner's brick factory nearby Cerje Tužno. In our area, this strange disease has been slightly subsiding last couple of days so there is hope that it will soon disappear. Here, no one died from the Spanish influenza".³³ In Ivanec and its vicinity the following was recorded: "(...) the Spanish influenza started spreading rapidly, so that there are quite many deaths".³⁴ Then, in Zagorje the following was written: "In Budinščina and its vicinity the Spanish influenza has spread intensely, and the people succumb to the disease if they are not treated by a doctor. Daily 8 – 10 villagers die. Now it has struck all the villages nearby, so the entire region is severely affected by this strange and unpleasant infection".³⁵

In the actual analysis of 1,435 causes of death (civilians and soldiers) in Varaždin from 1918 to 1920, the causes were divided into the following large-

dom of Yugoslavia at the height of the Second World War. The new government employed political, gendarme and military repression which provoked rebellions in Croatia, and in the July of 1919 one broke out in Varaždin. The 1912 constitution did not provide the equality of citizens, while Croatia lost its autonomy and any kind of integrity which it had had until then. For further information on the topic, see: V. HUZJAN, *Varaždin i vojska u međuratnom razdoblju (1918.-1941.)*, 2017.

³¹ "Španjolska bolest u Varaždinu," *Volja naroda*, July 7th 1918, 5.

³² "Umrli u gradu Varaždinu", *Volja naroda*, November 7th 1918, 4.

³³ "Španjolska bolest", *Volja naroda*, September 5th 1918, 4.

³⁴ "Iz okolice – Ivanec", *Volja naroda*, October 10th 1918, 5.

³⁵ "Iz okolice – Budinščina", *Volja naroda*, October 10th 1918, 4. The spread of the disease was also connected with agricultural activities: "In our village and its vicinity there are many cases of the Spanish fever some of which resulted in deaths as our people, who now have the most to do and cannot avoid getting a cold in the fields". "Španjolska groznica," *Volja naroda*, October 3rd 1918, 5.

er groups: flu, pneumonia, cardiovascular diseases, tuberculosis (TB), old age, other infectious diseases, then stillbirths, military wounds, malignant diseases, childhood illnesses and suicide. The flu was taken into consideration only when it had been clearly stated as being the cause of death. The tuberculosis group comprised all causes of death due to tuberculosis (pulmonary tuberculosis, tuberculous meningitis, etc.). Causes of death due to infections, not including pneumonia, tuberculosis or childhood illnesses (e.g. tetanus, lues, wound infections, postpartum infections of the puerpera, bronchitis, gastroenteritis, etc.), were classified as other infectious diseases. Then, pneumonia, tuberculosis and flu were singled out due to significant emergence amongst the illnesses of the then population. Among childhood diseases childhood infectious diseases as scarlet fever, measles, etc., as well as their consequences were listed. Military wounds were sorted out as a special category due to the war year of 1918 and the presence of a significant number of domestic and foreign soldiers, i.e. the wounded who were treated in Varaždin (in this category the cause of death was the consequence of being wounded). Due to the fact that there were many stillbirths, the category was also singled out. In the cardiovascular diseases group, cardiac arrests of any kind (e.g. cardiac fault, arrhythmia, heart attack, arteriosclerosis, etc.) and strokes were included.

Special attention was paid to the flu as the cause of death. We can notice from the analysed data that 114 people (civilians and soldiers) died of flu or consequences linked to the disease in 1918. The analysis was carried out separately for soldiers and civilians according to age groups (Charts 8 and 9). It is apparent that among the dead soldiers the prevailing group with the highest death rate was the one from 20 to 29 years, and among civilians the age group from 30 to 64 years of age. The age of eight soldiers and three civilians was unaccounted for. Therefore, these cases were excluded from the graphic display according to age groups; however, they were included in the total number of people who died from the flu in that period. It is important to point out that the studied period was characterised by occasional lack of food which was especially hard for the poorest society layers, while fatigue and malnutrition must have affected the health of the population of that time and increased the mortality caused by flu and other infectious diseases. Soldiers spent time on the front line where privation and poor conditions of life exhausted otherwise young organisms and increased the number of deaths associated with the flu even in that population. Many soldiers died because they had been wounded, i.e. due to wound infections to be more precise, which is connected to the lack of antibiotic treatment. The lack of such specific therapies (antibiotics and tuberculostatic drugs) in the

treatment of numerous infectious diseases of that time especially contributed to the increased mortality of affected population of all age groups.³⁶

