Recipe from the Past for the Future: Public Health Intervention Represent a Process for Century

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ABSTRACT

In the poor Bosnia, in the early 20th century endemic syphilis was widespread. Combating this disease entailed the necessity of etiology research, diagnosis and clinical nature of the disease, as well as the insight into the epidemiological image of this unresolved health problem. Thanks to the visionary, the enthusiasm and persistence of the expert team of doctors from that time in Croatia, School of Public Health and the Rockefeller Foundation as financial support, conditions were created to conduct population monitoring and research called “survey”. The team of experts from Croatia and Bosnia led by Dr. Ante Vuletic began this important public health intervention in Central Bosnia underneath the mountain Vlasic in 1934. In villages of mountain Vlasic people were living in very difficult social and unsanitary conditions. “Interviewers” worked in makeshift clinics in the rural schools Opare, Rankovici, Vitovlje Mehorica, Turbe, Bila and Gornji Vakuf. A hundred years later, a team of university professors from the School of Public Health “Andrija Stampar” led by Professor Silvije Viletic followed the footsteps of century “survey” on Vlasic in the summer of 2014. They determined that with the integrated approach to population monitoring and testing endemic syphilis in Bosnia was successfully suppressed.

Key words: public health, endemic diseases, Croatia, Bosnia and Herzegovina.

1. INTRODUCTION

It’s been over 80 years since the beginning of the first organized campaign of medical experts for the eradication of endemic syphilis in Bosnia and Herzegovina (BiH, “Bosnia”) which was initiated by the School of Public Health in Zagreb. Endemic syphilis spread among poor Bosnian peasants of eastern and central Bosnia and Herzegovina. That were unfortunate and difficult times when in Bosnia was lived in order to survive and died without a trace of existence (1914-1941).

In the period from 1914 to 1955 in Bosnia was carried out one of the major interventions in the history of public health in our countries. From idea, preparation and decisions for this campaign passed seven years (1). Doctor Lovro Djojni since 1919 was the coordinator of the team that worked to combat syphilis in the Tuzla region and an active participant testified on the implementation of measures for eradication of endemic syphilis. Organized eradication started in 1927 (2). Unfortunately, epidemiological conditions, low material and hygienic development among the rural population of eastern and central Bosnia, during the implementation of activities for eradication of endemic syphilis remained unchanged which resulted in recurrent syphilis infection which was the reason for slow and less efficient success of its eradication (3).

Even in 1929/30, Ante Vuletic from the School of Public Health in Zagreb visited in Breslau, known professor Jessner, who organized a scientific expedition in Mongolia to combat endemic syphilis and became familiar with the organization of such campaign, which they called “survey”. Franjo Kogoj (1931) writes in Doctors Journal on the need for “the survey on endemic syphilis”, with the implied insight into the extent and forms of the endemic syphilis incidence. After repeated appeals to the then Ministry of Health to “organize the survey of endemic syphilis modeled by Buryatia-Mongolian expedition”, in 1933 Kogoj place endemic syphilis as the main theme of the then Dermatological Society in Zagreb. Shortly after in 1933, thanks to the great understanding of the director of the School of Public Health Berislav Borcic and efforts of Andrija Stampar at the Rockefeller Foundation, created the final conditions to achieve such a survey. Rockefeller Foundation donated for this purpose 50,000 dinars for the first survey in 1934, and...
10,000 dinars for the second survey in 1935. This created the preconditions, and the School of Public Health was able to approach to search for solution of this acute venereal social problems. School entrusted the organization of the survey to Ante Vuletic and called for cooperation School of Medicine in Zagreb. It should be noted that the Faculty of Medicine in Zagreb accepted the invitation of the School and chosen among its members the leading experts.

The epidemiological picture of endemic syphilis represented a health and scientific unresolved problem: there was one population monitoring and research called "Survey" in 1934 aimed at combating endemic syphilis in central Bosnia (villages of Vlasic). He is the founder of the Health Home Care Centre in Travnik. He has received recognition of Israel as Righteous among the Nations. Figure on the right presents the scenes during the implementation "Survey".

