

# Sanitarne prilike u Rijeci na prijelazu iz 19. u 20. stoljeće

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## SANITARY CONDITIONS IN THE CITY OF FIUME (RIJEKA) AT THE TURN OF THE 19 CENTURY

### SANITARNE PRILIKE U RIJECI NA PRIJELAZU IZ 19. U 20. STOLJEĆE

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#### SUMMARY

*The Municipal Sanitary Commission (Commissione sanitaria municipale) was founded in Fiume (Rijeka) at the end of the 19<sup>th</sup> century. The well known physician of the municipal hospital, Dr. Antonio Grossich was its first president. In his inaugural speech he pointed out the mortality within the city during the last decade as 28 ‰. Based on the monthly reports from the municipal physicians, Dr. Giovanni Benzan evaluated the mortality within the city as 25,9 ‰ in 1900. Mortality of children under age of five accounted for almost half of the estimated mortality (11,4‰), while contribution of tuberculosis was the second (5,8‰). Feeding with cow milk caused considerable mortality among small children, thus pointing to the necessity for milk control in the market. He also proposed destruction and resettling the population from the inner city area with poor sanitary conditions. In his opinion, municipal authorities' duty was to educate the population to promote hygiene, e.g. disinfection of homes and cloth, in order to prevent tuberculosis. Dr. Benzan complained about hygiene in the old inadequate school buildings, with technical faults. He proposed the systematic check-up of school children. He pointed out the importance of the new water supply system, that led to eradication of typhus in the city. The problem of dusty roads though remained, and his solution was to wash the streets. He promoted food control, hygiene in public places and disinfection of sewage water. His plans included building up of the new municipal hospital, waste incinerator, crematorium, public and sea-side bath, new hostel for workers immigrating into the city.*

**Key-words:** Sanitary conditions, public health, 19<sup>th</sup> and 20<sup>th</sup> century, Fiume (Rijeka)

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## INTRODUCTION

The initial of public health as a medical science dates back to the second half of the 19<sup>th</sup> century, at the time of big cities enlargement that emphasized the threat of infectious diseases spreading due to poor hygienic conditions. The sanitary conditions in Fiume (Rijeka) could be retrieved from two lectures that Dr. Giovanni Benzan, a municipal physician, and Franz Munih, municipal veterinarian held in the Club for Natural Sciences in Fiume (Rijeka) [1,2]. The Municipal Sanitary Commission (*Commisione sanitaria municipale*) was founded in Fiume (nowadays Rijeka) at the end of the 19<sup>th</sup> century. The well known physician of the municipal hospital, Dr. Antonio Grossich was its first president. In his inaugural speech he pointed out the mortality within the city during the last decade as 28 ‰. Such a high mortality classified the city “..if not as an unhealthy city, than at least among those with high requirements regarding hygiene.” At the same time, mortality in Vienna was estimated to 24 ‰, while in London the rate was even lower: 20-21 ‰, in spite of their multiple higher population respective to Fiume (Rijeka).



The original title of the paper:  
“The scientific control of meat”  
by Franz Munich

*Originalni naslov rada:*  
*“Znanstvena analiza mesa”*  
*autora Franza Municha*



The original title of the paper:  
Sanitary conditions in Fiume (Rijeka)  
by Dr. Giovanni Benzan

*Originalni naslov rada:*  
*“Sanitarne prilike u Rijeci”*  
*autora dr. Giovannija Benzana*

## MORTALITY

Based on the monthly reports from the municipal physicians and population census ( 38 139 inhabitants), Dr. Giovanni Benzan evaluated the mortality within the city as 25,9 ‰ in 1900. Mortality of children under age of five accounted for almost half of the estimated mortality (11,4 ‰). Dr. Benzan accused children malnutrition as the main cause for their mortality, due to the poor mother and wet nurse nutrition. As the mothers were often employed in the urban industry, they had to leave their children to the wet nurses, to whom this was the way of earning money, though they had hardly enough breast milk to feed their own children. Because of poor nutrition, the children were susceptible to various lung diseases that often led to death. Analyzing the monthly rate of mortality Dr. Benzan noticed that the highest rates were recorded during summer months, from July to September. In these three summer months approx. 40% of deaths among children under age of one year were recorded. As the main cause diarrhoea caused by feeding children with cow milk was found, as mothers were not able to breast feed their children.

Dr. Benzan was very critical regarding milk sold on the market. Quality of milk was controlled only in three shops within the city, while the majority of population got their milk supply either directly from the peasants or from the municipal market-place, with no quality control. Such a milk was often skimmed, diluted with water, with no information on cows' health conditions. Dr. Benzan insisted that milk trade should be regulated according to the newest scientific achievements, while milk adulteration should be considered as a serious crime against humanity.

