DOI: 10.5455/msm.2017.29.219-227

Received: 23 July 2017; Accepted: 29 August 2017

© 2017 Armin Skrbo, Izet Masic

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

REVIEW

Mater Sociomed. 2017 Sep; 29(3): 219-227

The Role and Characteristics of Collections of Folk Recipes in the Folk and Traditional Medicine of Bosnia and Herzegovina

Armin Skrbo¹, Izet Masic²

¹Faculty of Pharmacy,
University of Sarajevo,
Sarajevo, Bosnia and
Herzegovina

²Faculty of Medicine,
University of Sarajevo,
Sarajevo, Bosnia and
Herzegovina

Corresponding author:
prof Izet Masic, MD, PhD,
Faculty of Medicine,
University of Sarajevo,
Sarajevo, Bosnia and
Herzegovina. ORCID ID:
<http://www.orcid.org/0000-0002-9080-5456>.
E-mail: izetmasic@gmail.com

ABSTRACT

Introduction: Folk medicine represents part of the folk culture, when we first think about the rural culture with characteristic of the rural population in the pre-industrial period. The difference between official and folk medicine is manifested in the education, knowledge and social status of those practicing folk medicine as well as their patients. The most common ways of treating were the treatment by use of herbs, magic and treatments based on religious beliefs. So, it is of no surprise that folk medicine was the main form of treatment for the inhabitants of Bosnia and Herzegovina (B&H) in the past. In addition to many herbalists, quacks and religious officials who treated the patients with records, there were also spells, i.e. women who, by pronouncing various magic formulas, treated the patients. Each village had at least one person who practiced this type of treatment. **Discussion:** Numerous, original documents and records have been stored in the archives of the monastery throughout B&H, including very valuable literature in the field of medicine and pharmacy, which testifies of the very important role of Franciscans in the treatment of the population in Bosnia and Herzegovina. The most extensive health service of the Franciscans since their arrival in Bosnia in 1291 was the decadent era of Turkish rule, mostly from the 17th century until the Austro-Hungarian occupation of Bosnia and Herzegovina in 1978. In the sources of national thought, and on the basis of professional medical books, the Franciscans created recipes for the treatment of certain diseases, which they then collected in so-called „Ljekaruse“ (Collections of folk recipes), and over time there was a lot of them. Most of the *ljekarusa* are hand-printed booklets, for some it is known the time and place of creation, and less often the author of the text. *Ljekarusa* is a very important source of information about our medical past. Some of them were

processed and recorded, while a significant part of these manuscripts remained unknown to the general public. They included recipes for various diseases and the names they were called by the people. Professional terms were not used, nor were the illnesses and the recipes ordered in any order or systematic manner. We learn from them that our people were once treated in the absence of doctors and pharmacists. Most commonly mentioned are various herbs, animal parts, mineral substances, and some of these recipes can be even applied today. All medicines continue to be transcribed by the people and valued as good old medical receipts. **Conclusion:** This review article presents a book (*ljekaruse*) that was archived in several famous monasteries in Bosnia and Herzegovina. **Keywords:** Folk medicine, Franciscans, monastic literature, *ljekarusa*.

1. INTRODUCTION

When a folk doctor comes to the end of its life, and find a person it sees to have a sense for healing, it starts transferring his knowledge and transmitting his experiences (1-10). Those carefully selected people were usually from the narrower or wider family of the healer (11-25). It is interesting that „healing“ can perform only women „when they say goodbye to everything“, or after menopause, because, according to popular beliefs, only „pure“ women can mediate between diseased people and, on the one hand, and the demons of the disease which needed to be expelled from the sick, or the saints who are expected to help with the expelling of the disease (1, 2).

Native medicine, Traditional medicine, Complementary medicine (1, 17, 18) has been quite focused on preventive measures that often made a combination of behavior manners, herbs or some other medicine, especially decrebied in the books

of “Traditional medicine”, “Prophet medicine”, “Arabic medicine”, etc. described in Greek and Arabic books, translated during Ottomans period in Bosnia and Herzegovina (26-42) and from the pronouncement of magical formulas or prayers. Among the Orthodox and the Muslims was used various “tilsumi” (talisman) and “masala” (old money, buttons, wolf’s tooth, rabbit tails, multicolored yarn sticks, etc.), and among Catholics there were mostly old coins, crosses and medals with the figures of saints, but all for the same purpose—protection against spells (1-5).

Beside the spells, people often addressed the priests and the Muslim to pilgrims in order to provide them with the prayers and the records. Among the Muslims, these were mostly records from the Koran, and to Catholics and Orthodox from the Bible or the pictures and powers of saints. In the case of a spells in the treatment of certain diseases, there were exactly certain procedures how to treat. There are no scientific evidence of their efficacy in many ways of treatment except for suggestive action on an individual (1).

