MORTALITY OF VILLAGE TEMSKA DURING TWENTIETH CENTURY

Igor Leščešen[I], *Katarina Kosmina*[II], *Rastislav Stojsavljević*[III],
Stefan Kotrla[I], *Srđan Radojčić*[IV]

ABSTRACT: *The study of mortality in Serbia has been gaining more and more importance as one of the components that affect population growth. The mortality of the population is caused by a number of historical, socio-economic, cultural, educational, local and family factors. Decrease in the number of people in the village Temska is direct result of negative natural growth and the frequent emigration, especially of young people.*

Key words: *Temska, mortality, Pirot, population*

INTRODUCTION

The researched rural settlement is located in Eastern Serbia, in the Pirot municipality, on the slopes of the Stara planina mountain. The village Temska, which had been, throughout history, conditioned by frequent detrimental historical events, and thus continually moved upstream and downstream, was finally connected by a bridge over the Temstica river and permanently fixed to its current position in the 19th century. The name of the village comes from a medieval fortress Temsko, whose remnants are to be found nearby. When, due to a decrease in the birth rate, the trend of the population decline had begun, the significance of the death rate in shaping the age structure of the population increased, along with its importance for the demographic development of the population. The subject matter of this research is the mortality of the rural settlement in the period between 1901 and 2000. The goal is to cover a longer time frame in which the development of this phenomenon can be followed in a more detailed manner, so that all necessary factors can be addressed in order to reliably notice possible causes

[I]   Society of Young Researchers of Department of Geography, Tourism and Hotel Management, "Branislav Bukurov" Trg Dositeja Obradovića 3, 21000 Novi Sad. e-mail: igorlescesen@yahoo.com
[II] Northwestern university International Studies and Radio/Television/Film double major, 633 Clark St Evanston, IL 60208, US
[III] University of Novi Sad, Faculty of Science, Department for Geography, Tourism and Hotel Management, Trg Dositeja Obradovića 3, 21 000 Novi Sad
[IV] High school „Žarko Zrenjanin", Palih boraca 9, 21460 Vrbas

and predict consequences. The goal is to come to concrete results and indicators, to turn attention to negative consequences and to point to negative consequences and measures that could partially mend this problem. The mortality of a population is set by a whole array of social and natural factors. The ones that are addressed in this work are, as follows: population dynamics, death rate, average age at the time of death, infant mortality rate, and causes of death. Methods used are field data collection and computer processing of the previously mentioned.

POPULATION DYNAMICS

First records of the population in Temska come from Felix Kanitz who, in his work "Serbia-the land and the population", states that 1035 residents comprised the population of Temska in 1879. The first official census, to which we had access, was done in 1921, when 2445 residents comprised the population of Temska. It is then concluded that in the period of 41 years, the number of residents of Temska increased by 1410. The next census year, 1931, also points to a trend of population growth, when 3745 people resided in Temska, the highest number counted in the history of this rural settlement.

The next census year, 1948, shows a decrease in the number of residents to 1501. This striking decrease in the population is unmistakably a consequence of WWII, and thus death or emigration of a large number of residents. Since this census year (1948) up until the last year included in this work (2011) there has been a continual decrease in the population. The cause of this kind of a development is a decline in the population growth, caused by an emigration of the fertile population from the rural settlement. The lowest number of residents was recorded precisely the last census year (2011) and amounts to 707 residents. The highest number of residents the village Temska has was in, as previously mentioned, 1931 when it amounted to 3745.
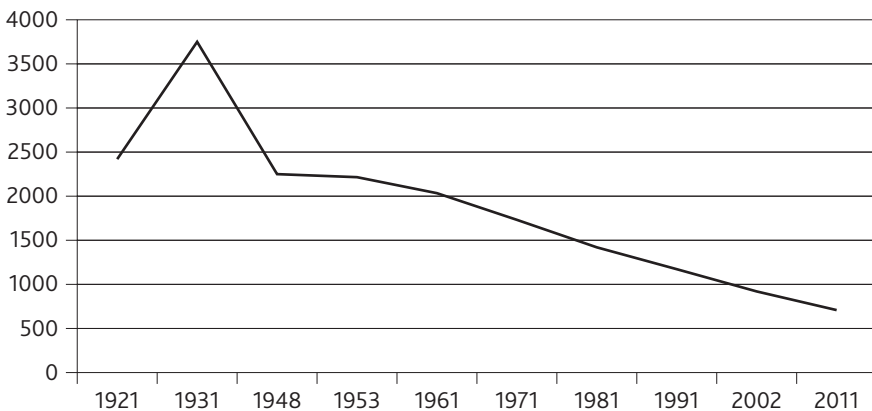

