

ANALYSIS THEORICO-PRACTICA DE VIRIBUS VIRUS FEBRIFERI, PESTIFERI, ATQUE SERPENTIN – THE FIRST MEDICAL ARTICLE BY AN AUTHOR FROM BOSNIA AND HERZEGOVINA

ANALYSIS THEORICO-PRACTICA DE VIRIBUS VIRUS FEBRIFERI, PESTIFERI, ATQUE SERPENTIN – PRVI MEDICINSKI ČLANAK AUTORA IZ BOSNE I HERCEGOVINE

Samir Delibegović*, Alan Matošević**

SUMMARY

This review describes the first medical article written by an author from Bosnia and Herzegovina. The article was published by Fr. Franjo Gracić (1740-1799), in Latin, under the title: "Analysis theorico-practica de viribus virus febriferi, pestiferi, atque serpentin", and printed in Padua in 1795, translated as: "A Theoretical and Practical Presentation of the Effects of Fevers, Infectious Diseases, and Snake Poison". From today's standpoint, it may be said that it was a review article about some of the most frequent diseases of that time. The paper is of exceptional importance for the history of medicine in Bosnia and Herzegovina because it is the first documented medical article whose author was from Bosnia and Herzegovina. The paper contains observations of the course of diseases and treatment, in line with the medical insights of the time. The author refers to the authorities of that time, such as Samuel Auguste André Tissot, the Swiss physicist and doctor, Georg Bauer, the German doctor, and Lodo-

* Clinic for Surgery, University Clinical Center Tuzla, Trnovac bb, 75000 Tuzla, Bosnia and Herzegovina. ORCID: 0000-0003-0525-3288.

** Catholic Scholar Center Tuzla, Klosterska 10, 75000 Tuzla, Bosnia and Herzegovina.

Correspondence Address: Samir Delibegović, Clinic for Surgery, University Clinical Center Tuzla, Trnovac bb, 75000 Tuzla, Bosnia and Herzegovina. E-mail: delibegovic.samir@gmail.com.

vico Antonio Muratori, the Italian scholar, which makes this article a link between Bosnia and Herzegovina and the knowledge of the Europe of that time. This paper represents the beginning of medical writing in Bosnia and Herzegovina and has a very important place in the history of medicine in this country.

Keywords: Bosnia and Herzegovina, medical writing, infectious disease, fever, snake poison

INTRODUCTION

The first medical journal in BH may be deemed to be *Jahrbuch des Bosnisch-Herzegowinischen Landesspittales in Sarajevo* (The Yearbook of the National Hospital of Bosnia and Herzegovina in Sarajevo), printed in 1878. In this journal, doctors from Austro-Hungary serving in Bosnia wrote scholarly articles about their patients' various ailments (Tahirović & Tahirović, 2012).

However, the first medical article written by an author from Bosnia and Herzegovina was the paper published by Fr. Franjo Gracić (1740-1799) one century before, in Latin, under the title: "*Analysis theorico-practica de viribus virus febriferi, pestiferi, atque serpentini*", and it was printed in Padua in 1795 (Gracić, 1795), translated as: "A Theoretical and Practical Presentation of the Effects of Fevers, Infectious Diseases, and Snake Poison" (Figure 1). From today's standpoint, it may be said that it was a review article about some of the most frequent diseases of that time.

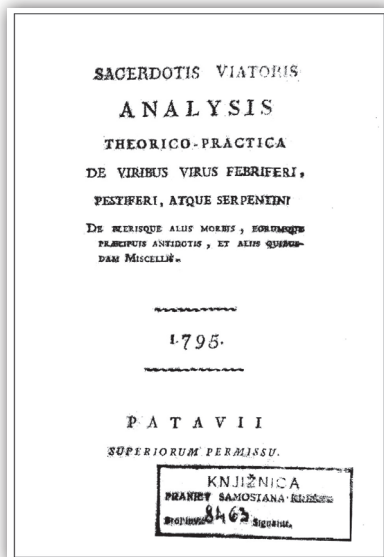


Figure 1. Cover page of the article.