World Health Organization (WHO) accepted the term “Complementary medicine” as official for the “Traditional medicine” which used during previous centuries in a lot of world countries (1, 2, 26-29, 42).

Figure 1. The example of the text of the Ljekarusa

2. LJEKARUSE (COLLECTIONS OF FOLK RECIPES)

Ljekaruse, records (manuscripts) are hand-written collections of folk medicine with recipes of medicines prepared according to the folk experience, with descriptions of their preparation and instructions on the treatment of various diseases and conditions in humans and in animals (Figure 1). These are the books of knowledge that Catholic priests had, and to which went people to seek cure, because they were running away from the official doctor. These priests as treatment, did not only pray to God, but also treat patients with healing herbs (1, 3-5).

Along with the allegations of the preparation and use of medicines made from medicinal herbs, animal organs, parts of human body and body fluids, metals, minerals, precious stones and resins, ljekaruse also contain descriptions of many magical, religious and primitive beliefs and rituals and often are present traces of ancient Greek, Roman, or Arabic medicine from the period since 9 to 15 century (31-42). Original

manuscripts date back to the 18th century, but largely are not preserved. Prescriptions of old ljekarusa were preserved, which during the time (16th to 19th century) were supplemented with new recipes and regulations (6-10).

The translators and drafters of these collections of folk recipes (mostly monks and village priests) often used the same, unknown sources, so different medicines have identical recipes and procedures for preparation of the medicine. Most of the preserved ljekarusa from the period from the 16th to the 19th century, was created in monastery libraries where the manuscripts were kept, rewritten and supplemented (1) (Figures 2-12). Manuscripts are often mixed in alphabets, languages, and dialects. A large number is written in Latin, Gothic, Bossaco and Cyrillic, Italian, Croatian and German (5, 10-16). Fr. Andrija Nikic, MD. in his book “Medicine and the Famous Past of the Franciscans” highlights the significance of Franciscan “Ljekarusa” at that time (1, 7). Even since the 13th century, Franciscans have been engaged in healthcare (1, 17, 18).

The work of the Franciscans in the field of health is permitted with the approval of the Congregation for the Promotion of Faith (8, 9, 17, 18). The friars were dealing with healing since their arrival in the 13th century and continue their medical activities during the Ottoman period in B&H (28, 36, 38). Some “ljekarusa” were printed in Rome. Part of the friars besides theology also studied medicine, so medical knowledge from Padua and Salerno arrives in Bosnia. By the Franciscan monasteries today there are preserved manuals and various “ljekarusa” from those times (1, 18, 19, 28). Doctor Pandža points out that probably the oldest Franciscan “ljekarusa” was written by a Bosnian Franciscan and kept in the library of the Franciscan monastery in Sinj (10), where it was brought by the Friars of Rome in 1687, fleeing in front of the Ottomans (1, 17).

The handwriting is written in „bosančica“ (old Bosnian alphabet), and is known as the “Manuscript of Sinj”. And “Livno ljekarusa” was written in bosančica, the author is an unknown Franciscan and it has 158 pages (3, 17). The Franciscan “ljekarusa” under the title “Tevter od likarija” (Booklet of remedies) was written by writer and historian Fra Grga Martić in 1857 (17). The Franciscans at that time bred and collected grasses and prepared medicines. The Ottoman authorities banned Franciscans from treating the sick outside the monastery without a kadi (judge) official order (17, 18). The punishments were severe, and there was a ban on action, which greatly reduced the Franciscan medical activity to the detriment of the patient. Many of the Franciscans from Mostar were involved in treatment and pharmacy, and each was using one of the “ljekarusa” (4, 17).

Ljekarusa have emerged as a result of the effort to provide treatment to the broadest folk levels, due to the lack of doctors and medical literature and the low levels of people’s enlightenment. Thus, ljekarusa become valuable documents in which is preserved the local history and the development of medical activity in this area, from magic to scientific medicine (1).

In studying and processing the ljekarusa, a multidisciplinary, critical approach is needed (1, 17). It should be considered from a biomedical, historical-medical and wider ethnological and cultural point of view, but not strictly ratio-

Figure 2. Ljekarusa of Fr. Luka Simic, a parish priest from Foca

nally, but with the understanding of everything that marked the time and environment in which they originated. Ljekarusa is a source not only of the tradition of folk medicine, but also of precious materials for the study of languages, customs, various folk traditions and the entire life of the people (1). In medical professions, ljekarusa are a valuable contribution to knowing the national names of diseases, medicinal plants and other medicines used in the treatment, as well as the study of drug-making technology (1, 18, 28).