In the specific year of 1918 the number of people who died of flu (civilians and soldiers) was analysed according to the months of the year and October had the highest mortality rate (Chart 10). At that time, the following was written in the local press: "Last week the Spanish fever has spread to such an extent in our town that, according to the advice of the city physician, the city government decided to close male and female public schools for eight days, i.e. from Sunday, 6th October, to Monday, 14th of October. The city's grammar schools were also closed for a week. In some classes more than a half of the students caught the flu. While there are no classes, the directorate of the grammar and public schools should conduct thorough cleaning of all the rooms. As we have already reported, the school rooms are packed with bedbugs, fleas and other vermin which have been present from the period when the building had been turned into a hospital. There is no doubt that the vermin spread diseases so that the school buildings need thorough cleaning and disinfection as otherwise not only will our children get ill, but they will also transfer the vermin all over the town".³⁷

We also analysed other common causes of death of the entire population in the period concerned. In 1918, the majority of population died of the *Spanish flu* (23 percent), while pneumonia and cardiovascular diseases took the second and third place as causes of death (Chart 14). In 1919, the majority of population died of other infectious diseases (25 percent), while tuberculosis and cardiovascular diseases took the second and third place. That year only four people died of flu (Chart 15). In 1920, the leading cause of death were other infectious diseases followed by cardiovascular diseases and tuberculosis. The flu was recorded only in three cases (Chart 16). Regarding the soldiers, when compared to 1919 and 1920, the highest mortality caused by flu was also recorded in 1918 (Chart 11). When causes of death among soldiers in the three-year period are analysed, it is apparent that during 1918 the leading cause of death was also flu followed by other infectious diseases, pneumonia, military wounds, and only a smaller proportion of tuberculosis (Chart 12). In 1919, soldiers mostly died of

³⁶ Vladimir DUGAČKI, "Razvoj zdravstvenih ustanova u Hrvatskoj do Prvog svjetskog rata", *Medicus*, 16, Zagreb, 2007., 2, str. 254.

³⁷ "Zatvorene škole radi španjolske groznice" [Eng. Schools closed due to Spanish influenza], *Volja naroda*, 10 October 1918, 2. Alongside schools, other public activities came to a halt as well: "As schools in Varaždin were closed due to the spread of the Spanish influenza, the board responsible for public educational courses decided to cancel the lectures which will be continued as soon as the health situation improves. "Polaznicima pučko-prosvjetnih tečajeva na znanje" [Eng. Notice for the participants of the public educational courses], *Volja naroda*, 24. 10. 1918., 4.

pneumonia and battlefield wounds (Chart 13), while in 1920 the only cause of death among soldiers was pneumonia.

When some reports related to Zagreb are analysed, we find confirmation that the *Spanish flu* was not the only disease which at that time afflicted Zagreb citizens. A large inflow of new residents and various soldiers, combined with fatigue as a consequence of the long-lasting privation, poverty and occasional famine, facilitated the spread of other types of diseases among which the most common were tuberculosis, dysentery and numerous venereal diseases. This data can be compared with our analysis in the Varaždin area.³⁸

The represented data indicates that more than half of causes of death in all the analysed years were caused by infectious diseases. Due to a significantly large number of people who died of pneumonia and taking the period of the *Spanish flu* into consideration, it is possible that some of the pneumonia cases were caused by the flu, even though they were not recognised or classified as such. In that case the primary disease is flu, and pneumonia, prevailing of hemorrhagic type, the immediate cause of death.