Chart 1. Trends in the number of inhabitants of Temska in the period 1921 - 2011

Source: Calculated on the basis of census from 1921 to 2011. Statistical Office of the Republic of Serbia

MORTALITY RATE

The relative number of deaths (mortality rate) refers to the annual number of deaths per 1000 individuals belonging to the population. Even though it is most commonly used as an indicator of mortality for a certain settlement because it is easy to count and has a straightforwardly comprehendible meaning, it still represents a very rough measure of the mortality because it does not take into account the age structure, which is the most important source of variations for vital events (Đurđev, 2001).

During the 1990s, the trend of a growing number of dead, as well as the basic mortality rate, continued. The average mortality rate in the first half of the 20th century amounted to 15‰ while in the other half it decreased to 13‰.
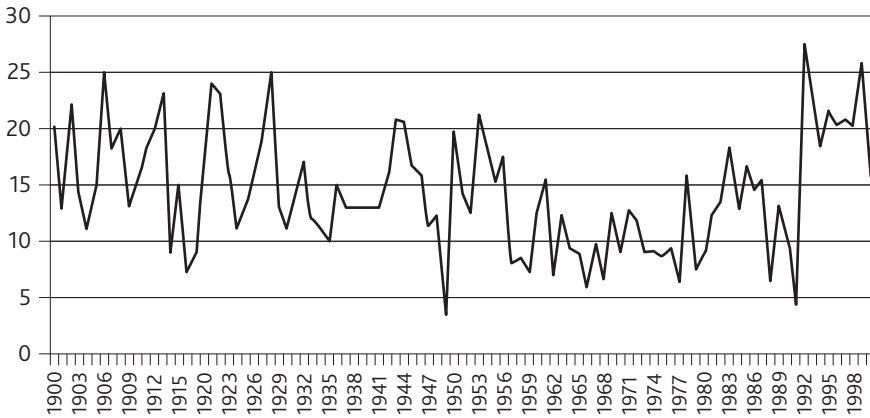

Chart 2. Trend of mortality rates 1901-2000

The lowest number of dead occurred in 1949 with 4 dead per 1000 residents. The average mortality in this period is 15 dead per 1000 residents. On graph 4, it can be noticed that in the beginning of the period and up until WWII the mortality rate varied from the maximum of 25‰ down to 7‰. After WWII a very low mortality rate was measured (1949) and then a huge increase in 1950, which is the same case as with 1992, when a low mortality rate was measured but later followed by an abrupt increase to 27‰. The mortality rate during the last decade of the 20th century amounts to 20‰, which is 5,7‰ more than the average for the century-long period.

AVERAGE AGE AT TIME OF DEATH

The highest average age at time of death of the male population was noted in 1999 when it was 94 years. The reason for this is a big percentage of the old population as well as better life conditions during the second half of the 20th century. The lowest average age at the time of death in the settlement was noted in 1921, merely 19 years. The reason for this is a high infant mortality rate noted in that year (20) and an insufficient availa-
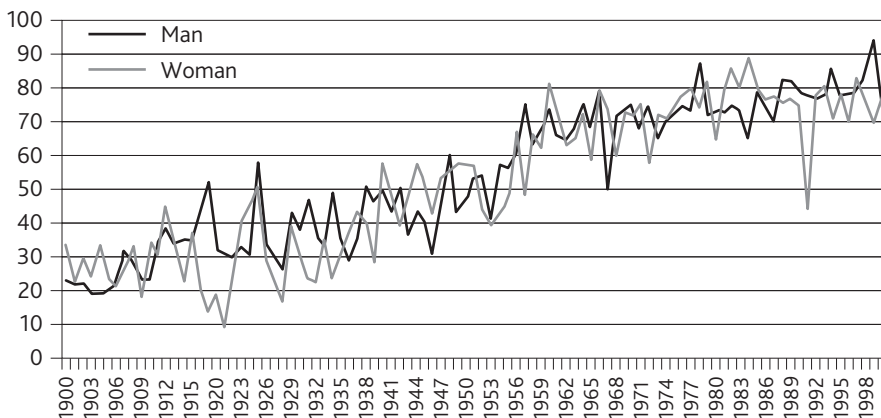
Chart 3. The average age at the time of death, 1901-2000

bility of health care. The average age at time of death denotes a growth trend during the whole of the 20th century. During the last decades of the researched period (1991-2000), the average age at the time of death equals 77 years.