Particularly interesting are those plants that are today neglected or unknown to official medicine, which possess medicinal properties and which can thus become the subject of research and lead to new, valuable insights (1, 4, 10, 18).

Some of the famous ljekarusa are:

- Livno ljekarusa,
- Various ljekarusa of Fr. Luka Vladimirović,
- Plehane ljekarusa,
- Ljekarusa of Fr. Juro Marčinović,
- Fra Dujina ljekarusa,
- „Gučegorske likaruše“,
- Ljekarusa of Fr. Mato Nikolić from Kresevo,
- Ljekarusa of Stjepan Krističević from Fojnica,
- Ljekarusa of Fr. Luka Dropuljić,
- „Ljekarusa from Kresevo in Bosnia“.

Livno's ljekarusa of Stipo Manderal

Livno ljekarusa was created at the beginning of the 19th century in the village of Čelebić in Livno. Dodig wrote a very interesting ljekarusa using bosančica, which changed many owners until finally arrived at the archives of the Franciscan monastery in Gorica in Livno (3).

Some of the owners were literate, so they wrote valuable information about themselves and their neighbors. In this ljekarusa there are various records, spells, bullets, instructions for treating the disease (3, 17, 18).

In this ljekarusa of a total of 118 treatment tips, the majority is on eye diseases (14 recipes), then difficulties related to urination (8), infertility (5), wounds (5), illnesses of the head (4), ears (4), bones (4), mouths (3), thighs (3), heartburns (3) ... Although not all of this is systemically arranged, there is a clear tendency to sort the recipes by type of disease: at the beginning are eye diseases, followed by disease of the ear, mouth, teeth, head ...

Various types of medicinal herbs and various animal spe-

cies and parts of their bodies, as well as white and red wine, brandy, pepper, sugar, liver, oil, resin, are most often recommended for the preparation of medicinal products. From plants, it is recommended to use: cherry, liver, luna, vinegar, and grecias (stomach, scorpio, witch), but also orientalisams (melt, saffron, raspberries, biscuits, cherries, turkeys, song, drama). According to the foreign words of the transcribers and the language of Dalmatian writers of that time, it would have been concluded that the creator could replicate it with the Dalmatian predominant man from the end where Dalmatia and Bosnia were touched and that in the text from which he was transcribed he also introduced the elements of his native homeland language (6, 10).

Therefore, this ljekarusa should not only be viewed as a primary source of our primitive medicine but also as a precious material for the proliferation of our language, customs, beliefs, and varied popular traditions. In one word, the ethnographic document which is of great value to us (3).

Various ljekarusa of Fr. Luka Vladimirović

Luka Vladimirović was a Croatian and a Bosnian-Herzegovinian writer, historian, theologian, poet, author of a ljekarusa and a Franciscan priest (3, 4). There is not much information about his education and resume. He spent most of his life in a monastery in Zaostrog, writing fifteenth books, religious and secular, in Croatian, Latin and Italian (10, 17). He published many under pseudonyms. He was in many of his thoughts one or two centuries ahead of his time, and he was one of the scientists and visionaries from the Croatian Catholic Church.

Vladimirović is significant as the author of a ljekarusa. His ljekarusa is the first medical book in the Croatian language. At that time, poor people in the regions of Croatia under the Venetian rule had little chance for quality medical care. He did not even have the most basic means, feared the doctors, but trusted in God. The witnesses were not allowed to return, but there was no one forbidding the priests healing at the invitation of God's help. Although the people were fleeing from the doctors, they resorted to some sort of treatment. They appreciated the folk treatment of medicinal herbs, made by people called "herbars", whose knowledge came from their own experience. It was particularly emphasized by Catholic priests who did not only pray to God in the treatment, but were also performing treatment with healing herbs. Proceedings of such knowledge are ljekarusa. Vladimirović was the author of such a ljekarusa, and the second, written by Petar Bartulović-Puović, use a lot of Vladimirović's ljekarusa content (3, 10, 18).

Ljekarusa of Plehane

The ljekarusa of Plehane is a Latin text written most likely in the second half of the 19th century entitled "The Collection of Medicines" with a Collection of Medicinal Herbs and a "Guide to the Order of Meleme and Bricolage", whose original manuscript is kept in the Archives of the Franciscan Monastery in Plehane under No. 4923 (5). The author and the year of its creation are unknown. Since photocopies of the original are used for making the transcript, there is little to say about the look of the manuscript itself. The pages are made of 17x10.5 cm paper, with a nice handwriting. According to our knowledge, the writings are sprinkled with golden powder. The text is written in two types of manuscripts and it is concluded that two authors participated in the writing,

which is not rare for ljekarusa.