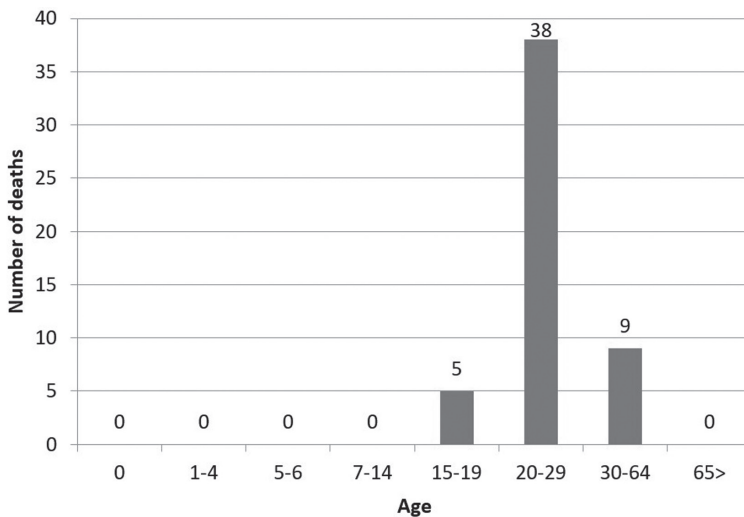


Chart 8. Number of soldiers, who died of flu in 1918, by age

³⁸ Julija PANTIĆ, Marijan MARIJAN, Andrija LOVRIĆ, “Španjolska gripa u Zagrebu”, *Povijest u nastavi*, 4, Zagreb, 2006., 7(1), 105-115; Mirjana JURIC, “Zagreb u Prvome svjetskom ratu: povijesne novine kao izvor za istraživanje socijalne povijesti”, *Libellarium, časopis za povijest pisane riječi, knjige i baštinskih ustanova*, vol. 2, br. 2, 2009., 121-144.