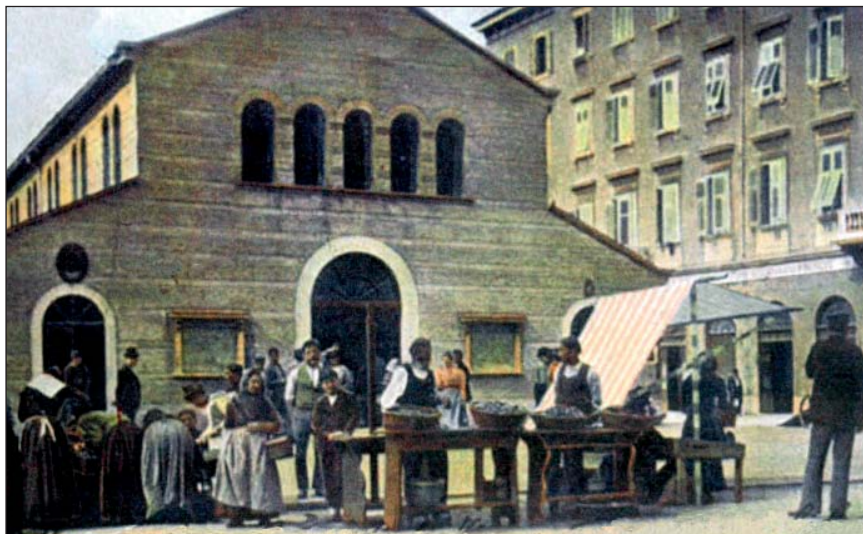
The second cause of the mortality in the city of Fiume (Rijeka) was tuberculosis, with 221 death registered in 1900, i.e. the mortality was estimated to 5,8 ‰. In order to fight the tuberculosis he proposed to demolish the old city with its poor hygienic conditions that favoured spread of the illness and relocate the inhabitants. Dr. Benzan even estimated the cost caused by the tuberculosis that financially exhausted the whole family.

Afrer 108 years, according to the records for 2008 [3], the overall mortality was 10,25 ‰. Due to improvements in medical treatment and hygiene, the mortality caused by tuberculosis dropped to 0,07 ‰. Mortality of children under 5 year of age in 2008 was 5,4‰, but there

was no case of gastrointestinal disease to be a cause of children's death. In 2008 the principal causes of mortality were cardio-vascular diseases (4,63 ‰) and tumors (2.99 ‰).

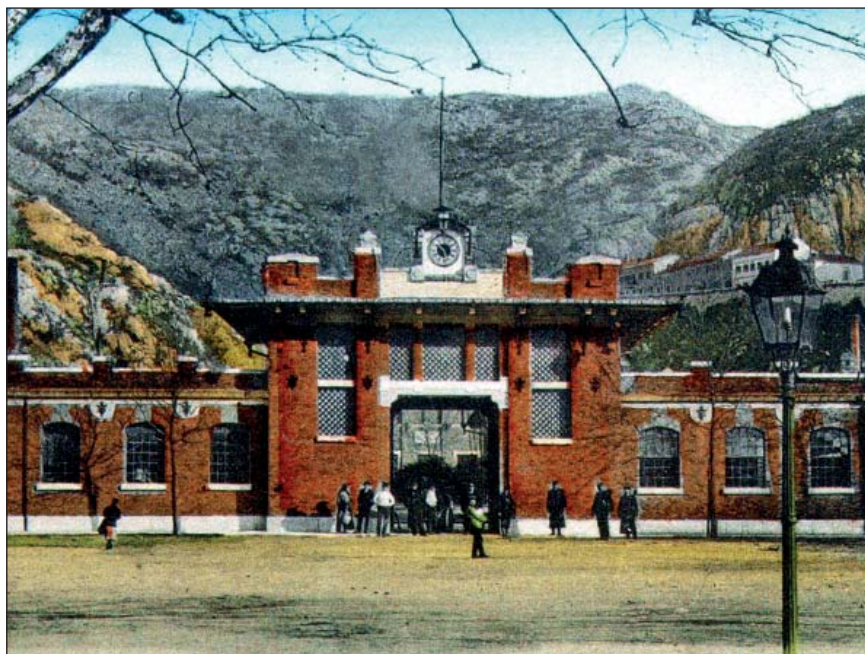
### COMMUNAL INFRASTRUCTURE

As Prof. Salcher in his lecture held in 1895 (few years earlier) [4], Dr. Benzan emphasized the importance of the new built municipal water supply that eradicated typhus in the city. Though, dusty roads within the city still remained a problem, since dust was considered as a vector for various infectious disease. Therefore he insisted to sweep and splash the streets with water to reduce the dust and proposed to purchase the adequate machinery for. He also emphasized the poor condition of waste water drainage and public fountains in the old part of the city, whose contaminated water was used for watering the vegetables grown in the city gardens, that population used for feeding. Taking the Swiss town Zürich as an example, he promoted building of cheap apartments and resettle there the population of the inner city. The first seven houses for workers were built due to engagement of Antonio Simonich, at that time president of Working society of Fiume (Rijeka), but then the action stopped.



The old municipal market place (y 1904)

*Stara gradske tržnica 1904. godine*



The Municipal slaughter-house (y 1902).

*Gradska klaonica 1902. godine*

## EDUCATION

Dr. Benzan complained on poor hygiene within the old inadequate school buildings, but also within the new ones whose nice outlook differed substantially from the interior.