2. HISTORY OF ENDEMIC SYPHILIS

Carving from 1497 where are presented two patients whose skin is covered with characteristic lesions is the historical testimony that syphilis is an old disease. Carving was created just three years after the disease has spread across Europe for the first time. The display reveals a physician who holds a container with urine as the sample for diagnostic analysis. With second patient time. The display reveals a physician who holds a container with urine as the sample for diagnostic analysis. With second patient the mercury was used as medicine- balm for syphilis, whose side effects were often worse than the disease itself (10).

The first description of syphilis was published by Fracastore Girolamo in his poem "Sifilis sive morbus gallicus", which stands for syphilis, the French disease in Verona in 1530 (the Gauls are the oldest inhabitants of the France). Actually Fracastore was the first who, then this terrible, venereal disease called syphilis by the shepherd Sifil who is offended Apollo, and was therefore punished with the disease. It is no wonder that for the Bosnian population endemic syphilis was known as "frenjak" (from the word franch = French) (13).

Endemic syphilis appeared in the 17th century in Scotland during the English Civil War. In the 18th century was recorded in
Nürnberg in Germany, Bern in Switzerland, then in Denmark, Norway, Ireland, Sweden and Scotland (5).

3. WHAT IS ACTUALLY ENDEMIC SYPHILIS?

**Endemic syphilis**, known by the people also by the names frenjak, bejel, nonveneric syphilis, skerljero or bedzel (2-3), is the non venere disease of the skin and tissue caused by infections with spirochete subspecies; *Treponema pallidum subsp endemi-cum*. Previously it was thought that it cannot be distinguished from *Treponema pallidum* that causes sex transmissible syphilis. From that originate the notion that disease is a modified form of syphilis, usually acquired in childhood by direct contact with active patients (contact with infected lesions on the skin and mucous membranes) or indirect transmission through objects for everyday use.

In endemic areas up to 90% of the population of a community can be infected. The initial lesion analogue to Çankırı particularly often occurs around the lips and oral cavity (due to the transfer of *Treponema* by pots/cups for drinking). After that occurs secondary generalized mucocutaneous dissemination, and changes on the skin, mucous membranes and bones are almost identical to those described in sex transmissible syphilis or yaws. Skin lesions have often patchy irregular pigmentation. Ulcerated gum sores and periostitis that occurs only increase the similarity with syphilis. Visceral lesions still have not been described.

4. ENDEMIC SYPHILIS IN BOSNIA

In Bosnia the syphilis is known since 1834 (12). The spread of disease favored immigration and migration of soldiers and prisoners during the war and particularly poor hygienic conditions, poverty and illiteracy, as well as poor availability and organization of health care, particularly in rural areas (3). About endemic syphilis in Bosnia was first written by Leopold Gluck, a doctor working in Foca in 1889 (14). On the basis of chronological and historical confirmation of the assumption that syphilis and endemic syphilis in Bosnia comes from the Gaelic spread of disease through Europe (1,7).

In the period between the two world wars, when infectious diseases were a regular occurrence in Bosnia, with so-called social diseases, e.g. Tuberculosis, a special place is occupied by endemic syphilis (3). Infection of all members of the family/household was very common, but endemic syphilis occurred most often in children aged 2-15 years. The children were active carriers of disease and infection was equally represented in boys and girls. In adults, however, endemic syphilis was more common in women, probably because they were the first to interact with children (4-6).

The first definition of endemic syphilis in Bosnia and Her- zegovina (BiH) has given professor Grin: “Endemic syphilis is limited to larger or smaller territory and time, appears and spreads mainly extragenitally and rapidly in all parts of the population, irrespective of age, gender and social status. Origin is still uncertain” (8-9). Many people were affected by frenjak, especially in the districts of Cazin, Tuzla, Travnik and Bihac. Somewhat lower prevalence was in Mostar and Banja Lučka (1,4- 5). According to the descriptive data obtained in the survey by School of Public Health in Zagreb the prevalence of endemic syphilis (frenjak) in relation to the total population of Bosnia and Herzegovina was 8% (1). The prevalence of endemic syphilis in relation to a specific population of rural endemic area was not estimated.