Most of the prescriptions in the ljekarusa are related to human medicine, and small number of recipes belongs to the veterinary field. Recipes are often repeated or several prescribe a different medicine for the same illness. In addition to the prescriptions, health and health care tips, primarily are related to nutrition, maintenance of hygiene and physical activity, have contributed to faster healing and recovery of the patient.

It is interesting to note that some recipes or parts of the recipes and the list of plants from this ljekarusa are also found in the ljekarusa of Fra Mijo (Michaela) Nikolic (Figure 4), a native of Kresevo, the domestic doctor from 1868, which represents one of the most valuable and complete ljekarusa in the area of Bosnia and Herzegovina (1, 6, 14, 17). That manuscript is not original work as is already visible in the introductory part, citing the works that were used in its writing such as ljekarusa and various medical records written by the most prominent people of that time, a few physicians and Franciscans. Some of the recipes are the result of their own experiences gained by long-term treating of patients, and have been specifically referred to in the manuscript. He also states that he has collected a large number of recipes from "Grandma's of Bosnia" and "Grandma's of Posavina". The same list of plants used for the preparation of medicines was written according to the famous book *Commentari in libros sex Pedacii Dioscoridis de medicina materia. Adiectis quam plurimis plantarum & animalium imaginibus*, the endemism of the renowned Renaissance physician and botanist Peter Andrew Mattioli. It is evident that some of the illnesses are listed under popular names but with the wrong Latin in the Plehane ljekarusa and in the Domestic Doctor of Fr. Ivan Jukic from 1850 and 1851 and in the mentioned Nikolic it was translated as *Scorbutum*, for example.

It is difficult to determine which one served as a source. But this is one of the proofs that one ljekarusa served as a source for others and that parts of a ljekarusa were rewritten in several others (1). The Friars exchanged them among themselves, then corrected and supplemented them. The title of each chapter is the name of the disease, followed by one or more recipes or instructions for their treatment. There are 26 different human illnesses, and for their treatment 56 recipes. From domestic animal diseases, only three and the same number of recipes are listed. One recipe represents household advice. The first thirteen diseases are numbered in a row, then numbering is lost. After the ten of the illness follows a comprehensive chapter, a list of medicinal herbs titled *Short dictionary*. Plants are listed in alphabetical order according to folk names with the Latin name given. With some plants, there is no Latin name, but a punctuation mark of the questionnaire is written next to them, which implies that the author did not know the Latin name of the plant.

The language of the ljekarusa from Plehane

The ljekarusa from Plehane was written somewhat in a young language. The warrant is a stokavian. Even though the most prevalent ichthic expressions, also used are ijehtic. Words are sometimes written etymologically. Sometimes the two consonants are written. In the use of the voice h there are large deviations, sometimes appears, and sometimes it is omitted. Usually it is marked by the length of the previous

vowel. The rhyming is r often written like er etc.

Materials used in recipes

The basis for the preparation of medicinal preparations was primarily the available means from the household or the immediate surroundings, which makes it easier to apply among the people to whom these recipes are intended (6). From foodstuffs, there are milk, wine, brandy, rum, honey, vinegar, flour, rye, salt. These are mainly adjuvants, they serve as solvents, for restoring flavor, etc. The important place belongs to water, wine and brandy (apples, basins, bunches), which are in some recipes the main medicinal component, or universal medicines used in the initial stage of treatment of most internal and external illnesses.

Ingredients of plant origin, plants and herbal drugs

Plants and herbal medicines are certainly the main ingredients for making remedies in the prescribed instructions of this ljekarusa. As a rule, plants are harvested near the habitat, or grown. Certain parts of plants are used, and preparations are based on rational, clear and simple procedures. Mostly domestic herbs are represented, and their names are folk or Latin. Some names are incorrectly defined, overwritten from sources that are incorrectly listed or incorrectly overwritten.

Ingredients of animal origin

The use of ingredients of animal origin in folk medicine is common (6). Although it is quite difficult to ascertain why some component of animal origin was used in the treatment and what was ultimately effective, several basic principles of treatment with these products can be found, whose roots go far in the past. One example is the so-called inhalation therapy, using human and animal secretions, most commonly urine, and whose use in the treatment also occurs in archaic medicine in Babylon and Egypt (26, 29, 42). Similarly, some components that used to be part of official medicine, such as fat and fatty tissue of different animals, are likewise used. One of the principles is based on Hahneman's homeopathy „similarly is treated with similarly“.

Ingredients of mineral origin

Ingredients of mineral origin are represented in a small volume, mainly in the treatment of skin diseases and swelling, in the treatment of animals and in the protection of agricultural goods. In this ljekarusa, the following substances are used with a probable chemical composition: mercury, sodium chloride, powder, copper, sulfur, coal. In the part that could be termed a kind of chemotherapy, with the ingredients of mineral origin, soap is often mentioned (salad soap, pure soap) – alkaline and alkaline salts of higher fatty acids (6).