SHORT BIOGRAPHY OF FRANJO GRAČIĆ

Franjo Gracić was born in 1740 in Kreševo, where he attended elementary school and joined the Franciscan Order. He completed his studies in philosophy and theology in the Habsburg Empire and Italy (Patafta, 2016).

After his studies as an ordained priest, he taught philosophy at the Franciscan monastery on the island of Hvar, but in September 1768, he returned to his native Kreševo, where he worked as a teacher of boys. At the Provincial Chapter in 1771 he was chosen as the secretary of the Province and appointed professor of moral theology in Kreševo. Then at the Chapter in 1774, he was appointed *custos regiminis* of the Province.

In 1775 Franjo Gracić helped the local farmers combat the cattle plague and demonstrated his medical knowledge. He also showed his medical knowledge during the epidemic of infectious fever that hit Bosnia at the end of 1775 and the beginning of 1776, in which a large number of people died, and Gracić himself became sick on two occasions.

It is probable that Franjo Gracić was not a qualified doctor, but as a well-educated Franciscan, who attended lectures on medicine during his studies and was acquainted with medical literature, he was able to write this article (Patafta, 2016; Mandić & Tomić, 2020).

A DESCRIPTION OF THE ARTICLE

The article, “A Theoretical and Practical Presentation of the Effects of Fevers, Infectious Diseases, and Snake Poison”, was written in Latin, on 21 pages, divided into six chapters.

In the foreword to this paper, Franjo Gracić mentioned that, after travelling through Hungary, Italy, and Dalmatia, he settled in Bosna Srebrena. There was no systematic health care, and he tried to make up for this lack through sacrificial work, trying to help all patients, regardless of their religion.

“For the sake of my apprenticeship, I travelled through Hungary, Italy and Dalmatia, until I finally settled in Bosna Srebrena under Ottoman rule. There I observed the priests and other people with great sorrow, because, with regard to the health care they had been completely abandoned, and at the insistence of a friend, I spent many days and nights studying and translating books dealing with that subject, that is, those that I had at hand, and especially by the brilliant Tissot. I took on this

work alongside all my other tasks, as much as my intellect allowed, to be useful through counsel and deeds to the sick, with the greatest wish that I would ease their suffering, bearing in mind the help of the ministers living in those parts and who worked amongst the people. You, benevolent reader, receive this little work, not too rich in eloquence and learning, nor worthy of this so-called golden age! And if you do not like the work I have taken on, please at least be kind towards my attempt and efforts, because I was inspired by a love for the human race, regardless of who the patient is or what he believes, whether he is a Muslim, Orthodox or another believer. I wish you all the best! Fr. Franjo Gracić, The Order of the Little Brothers.”

In the introduction to this article, under the title “*About treatment using medical cups, about the use of artificial baths and sweating*”, Franjo Gracić speaks about medical cups. He used them to treat several diseases and mentions this method in every chapter illustrating its importance in medicine of that time in Bosnia and Herzegovina.

Treatment using medical cups implies using vacuum cups placed at specific places and making small scratches on the skin in order to eliminate content similar to blood from those places with large concentrations of toxins, as was thought at that time.

Franjo Gracić did not have mechanical pumps to create a vacuum, but he heated the cups, and as they cooled after they had been applied to the skin, negative pressure was created, and in that way, liquid was drawn out.

“In treating snake bites, the only way to draw out the poison was with metal cups, and usually I used precisely these for treating eye infections and various abscesses as well.”

In addition to baths, Franjo Gracić mentions another treatment method by sweating with the help of a bath, which he used to treat high body tension or constipation, and he refers to the European medical authorities of the time.

“In more than half a bowl of water, I would put medicinal herbs or the good quality remains of dried grasses containing medicinal herbs, and when it boils, I add hot stones. Then I would lay the patient on a bed, I would change his cover very often, wiping him, and then I would begin the treatment using cups. In that way, the patient’s strength returned very quickly.”