Dr. Benzan thought that municipal Authority duty was to educate the citizens on preventive actions to be taken in order to fight tuberculosis within the city, e.g. to indicate the necessity to subject to disinfection the apartment and cloth belonging to the person died of tuberculosis. This action could be considered as the first step in sanitary education of the citizens. He insisted on hygienic control of public places, survey of suspicious apartments and disinfection of waste water channels. He emphasized the importance of checking-up the employees from Emergency Room and systematic control of food. In his lecture he mentioned the former wish to establish a municipal chemical laboratory for analysis of suspicious food, but since similar state laboratory was already established, he proposed to use its services for the municipal purposes. This statement



Building that hosted the first microbiological laboratory in Fiume (Rijeka) founded in 1899.

*Zgrada u kojoj je 1899. osnovan prvi mikrobiološki laboratorij u Rijeci*

directed the author of this paper to search for, and found the The Royal Hungarian State Chemical Station in Fiume (*R. Ung Stazione chimica sperimentale dello stato*) founded in 1900 to be the predecessor of nowadays Laboratory for food analyses of the Teaching Institute of Public Health in Rijeka [5]. Some laboratory items still kept prove its more than a century long continuous activity.

On the other hand, animals dedicated to butchering were checked up in the municipal slaughter-house. Though first abattoirs in the city dated back to 15<sup>th</sup> century, only after building-up the new slaughter-house in 1899, slaughter of animals was forbidden in houses, in order to prevent diseases caused by infected meat. According to the lecture held by veterinarian Franz Munih [2], during the first year of new slaughter-house activity, 46029 animals were analysed, and 599 were excluded from sale. The most frequent animal diseases were tapeworm and tuberculosis. Within the Municipal slaughter-house a new Microbiological laboratory was founded, that was used to analyse meat, but also other food samples. In conclusion, the city of nowadays Rijeka (Fiume) has an over a century



Building of the former waste incinerator, now used as a warehouse  
*Zgrada bivše spalionice smeća (sada skladište)*

long experience in systematic and continuous chemical and microbiological food analyses, that only few European towns can share.

As a project for public health improvement Dr. Benzan [1] mentioned building up of: new hospital, crematorium on the municipal graveyard, municipal waste incinerator, public bath with warm water, sea bath, hostels for workers who found employment in the city and school for education of medical staff. All mentioned objects were elaborated in a study by Luigi Bescoca, a municipal chief engineer. From the proposed objects, crematorium and new hospital were never realized (though projects for the new hospital were ready in 1908 [6]), municipal waste incinerator was built up in 1905 [6] (today landfill is used for waste management), three sea bath were constructed in 1910' but are demolished in the meantime and public bath was active until 1980'.

After almost 110 years since the lectures held, some of the plans to improve sanitary conditions are still unrealized, some sections got worse then before (e.g. combining of sewage and precipitation drainage system in 1990' that should be separated again) so that the proverb Dr. Benzan used to conclude his lecture is still valid and can be given as an advice: *Salus populi suprema lex.*



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## SAŽETAK

Potkraj XIX. stoljeća u Rijeci je osnovana Gradska sanitarna komisija (Commissione sanitaria municipale), prvi predsjednik koje je bio dr. Antonio de Grossich, primarius gradske bolnice, koji je u svome nastupnom govoru iznio podatak o smrtnosti u gradu u posljednjih deset godina, koja je iznosila 28‰. Na osnovi mjesečnih izvještaja liječnika, dr. Giovanni Benzan izračunao je smrtnost u Rijeci za 1900., koja je iznosila 25,9‰; od toga je gotovo polovica (11,4‰) otpadala na smrtnost djece do pet godina, dok je drugi uzrok bila tuberkuloza (5,8‰). Uzrok je velikog dijela smrtnosti male djece bila prehrana kravljim mlijekom, što je upućivalo na potrebu kontrole mlijeka u prodaji. Za sprječavanje tuberkuloze predlagao je rušenje i raseljavanje staroga grada zbog nehygienjskih uvjeta stanovanja. Zalagao se izgradnju jeftinih stanova u koje bi se stanovnici preselili, no nakon početnih koraka, radovi su zastali. Dr. Benzan je prigovarao higijeni starih, neadekvatnih školskih zgrada, kojima je našao niz tehničkih nedostataka, a po uzoru na Zürich predlagao je i uvođenje sistematskih pregleda školske djece. Istaknuo je važnost novoizgrađenog vodovoda, čime je iskorijenjen tifus u gradu, ali je ostao problem prašnijavih ulica te je predlagao izgradnju hidranata po gradu kako bi se ulice mogle oprati. Smatrao je obvezom vlasti obrazovati stanovništvo kako bi se smanjio pobol stanovnika od tuberkuloze, npr. upozoriti na potrebu dezinfekcije stana i odjeće oboljelih. Zalagao se za kontrolu namirnica, nadgledanje čistoće na javnim mjestima, dezinfekciju kanalizacije. Predlagao je izgradnju nove bolnice, krematorija, spalionice smeća, javnog kupatila, morskog kupališta, izgradnju domova za novopridošle radike.

**Ključne riječi:** sanitarne prilike, javno zdravstvo, XIX. i XX. stoljeća, Rijeka