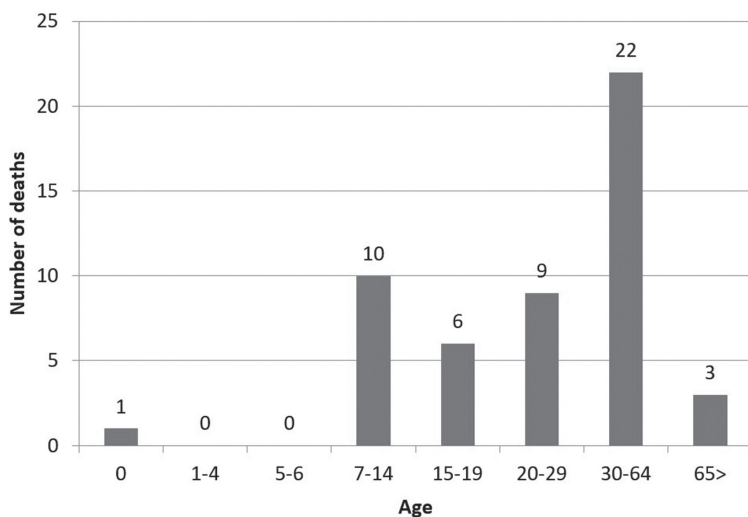


Chart 9. Number of civilians, who died of flu in 1918, by age

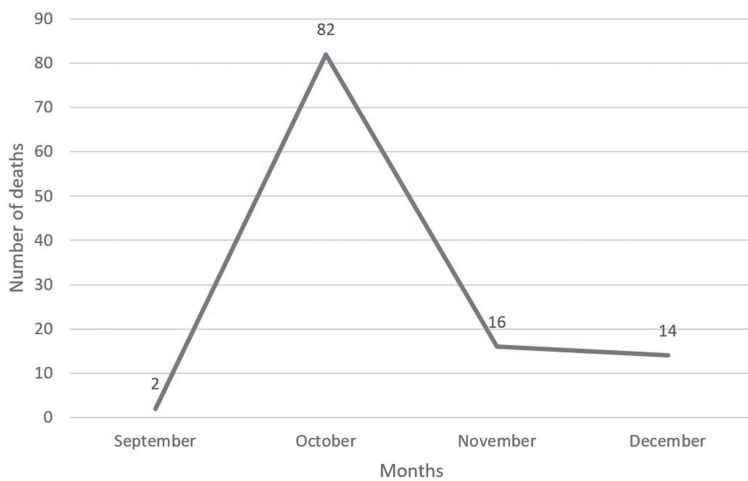


Chart 10. Number of flu deaths in 1918 by months

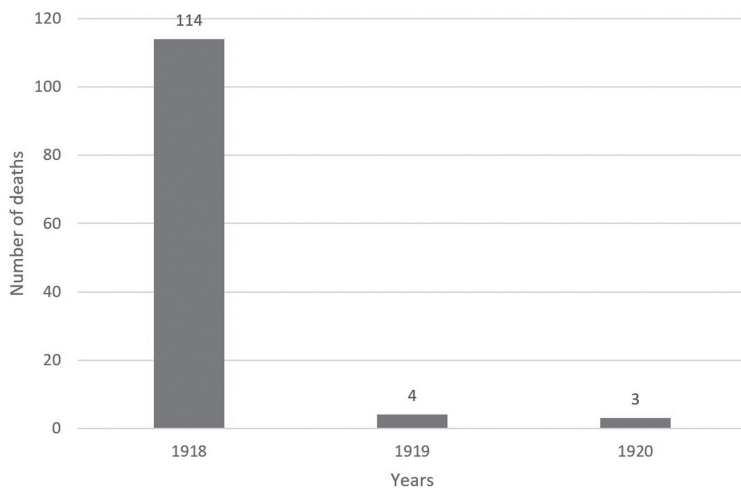


Chart 11. Number of flu deaths from 1918 to 1920

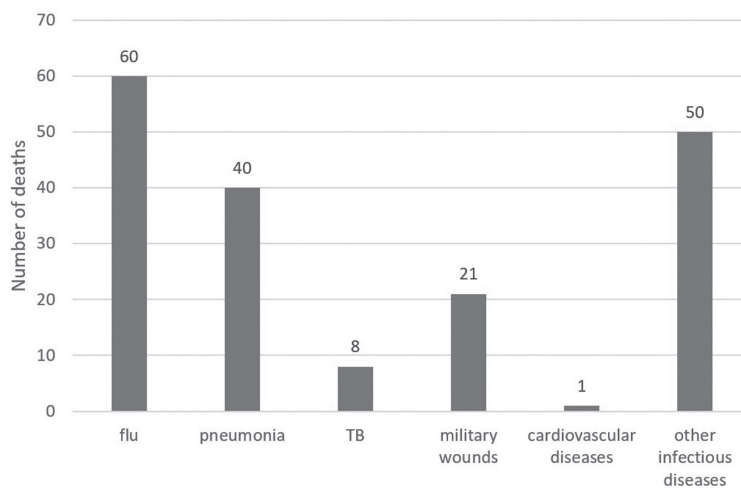


Chart 12. Causes of death among soldiers in 1918

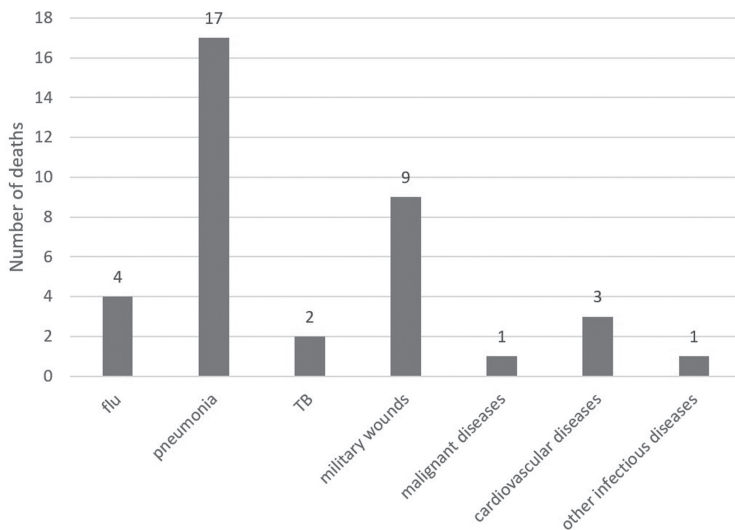


Chart 13. Causes of death among soldiers in 1919

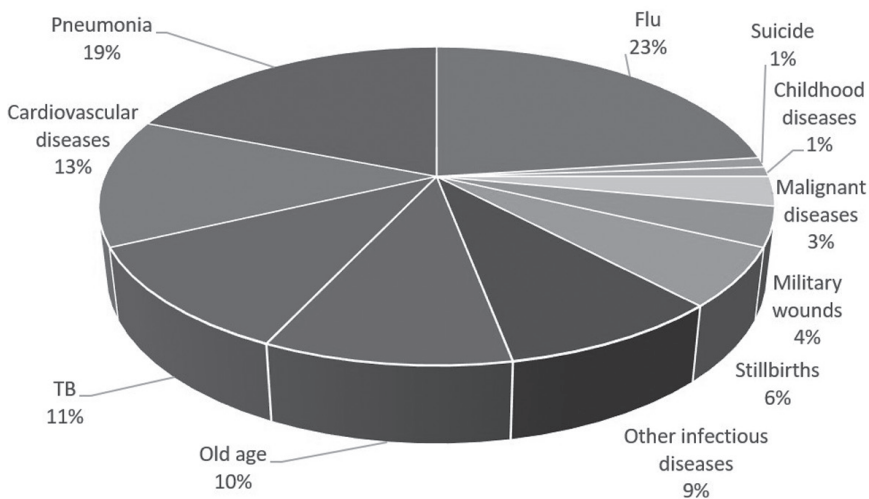


Chart 14. Number of deaths by most common cause of death in 1918

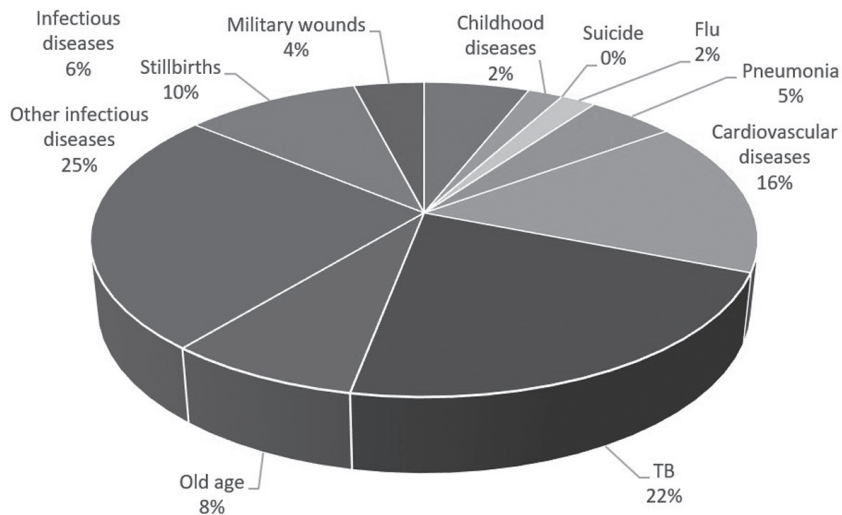


Chart 15. Number of deaths by most common cause of death in 1919

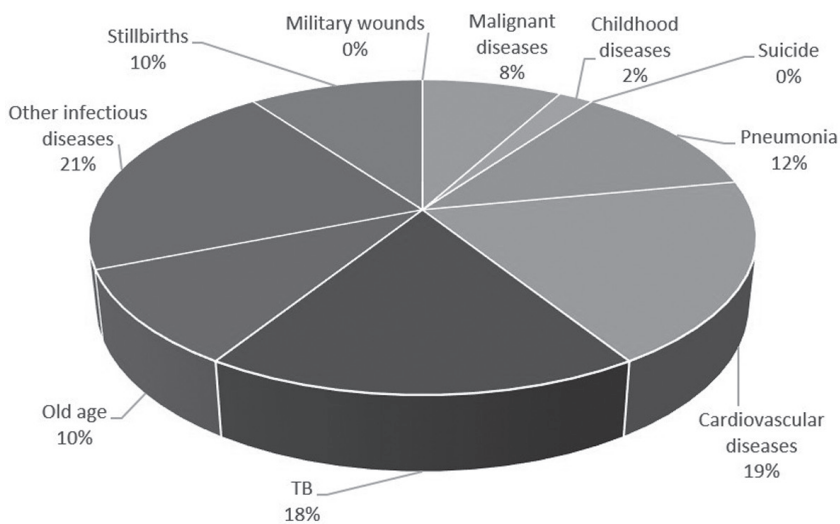


Chart 16. Number of deaths by most common cause of death in 1920

CONCLUSION

Altogether, 1,435 cases were analysed for the research which comprises information on people who were buried in the Varaždin cemetery in 1918, 1919 and 1920. The analysis showed that in the period concerned the greatest number of people died in 1918 – 53 percent. Also, it is necessary to point out that as 1918 was the last year of the *Great War*, soldiers made up 36 percent of the deaths. Moreover, 62 percent of the total number of the buried were men, while women made up 37 percent; however, the sex identity for 1 percent of the deaths was unaccounted for. Regarding the place of birth, 80 percent were born in the area of today's Croatia, mostly in Varaždin, as expected. The majority of the deceased people were between 20 and 29 years of age (15 percent), followed by those aged 30 to 39 (13 percent) and children up to one year of age (13 percent). Stillborn babies were recorded in six percent of cases, while there were only eight cases of abortion.