Diseases mentioned in the ljekarusa

Since Plehane ljekarusa was most likely created in the second half of the 19th century, the century when the enlightenment has already spread among population and the wider ethnic divisions, the influence of popular belief or superstition is less visible. Diseases are listed by national names, with the exception of the two above mentioned: a frenzy and a wreath, where the Latin name is also given, with the fact that it has been identified as scurvy. Most commonly referred to are skin diseases, cholera, other digestive disorders and infestation of parasites, eye diseases, toothache, fever, menstrual problems, breast disease, leg pain, rheumatic pain, injury and pain in the swallowing. It can be seen from the aforementioned that the symptoms of the disease are often

identified with the illness itself, which is understandable, because the causes of most diseases are not yet known in scientific medicine, so the so-called “symptomatic diagnosis”. Some animal diseases were mentioned, either with human disease (as a reminder that the same medicine applies to animals) or in recipes exclusively intended for the treatment of animals and household advices.

Method for preparing remedies and listed medicinal forms

The method of making medicines in the *ljekarusa* is generally well described and for most preparations simple. The forms of drugs and the effects they want to achieve largely coincide with those in the medical profession of that time. However, the regulations are simpler, contain fewer components, sometimes the amounts of ingredients are not mentioned, nor the amount of medicine the patient needs to take. The medicinal forms listed in the *ljekarusa* are as follows (6):

- Decoction,
- Water extracts,
- Alcoholic extracts,
- Acid extracts,
- Balms,
- Pills.

Measurement units used in the *ljekarusa*

The measurement units in our region were not unique until the beginning of the 19th century, and among population even longer. Each area had its own system of measures that sometimes differed considerably from place to place. So, it is difficult to precisely determine their true value in today's measure units (6).

Since most of the ingredients used in the *ljekarusa* were easily accessible, used in everyday life, and the measures were often simplified to facilitate the simplest preparation of medicines and their use in the people. Sometimes they are described as: two swallows; Take a little more than you can fit onto a small coin. Household utensils are often used as a measure, e.g. cups, glasses, bottles etc.

Ljekarusa of Fr. Juro Marčinković

Fr. Jure is a graduate theologian and master of legal sciences, and lately a Croatian missionary in Victoria, on the northern Pacific Ocean of Vancouver, Canada. In addition, he has been the Franciscan Province of Bosnia of Srebrena since 1963, a Catholic priest since 1970, and has also studied traditional Chinese medicine. For over half a century, he has been using healing herbs, studying it, collecting and helping many people to heal or to be better.

It is well known that the *ljekarusa* was extinct as a literary species since the last ones date back to the 19th century until the appearance of this *ljekarusa* in the 21st century (20). This *ljekarusa* is made up as most others: divided into articles that begin with the name or short description of some disease,

Figure 3. Fr. Jure Marčinković *ljekarusa* is the only one that is available at bookstores

Figure 4. „Brevis notitia medendi morbos nonnullos, scripta a R. P. Matthaeo Nikolich, Medico Laureato“

and then describe what to do for therapeutic purposes (Figure 3).

At the same time, this *ljekarusa* differs from the rest by the detailed information and instructions it provides, and by taking into account contemporary discoveries and knowledge of medical science.

The book contains 1,168 recipes. In the 14 units, 136 diseases and conditions with healing tips are displayed with the help of herbal preparations and proper nutrition. It is recommended for them: a total of 246 medicinal herbs, 52 complete preparations and 36 kinds of oils; 156 plants for tea; 4 coffee; 22 juices; 9 kinds of healing wines; 58 healing varieties of fruit and vegetable dishes; 25 types of baths; scrubs and creams; 84 tea mixes; 11 Cream And Fat; 3 masks; 39 types of lining; 32 homeopathic products; 26 squeezed juices; tips for rolling with oil and for one-sided grinding, 3 hooks with one bark; therapy with its blood supply and its own blood; Tips for proper diet in 99 diagnosis; recommendations for improving hygiene. The aim of the book is also to preserve and improve the health of healthy people, not only to help the sick and to train them after suffering illnesses and injuries. Its recommendations are largely inspired by the ancient folk arts of medicine and fall into complementary medicine (2).

Fra Dujo's *ljekarusa*

For life, Fr Dujo has collected the existing *ljekarusa* and printed them, and outlined, supplemented and augmented the prescriptions for certain diseases. So was created a manuscript Domestic Doctor–Medicus domesticus, was written on 1,146 pages of large format, which by its content, values and weight is the first place among the famous Franciscan *ljekarusa* in Herceg-Bosna (7).