After the Foreword and the Introduction, there are six chapters, of which we will mention the most important: The first chapter deals with the effects of infectious fevers, the second the effects of the plague, and the third the effects of snake bites.

Infectious Fevers

In this chapter, Franjo Gracić talks about infectious fevers. The text reflects the knowledge about infections at that time.

“Infectious fever is particularly stubborn when the infected gallbladder begins to secrete, whereby the bile enters the bloodstream and causes infection.”

He used cups to treat fevers too, “on the nape of the neck, between the scalp and the bones at the level of the pineal gland.” “In treatment of flu, colds, typhus and lung fever I used almost the same method”.

The Plague

In this chapter, Franjo Gracić describes the plague in Bosnia and Herzegovina, which was probably the remains of the Great Plague that hit eastern Europe in 1738.

It is known that there were three major outbreaks of plague. The plague of Justinian in the 6th and 7th centuries is the first known attack and marks the first firmly recorded pattern of the plague. The plague returned at intervals with varying virulence and mortality until the early 19th century (Eisenberg & Mordechai, 2019). After the Great Plague of 1738 (which hit Eastern Europe) and the Russian plague of 1789-1772, it seems to have gradually disappeared from Europe, although it lingered in Egypt and the Middle East (Green, 2014). We can presume that the disease also came to Bosnia from the East, in view of its geopolitical situation at the time.

However, interpretation of the causes of the plague was in line with the knowledge of that time:

“The plague fever seems to be caused by an outpouring of fluid from a diseased gallbladder, the disease is transmitted by air, it is unpredictable, fierce, it eats tissue, passes from body to body like an invisible force, pollutes the bile, dilutes the blood turning it into bile, causes vomiting and diarrhoea, urine becomes bloody, muscle inflammation occurs, especially in the groin area, it burns flesh and nerves with its

corrosive force, attacks the gallbladder tissue, causes it to rupture at death, and thus destroys the last atoms of life force. In brief, this disease attacks the entire organism, thins the fluids, causes inflammation of the solid tissue, and in the end causes its death.”

Franjo Gracić contracted the plague in 1783 when the summer season was at its height, and in the entire Kingdom of Bosnia, he took care of 150 people infected with the worst kind of plague.

The Effects of Snake Bites

The article mentions principles based on the knowledge of that time, some of which are still used today, but they changed under the influence of prejudice and error in the 18th century.

For example, in the third chapter in which the treatment of snake bites is discussed, he mentions incision and washing of the wound, which are principles still used today. However, prejudices and unscientific ideas arose related to the visible image of the snake on the skin.

“In order to prevent the spread of the poison, urgent treatment is required using a small cup on the site of the bite, or close to it, if more appropriate. Three or four small incisions should be made, and the scars rinsed with water. The treatment is to be repeated until all the infected fluid has run out. After six hours, the site should be examined again, and there will be the visible image of a snake on the skin, as though it has left its signature using its poison. If the patient has passed out, it is necessary to cut the area around the bite, suck out the blood, inject vinegar mixed with honey, black salsify and other things. The juice or a decoction of beechnuts is very effective if applied to the site of the bite, whether pure or mixed with the preparation mentioned above of vinegar and honey.

What has been said about the treatment of snake bites is also applicable to the poisonous bites and stings of other creatures, such as scorpions, wasps, spiders, and bites by rabid dogs, and as well as using small cups, I have also used some special beverages and medications. For example, I place linen material soaked in salted vinegar as a compress on the site of the bite, and prescribe the same medicine for ten days, a spoonful every day.”

DISCUSSION AND CONCLUSION

It may be said that Franjo Gracić poured the European knowledge of his time into this work, which was primarily written as an aid to priests who worked among ordinary people and treated their ailments.

In compiling the booklet, he used medical handbooks by three authors: Samuel Auguste André Tissot (1728-1797), the Swiss physicist and doctor, Georg Bauer (1494-1555), the German doctor, and Lodovico Antonio Muratori (1672-1750), the Italian scholar, who also wrote medical works (Patafta, 2016).