Especially important source for spread of infection was the use of contaminated drinking cups. Grin point out *pitcher* from which drank together not only family members but also neigh-
bors in the field at the time when sowing and harvesting in the fields. Stew during lunch time was shared and taken to mouth only by one wooden spoon in the whole family, and the meal was located in a common pot. At that time was set a unitary hypothesis that syphilis, and endemic syphilis was caused by identical type of *Treponema pallidum*. Environmental factors play an important role in its appearance and expression.

With the development of the need to combat endemic syphilis in Bosnia and maintenance of the problem, they have developed experience and knowledge about this public health problem, and it has for long resisted all efforts. Abdulah Bukvica, the first doctor in Brcko at the time of the Kingdom of Yugo-
slavia and the first director of the general hospital in 1938 in Brcko, when in Tuzla’s district, in the villages at the Majevica mountain, occurred a contagious disease frenjak, worked around the clock on its prevention and eradication (15).

The Second World War, war migrations, economic and social difficulties of the farmers were favorable for the renaissance of endemic syphilis. It is understandable that during the Second World War, due to fluctuations in population and extremely low standards of hygiene conditions, appeared many new areas affected by endemic syphilis. Re-organized was health campaign to combat endemic syphilis, and in 1946 was established the reference health institution-Institute for dermatovenerology disease in Sarajevo, which coordinated this activity. For the implementation of programs and re-
search was in charge the regional team consisted of professor
Green, dr. Nadazdin, dr. Vorst, and associated international researchers dr. Guth, dr. Ridet, d. Grab and gentleman’s Costa and Maxwell. Notable was the cooperation of international reference centers: the National Serology Institute in Copenhagen, Alfred Fournier Institute in Paris, the Centre for Disease Control in Atlanta and other (6-9). The World Health Organization (WHO) has launched a campaign since its establishment in 46 countries, which were coordinated in reference health centers and the United Nations (UN) until 1955. Significant efforts have been invested in establishing effective monitoring of infectious diseases (6, 8).

Although *Treponema pallidum* was identified as the cause of syphilis in 1905, and the prevalence rate of the disease has decreased after the discovery of antibiotics, even today it is still diagnosed worldwide around 12 million people with syphilis annually, while syphilis remains an important public health problem in low-income countries (10). Today it is widespread in the countries of the Sahel in Africa: Sudan, Southern Rhodesia, and South Africa; in parts of the Middle East among the Bedouin tribes of Saudi Arabia, Iraq and Syria; in parts of Asia: Southeast Asia, Turkey; and parts of the Western Pacific Manila and Philippines. In these areas, seropositivity prevalence in children reaches 40% and the early lesions are manifested in 2-20% of children. Rare cases of endemic syphilis were reported in the United States (US). Reported cases are usually diagnosed in immigrants and people who came to the US from endemic areas (10, 18, 21).

5. CONCLUSION

It is assumed that *Treponema pallidum* express clinical picture of infection that act in a variety of ways, depending on weather conditions and other environmental factors, life circumstances and individual factors such as age at which a person is infected. If this assumption is correct, then the renaissance of syphilis epidemic (repeated foci of endemic syphilis today) simply reflects the response of pathogens to changes in social behavior and habits. Sustainability in success of eradication depends on improved hygienic conditions and risk-free sexual behavior (20-24).

From today’s point of view of the organization and implementation of the survey and population surveys, the example of campaign on endemic syphilis in central Bosnia integrally included its resolution. Today’s techno-scientology surveys lost this characteristic of integrity.

CONFLICT OF INTEREST: NON DECLARED

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