The *ljekarusa* written until then, he enriched with new recipes printed from published books. Unlike previous ones, Fr. Dujo at the beginning of his *ljekarusa* adds resumes to his famous Franciscans and to the civil doctors and caregivers who have been dealing with healing and *ljekarusa* from the earliest times to his age. Fra Dujo has expanded and supple-

Figure 5. "Pharmacopoea Austriaca. Editio tertia, emendata."

mented the prescriptions for certain diseases. It is a disadvantage that, due to the war in Mostar, during the Defense War, the ljekarusa gone missing, but it is probably in one of the remaining five hundred packages where the manuscripts and books of the Franciscan Library in Mostar are being kept.

This ljekarusa, became not only a record writer of the historical memory of Catholic Herzegovina, but also a newcomer, scope and content of one of the most complete ljekarusa in this area. The Franciscan Community of Hercegovina should declare writers not only for their memorial books, but also for the ljekarusa, Fr. Dujo has preserved numerous beads from Franciscan history and compiled the most extensive ljekarusa. With incredible insistence and energy, he was able to record the resumes of numerous deceased Friars—especially physicians, ljekarusa and carpets.

In his Necrology and Biographies of the Herzegovinian

Figure 6. First two pages of „Pharmacopoea Austriaca“

Franciscans, he enrolled a multitude of details from their lives, complementing them with individual and collective photographs. It is a miracle that many of his records were preserved, as opposed to 273 records by Fr. Petar Bakule, Fr. Martino Mikulić, prof. Fr. Radoslava Glavaša, Fr. Dominik Mandić, Fr. Leo Petrović, who himself was sacrificed on the altar of the Church and other writers and chroniclers.

„Gučegorska ljekarusa“

„Gučegorska ljekarusa“ is a handwritten notebook, which, at least in part, dates back to 1790. This book of unusual recipes can be divided into several parts (11-13).

It is interesting to note that „Likarusa“ recommends taking substances such as human and animal urine, although this is no news at the time. Their application is still encountered in ancient Egypt. In addition, „Likarusa“ recommends that almost all medicines, which are administered orally, should be taken on empty stomach. Nor is it any news; the same is met in Mesopotamia. For eye treatment, it is liked to be mentioned „from the grass of the leaf or the flour of each other in the moth of a woman who gives a male child and is in the eye ...“(12)

Figure 7. The cover page of the ljekarusa of Stjepan Kristicević („Cura, et Industria R.P. Stephani Christichevich de Fojnica, noviter per Scriptus Libellus.“)

Figure 8. The page from the ljekarusa of Stjepan Kristicević

Figure 9. Fr. Luka Dropuljić: ljekarusa - „Lik od bisa“

Figure 10. "Ljekarusa from Kresevo" in Bosnia"and Herzegovina

Figure 11. Recipes from the book "Receptuary I"

The difficulty of reading "Likarusa" is the way of expressing it. Many of the words are written together, some are written with two additional letters, and a few recipes are written in Latin.

"Likarusa" contains not only prescriptions for the treatment of humans and livestock, but also provides hygienic and home-cleaning tips: "How to store apples" or "Something about potatoes" etc. It is sometimes noted that some recipes are "good" or "tried and good" (4).

Fr. Mate Nikolic Ljekarusa from Kresevo

Fr. Mato Nikolić was one of the most famous fraternal doctors at that time (14). In the beginning of 1807 Pope Pius VII gives him permission in which are the treaties under which Nikolic will be able to heal are: that he is capable of not stinging or cuts, but only the blood, that he cannot seek anything for healing, and if he has a loving will offer to give it to a religious community and to use his art only then if his elders find it necessary and if he is allowed to do so. Six years later

he was named by "the doctor of all brothers of our order" by the elders of Bosnia (1).

That Fr. Mato Nikolić, based on the obtained privileges from the Rome treated sick, has no doubt about it. His numerous recipes are preserved in the archives of the Franciscan monasteries. One of the recipes that he sent to a sick Franciscan reads: "Reverend ac amicissime Pater! I'm sorry for my effort, and ljekarusa so far cannot make you feel better so I send you another one, and if it is a God's will that they will have desired effect: I'm sending you in a small bottle a tincture which you will take six drops three times a day. I also sending you 12 powders that you will use in the same manner as before after you complete tincture. Let it be God's will that they provide you relief! You will take Tincture with the half of coffee cup of water and so the powders are well mixed with water. I do not have any more to write to you but to wish you good health from the bottom of my hearth. Yours Fr. Mato Nikolich" (14).