So, it can be said that this paper is a link between Bosnia and Herzegovina and the knowledge of the Europe of that time.

After this, *Domaće likarie starih Bošnjakah* (The Home Remedies of Old Bosnians) was published in Bosnia and Herzegovina. It is kept in the University Library in Zagreb and dates from the end of the 18th and the beginning of the 19th century. It is known that it was certainly written by a Franciscan. Fr. Mato Nikolić was the author of two medical books, *Fragment medica* from 1835 and *Famakopeje* (Pharmacopoeia) from 1842, which is kept in the library of the National Museum in Sarajevo (Mandić & Tomić, 2020).

During the time of Turkish rule in Bosnia and Herzegovina in the 17th and 18th centuries, most educated doctors were military doctors, whose activities were focused on military personnel (Salihović & Mašić, 2006), not on the local population. Other doctors were Franciscans, educated at a university in Western Europe, mostly in the area of what is today Italy.

The Franciscans took care not only of their sick brothers, but also of the physical and mental health of the Christian population, but also of people belonging to other religious communities, which contributed to their good reputation and respect amongst other believers (Mandić & Tomić, 2020).

The Turkish authorities forbade the Franciscans to treat Christian people outside the monastery and Muslims without an official order by a Qadi (mu-rasela) (Anonymus, 2021). The work of Franciscans in treating the sick was not even approved by the Church at first, but later it was allowed. So, with the permission of the Congregation for Promotion of the Faith, Franciscans worked treating the sick from their very arrival in Bosnia and Herzegovina in the 13th century and continued their work during the Turkish occupation.

With the weakening of the Ottoman Empire during the 17th and 18th centuries, Bosnia was shaken by unrest, the health care system was in tatters,

and in these circumstances, the work of the Franciscans became extremely important.

Historians of Jewish origin claimed that Jews were to thank for the beginnings of medical science in Bosnia and Herzegovina because treating diseases was a family tradition for them (Levi, 2011). However, the work of the Franciscans is documented and historically proven.

Franjo Gracić came from a monastery in Kreševo, which in the 18th century was also a health care centre that took the place of the disintegrating health care system in Central Bosnia. He took care of the local population, regardless of their religion.

This article is of exceptional importance for the history of medicine in Bosnia and Herzegovina because it is the first documented medical work, whose author is from Bosnia and Herzegovina. The article by Franjo Gracić is registered in the library of the Franciscan monastery in Kreševo under the number 8463 (Gracić, 1795) and also represents the beginning of medical writing in Bosnia and Herzegovina.

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SAŽETAK

Ovaj rad opisuje prvi medicinski članak koji je napisao autor iz Bosne i Hercegovine. Članak *Analysis theoricopractica de viribus virus febriferi, pestiferi, atque serpentini* na latinskom je jeziku objavio fra Franjo Gracić (1740. – 1799.). Tiskan je u Padovi 1795. i preveden kao Teoretski i praktični prikaz učinaka groznica, zaraznih bolesti i zmijskog otrova. S današnjeg stajališta može se reći da je to bio pregledni članak o nekim od najčešćih bolesti toga doba. Rad je od iznimne važnosti za povijest medicine u Bosni i Hercegovini jer je to prvi dokumentirani medicinski članak čiji je autor bio iz Bosne i Hercegovine. Rad sadrži zapažanja o tijeku bolesti i liječenju, u skladu s tadašnjim medicinskim spoznajama. Autor se poziva na autoritete toga vremena, poput Samuela Augustea Andréa Tissota, švicarskog fizičara i liječnika, Georga Bauera, njemačkog liječnika, i Lodovica Antonia Muratorija, talijanskog učenjaka, što ovaj članak čini vezom između Bosne i Hercegovine i znanja tadašnje Europe. Ovaj rad znači početak medicinskog pisanja u Bosni i Hercegovini te ima važno mjesto u povijesti medicine u ovoj zemlji.

Ključne riječi: Bosna i Hercegovina, medicinsko pisanje, zarazne bolesti, groznica, zmijski otrov