The average age at time of death of the male population in the researched period (1900-2000) equals 54 years, and for the female population 52 years. On graph 5, it is possible to notice that the average age during the first half of the 20th century is low; men usually live 36, while women live 34 years. But, there is a growth trend. The reasons for this are a large infant mortality rate, inadequate health care, as well as wars during this period. Throughout the second half of the 20th century, the average age at the time of death grew up to 71 years for men and 69 years for women, which represents an almost double increase of average age. The expected life span in Republic of Serbia (excluding Kosovo) at the end of the 20th century (2000) amounted, for men, to 69 years and, for women, to 74,5 years (Panev, 2003).

In Temska, the average age at the time of death for men in 2000 equaled to 80 years, which is 11,6 years more than the country's average, and for women it amounted to 75,9 years which is 1,4 more than the country's average.

INFANT MORTALITY RATE

Children's mortality in European countries is, in general, decreasing; such a trend has also been noted in Serbia. It is necessary to address special attention to the infant mortality rate (0-1 years of life category) which was prominent for 65 of the researched 100 years. The significance of this phenomenon is also mirrored, along with the overall number of dead, in the decrease of the average age at the time of death.

The number of dead infants in the researched period amounts to 571. A large number of dead infants occurred during the beginning of the 20th century. The reasons behind this are poor conditions for giving birth and a lack of care for pregnant individuals, this number decreases after WWII due to highly improved conditions. The incidence of
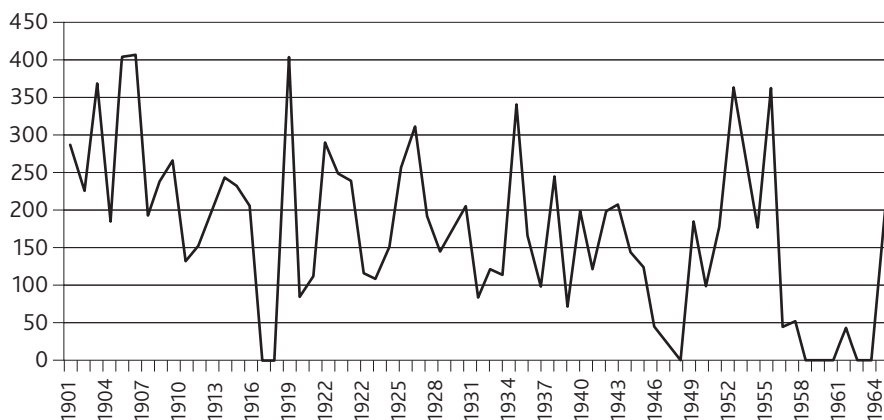
Chart 4. Navigating the infant mortality rate in the period 1901 – 1965

infant mortality appears until 1965, when the last case of a death of an infant in the settlement occurred.

The infant mortality rate was high during the first decade of the 20th century (1901-1910) and equaled in average 270,3‰. Already the next decade (1911-1920) brought a decrease in the infant mortality rate for 108,3‰ since it equaled 163‰. For a rate this low, in comparison with the previous decade, the answer is to be searched in the 1916 and 1917 when, in the general register office, no records of births and deaths of infants were noted. The third decade of the 20th century indicates an increase in the infant mortality rate to 206,5‰. The next two decades indicate a decrease in the rate, 1931-1940, 163‰ and 1941-1950, 126,9‰. During the fifties, the infant mortality rate indicated an increase in comparison with the previous decade, an increase of 29,7‰, meaning the rate equaled 156,6‰. In the course of the last five years, during which cases of infant mortality can be noticed (1960-1965), the infant mortality rate equaled 49,1‰.

During the first half of the 20th century (1901-1959), ten infants on average died annually; the highest number of these infants dying in this period occurring in 1906, 26, and then in 1921, when it equaled 20. The lowest number noted was in 1949 when no case of infant deaths occurred. In the second half of the researched period (1951-2000), the last case of a dead infant can be noted in 1965. Up until that year, three infants died annually on average, the highest number being recorded in 1953, when it equaled 12 infants. Starting from 1966 up until the end of the researched period, no cases of dead infants in the village were recorded.