A large number of his recipes are found in a booklet titled "Brevis notitia medendi morbos nonnullos, written by R. P. Matthaeo Nikolich, medico laureato", which mentions many illnesses and cites recipes for treating them (Figure 4).

About great deal of interest of Father Mate Nikolic for medicine and pharmacy testify another book found in the Kreševo monastery. It is an Austrian Pharmacopoeia from

1820, owned by Nikolic himself, which confirms his original signature on the front page (Figure 5 and 6).

Ljekarusa of Stjepan Krističević from Fojnica

The ljekarusa originates from 1834 (15). In it according to alphabetical order, are readily and neatly printed series of diseases and recipes for their treatment like (Figure 7 and 8):

Take honey, and the sparrows seeds, beat the seeds and mix, and make the pills, and in case of colic, take it with like warm water, but tighten also the belt around the waist.

Fr. Luka Dropuljić Ljekarusa

This ljekarusa originates from 1884 (16). It is a thin, hand-written booklet, containing a smaller number of recipes, and a description of some plants in Italian (Figure 9).

"Ljekarusa from Kresevo in Bosnia"

This is the first printed ljekarusa and is located in the archives of the monastery in Kreševo (16). However, there are no data on the author nor on the year of issue. A card was also attached to the booklet, saying "The ljekarusa from Kresevo

Figure 12. Ljeکارusa from Monastery in Kraljeva Sutjeska

in Bosnia" (Figure 10).

„Receptuarium I“

This is a collection of recipes from various authors. The recipes are in Latin: “Medicamenta composita”; “Mixture pectoralis”; “Mixture diaphoretica”; “Abscessus frigidus scrophulosus frigidus abortus”; and on one of them is written in our language “Apothecary Recipe”. They are very similar to today’s prescriptions (Figure 11).

3. CONCLUSION

Folk medicine represents part of the folk culture, when we first think about the rural culture with characteristic of the rural population in the pre-industrial period. The difference between official and folk medicine is manifested in the education, knowledge and social status of those practicing folk medicine as well as their patients.

Ljeکارusa, records (manuscripts) are hand-written collections of folk medicine with prescriptions of medicines prepared according to the national experience, with descriptions of their preparation and instructions on the treatment of various diseases and conditions in humans as well as in animals. These are the books of knowledge that the Catholic priests had to go to cure because they were running away from the doctor. These priests did not only pray to God, but also treat healing herbs.

Ljeکارusa have emerged as a result of the effort to provide treatment to the broadest population, due to the lack of doctors and medical literature and the low levels of people’s enlightenment. Thus, ljeکارusa become valuable documents in which the local history and the development of medical activity in this area, from magic to scientific medicine, are intertwined in a distinct way.

Along with the allegations of the preparation and use of medicines made from medicinal herbs, animal organs, parts of human body and body fluids, metals, minerals, precious stones and resins, ljeکارuse also contain descriptions of many magical, religious and primitive beliefs and rituals and often are present traces of ancient Greek, Roman, or Arabic medicine from the period since 9 to 15 century. Original manuscripts date back to the 18th century, but largely are not

preserved. Prescriptions of old ljeکارusa were preserved, which during the time (16th to 19th century) were supplemented with new recipes and regulations.

Most of the preserved ljeکارusa from the period from the 16th to the 19th century, was created in monastery libraries (Fojnica, Kresevo, Kraljeva Sutjeska, Guca Gora, Livno, Plehane, Foca etc.) where the manuscripts were kept, rewritten and supplemented. Manuscripts are often mixed in alphabets, languages, and dialects. A large number is written in Latin, Gothic, Bossaco and Cyrillic, Italian, Croatian and German. Fr. Andrija Nikic, MD. in his book “Medicine and the Famous Past of the Franciscans” highlights the significance of Franciscan “Ljeکارusa” at that time. Even since the 13th century, Franciscans have been engaged in healthcare.