The unfavourable social, political and economic situation caused belated development of medicine in Croatia. Moreover, the severe lack of various medical care professionals, especially doctors, was mostly felt during the First World War and immediately in the afterwar period due to their mass mobilisation. This definitely had an impact on many causes of death. For example, the social and economic situation together with poor availability of gynaecologists affected the perinatal mortality. Also, the lack of specific therapies (antibiotics and tuberculostatic drugs) led to an increase in the mortality due to numerous infectious diseases of that period among the population of all age groups.³⁹

In Varaždin 121 people died of flu in the analysed period, mostly in 1918, i.e. 114 people (October being the month with the highest mortality rate). In the years that followed the number of people who succumbed to the Spanish flu plummeted significantly and the disease disappeared – four people died in 1919, and three in 1920.

Overall, in the period concerned the majority of population died of the *Spanish flu* in 1918, followed by pneumonia as the second and cardiovascular disease as the third cause of death. Next year the majority of population died of other infectious diseases, while tuberculosis and cardiovascular diseases took the second and third place. Finally, in 1920 the leading causes of death were other infectious diseases followed by cardiovascular diseases and tuberculosis.

³⁹ Vladimir DUGAČKI, "Razvoj zdravstvenih ustanova u Hrvatskoj do Prvog svjetskog rata", *Medicus*, 16, Zagreb, 2007., 2, str. 254.

SAŽETAK

ŠPANJOLSKA GRIPA I DRUGI UZROCI SMRTI U VARAŽDINU OD 1918. DO 1920. GODINE

U ovome radu autori istražuju u kojoj je mjeri *španjolska gripa* utjecala na broj smrtnih slučajeva u Varaždinu od 1918. do 1920. te koji su bili ostali uzroci smrti u promatranom razdoblju. Za istraživanje su proučene matične knjige umrlih: *Občeeniti grobovi (28. VI. 1917.-31. III. 1919.)*, *Knjiga mrtvacu občeeniti grobovi III (1879) 1903 – 1918* te *Knjiga mrtvacah obiteljskih grobnica (1902-1919)* koje se čuvaju u Državnom arhivu u Varaždinu. Uz ove proučen je i *Grobni očevidnik (1919-1939.)* koji se čuva u gradskoj komunalnoj tvrtki Parkovi d. d.⁴⁰ U tim knjigama upisane su sve preminule osobe koje su pokopane na varaždinskom groblju u navedenom trogodišnjem razdoblju. Uz njihov identitet, zanimanje, dob, mjesto rođenja, bračno stanje i vrijeme pokopa, naveden je i uzrok smrti. Proučene su tri godine – od početka 1918. do kraja 1920. godine, vrijeme kada se *španjolska gripa* pojavila i nestala iz Varaždina. Za proučavanje svih uzroka smrti u navedenom razdoblju autori su obradili 1.435 pojedinačnih upisa. Rezultati istraživanja pokazali su da je u Varaždinu od gripe umrla 121 osoba (najviše 1918. – 114 osoba, a mjesec u kojem se najviše umiralo bio je listopad). U sljedećim godinama broj umrlih od *španjolske gripe* je opao i zaraza je nestala - 1919. umrle su četiri osobe, a 1920. tri osobe.

Ključne riječi: *Španjolska gripa*; Varaždin, 1918.; 1919.; 1920.; epidemija; smrtnost.

⁴⁰ Autori zahvaljuju Sanji Županić, prof. na prijevodu rada na engleski jezik. Također, zahvaljuju i osoblju Državnog arhiva u Varaždinu i komunalnoj tvrtki Parkovi d. d. na pomoći pri istraživanju.

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