It is necessary to emphasize that, in the period when infant mortality occurred, from 1901 until 1965, it made up 20% of the overall number of dead in this settlement.

The number of male infant deaths in the century-long period is 294, whereas the number of female infants is 277. In the first 50 years of the researched period, the number of dead male infants equals 271, while the number for females equals 259. The reasons for this are probably to be found in the poor birth-giving conditions, inadequate hygienic conditions and a lack of medical care for the infants.
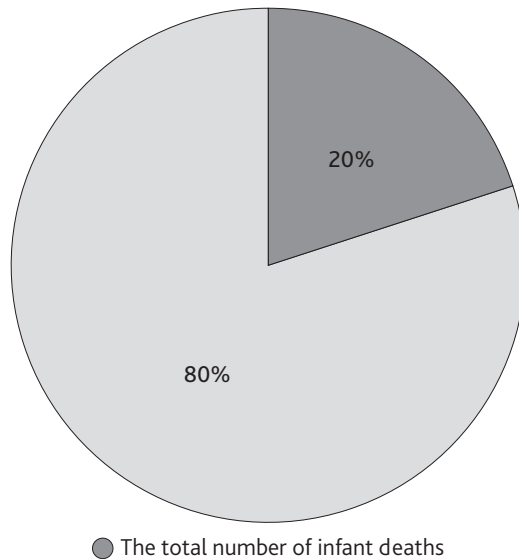
Chart 5. The ratio of the total number of infant deaths and the total number of deceased rest of the population in the period 1901-1965

From the very start of the researched period, the number of dead infants is decidedly high, varies later on, and has a general trend of decreasing. After WWI, the number of dead infants increases, and during the thirties of the same century, the number decreases. After WWII, the number of dead infants increases and during the fifties it decreases due to better conditions during childbirth. During the whole researched period, both male and female infants have a relatively same number of deaths. Namely, during the researched century, there are 12 more male than female infant death instances.

CAUSES OF DEATH

In underdeveloped countries, mortality is connected to infectious diseases and epidemics, examples being infectious diarrhea or smallpox with children, and with adults mortality can be connected to AIDS, tuberculosis, malaria, etc. Nevertheless, in all existing countries, no matter how developed, as well as in Serbia, a large portion of temporary mortality is made up of chronic noninfectious diseases. Examples for these are heart diseases, cerebrovascular diseases (stroke), diabetes, chronic lung diseases and malignant illnesses. All of these are closely related to one's lifestyle, food consumption (high quantities of fats or sugars, insufficient quantities of fresh fruit and vegetables), smoking, alcohol consumption, as well as scarce physical activity. Injuries and self-injury also represent a group which significantly points to other parameters: social atmosphere in the society, traffic, occupational safety and health, safety of children while playing or going to school, and mental health. It is of significance for Serbia that this mortality can be prevented, even the one of malignant diseases, such as cancers that
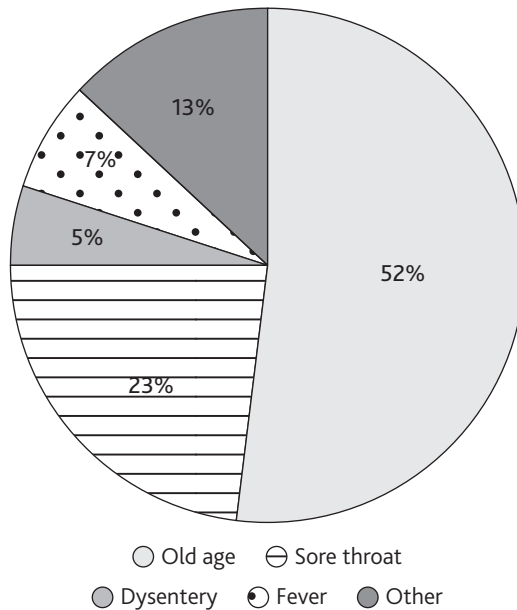
Chart 6. The most common causes of death of the adult population in the period 1901-1948

can be discovered and treated early on, and cured in the "premalignant phase". It goes the same for other chronic illnesses. Exactly how much improvement in the life standard affects the prolongation of the life span is shown through the example of EU countries, both those that joined before 2004 and those that joined afterwards. This is directly connected to significant measures of prevention which are not simply "medical", but which also address the lifestyle. Of course, it is not enough to influence just one risk factor and one cause, it is essential to create public conscience on the possible health risks, and also create the possibility for such risks to be avoided. Specific changes in the lifestyle can significantly affect the health of the nation as a whole. Other demographic factors such as giving birth, the birth rate, the nation's fertility rate, etc. also need to be taken into account (Solarević, 2009).

During the first half of the 20th century, 1901-1948, the most common causes of death among the adult population are: 52% old age, 23% angina, 7% fever, and 5% dysentery. The cause of these is the nonexistence of medicine for the illnesses. Along with the previously mentioned causes of death, hunger, accidental deaths, chicken pox, and others can also be included.

After WWII, some of the illnesses, present during the first half of the century, were eradicated (1901-1948), but they were replaced by "modern age" illnesses such as diabetes, cancer, heart attack, etc. Most of these illnesses are caused by a transformation of the lifestyle, to one of increased speed, stress levels and personal carelessness of the population. After WWII, the cause of death stopped being recorded into death certificates; they started being recorded by local healthcare facilities, for which our access was denied.

The largest cause of infant mortality in the researched period is angina, amounting to 66%. Fever is in second place with 8%, and swelling is in third place with 6%. The
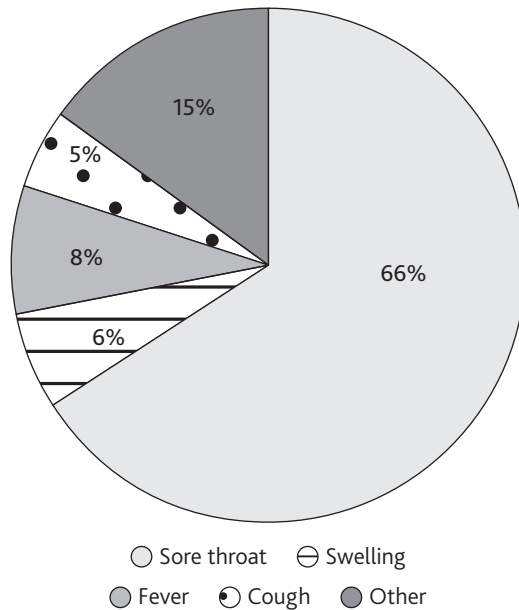
Chart 7. The most common causes of infant mortality in the period 1901-1965

fourth is coughing or pneumonia which equals 5%. The reasons behind these illnesses affecting infant mortality is inadequate health care and absence of medicine.

CONCLUSION

The population of Temska has been, since 1931, continually in decrease. The answer for this ailment is to be searched foremost in the emigration of the young population, which bring along a whole array of negative demographic consequences. The mortality rate during the first half of the 20th century equals 15‰, whereas in the second half of the researched century it decreased to 13‰. This was influenced by a number of different factors, starting with biological and socio-economic factors (age structure of the population, endemic diseases, wars, bad living conditions, poverty, and others), resulting in a higher mortality of the younger populations, more specifically children or infants, in the early periods. The average age at the time of death for the whole researched period equals 54 for men, 52 years for women. During the first half of the 20th century, the average age at time of death equaled 36 for men, and 34 years for women, whereas during the second half the average age at time of death equals 71 for men and 69 for women. The infant mortality rate for the period between 1901 and 1965 equals 189,5‰. The highest infant mortality rate occurred in the first decade of the 20th century, amounting to 270,3‰; whereas by the middle of the 60s (1965), the infant mortality rate decreased to 49,1‰. Significant differences in each of the presented parameters were noticed before and after WWII.

It is essential to emphasize that infant mortality has been eradicated and that the life span of individuals has been prolonged, and both occurred due to the improvement in the living standard, more specifically better living conditions, developments in medicine and improvements in health care, for adults as well as children and infants. Despite everything, the number of deaths in this village is still high compared to the number of residents, and along with the minimal or a nil birth rate as well as emigration of, primarily young, residents, contributes to the depopulation of the village.

An increasingly large number of young individuals is leaving for cities, the population growth is minimal, and the largest percentage of the population is comprised of middle-aged or elderly individuals. It is essential to raise the awareness of the village residents in about entering into married life, family planning, employment, and, above all, work on the development of the village. In addition, closer cooperation between the municipality and the local offices is required, along with setting up more resources for both Temska and other settlements going through similar problems. It is necessary to constantly work on the improvement of village living conditions, infrastructure, better communication with Pirot, and allocation of agricultural subsidies in order to retain the young population and motivate new individuals to return to the village in order to work on its survival and development.

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