REFERENCES

1. Skrbo A, Masic I, Skrbo S, Ramakic E, Zunic L. Bosnian Franciscans and the Monasteries in Kresevo and Fojnica as Source of Scientific Bibliography. *Mater Sociomed.* 2017 Jun; 29(2): 149-54. doi: 10.5455/msm.2017.29.149-154.
2. Raguz K. Zdravstvo na području Župe Stjepan Krst: kako se liječilo kroz prošlosti i od čega se umiralo. *Humski zbornik XV: Župa Stjepan Krst.* 2014: 348-53.
3. <http://ivanlovrenovic.com/2014/04/stipo-manderale-livnajska-ljeکارusa/>. Assessed on July 2017.
4. Vladimirović L. *Likarie Priprostitute.* 1775.
5. Kujundžić N, Škrobonja A, Tomić T. Plehanska ljeکارuša “Zbirka lijekova sa zbirkom ljekovitih trava i uputom za pravit meleme i murčefe”. 2006: 56 str.
6. Senjković R. *Osnove oblikovanja lijekova.* 1994: 124 str.
7. Nikić A. *Fra Dujo Ostojić (1863-1938) i njegov “Domaći liečnik – Medicus domesticus”.* 2010: 271-73.
8. Jelenić J. *Kultura i bosanski Franjevci II. Fototip izdanja iz 1915.* Svjetlost, Sarajevo, 1990.
9. Karamatić dr. fra Marko. *Franjevci u zdravstvenoj kulturi Bosne i Hercegovine tijekom prošlosti.* Sarajevo, 1977.
10. Šušnić-Fliker Z. *Narodne ljeکارuše iz Hrvatske nastale u XVII i XVIII stoljeću.* Farm Glas., 1986; 42(12): 367-83.
11. Crvenka M. *Ljekovito bilje s analizom „Gučegorske likaruše“.* Svjetlost, Sarajevo, 1998.

12. „Gučegorska likaruša“. Nepoznat autor. Arhiv samostana u Gučoj Gori.
13. „Ručna knjiga“. Nepoznat autor. Arhiv samostana u Gučoj Gori. 1864.
14. Nikolić fra Mato. „Brevis notitia medendi morbos nonnullos...“ Arhiv samostana u Kreševu.
15. Krističević S. Ljekaruša. Arhiv samostana u Kreševu. 1834.
16. Dropuljić fra Luka. Ljekaruša. Arhiv samostana u Kreševu. 1844.
17. Omanić A. Bibliografija ljekaruša u Bosni i Hercegovini. Med Arh. 1997; 51(1-2): 51-4.
18. Djuricic A, Elazar S. Pregled istorije farmacije Bosne i Hercegovine. Sarajevo, 1958.
19. Hadzovic S, Masic I. Attari i njihov doprinos razvoju farmacije u Bosni i Hercegovini. Avicena. Sarajevo, 1997.
20. Marčinkovic J. Božija biljna ljekarna, Školska knjiga. Zagreb, 2001.
21. Franjevačka provincija Bosna Srebrena. Preuzeto: <http://www.bosnasrebrena.ba>
22. Buljan S. Povijesne crtice Kreseva i Franjevačkog samostana:1887-1997, Kiseljak, 1997.
23. Franjevački samostan Fojnica. Preuzeto: http://bs.wikipedia.org/wiki/Franjevački_Samostan_Fojnica. Pristupljeno 16.01.2006.
24. Devetak Z. Ljekaruse iz Osmanskog perioda. U: Hadzovic S, Masic I. Attari i njihov doprinos razvoju Farmacije u BiH. Avicena. Sarajevo, 1999: 67-78.
25. Mašić I. Rad H. Karamehmedovića i Š. Sikirića na prevođenju i istraživanju izvora za historiju islamske medicine. Avicena. Sarajevo, 1998: 24 str.
26. Masic I. et al. Srednjevjekovna arapska medicina. Avicena. Sarajevo, 2010, 276 pp..
27. Masic I, Skrbo A, Mulic I, Zunic L. Farmacija u Islamu. Avicena. Sarajevo, 2010. 120 pp.
28. Masic I. Korijeni medicine i zdravstva u Bosni i Hercegovini. Avicena. Sarajevo, 2004: 228 pp.
29. Masic I. Arapska medicina. Avicena. Sarajevo, 1994: 58 pp.
30. Kremers and Urdangs' History of pharmacy: The Arabs and the European middle ages. 4th ed. Madison, Wisconsin: American institute of the history of pharmacy. 23-17.
31. Hadzovic S. Farmacija i veliki doprinos arapske islamske znanosti njenom razvitku. Med Arh. 1997; 51(1-2): 47-50.
32. Tschanz D.W. A short history of islamic pharmacy. JISHIM. 2003. Retrieved: <http://www.ishim.net/ishim/3/03.pdf>. Accessed: 08. 09. 2016.
33. Masic I, Ridjanovic Z, Kujundzic E. Ibn Sina - Avicena–Život i djelo. Avicena. Sarajevo, 1995: 148 pp.
34. Masic I. Klasici Arapsko-islamske medicine. Avicena. Sarajevo, 1995: 96 pp.
35. Masic I. Thousand year anniversary of the historical book “Kitab al-Qanun fit-tibb” - the Canon of medicine, written by Abdulah ibn Sina. Journal of Research in Medical Sciences. 2012; 17(11): 993-1000.
36. Masic I. Zdravstvo u Bosni i Hercegovini tokom Osmanskog perioda. Avicena. Sarajevo, 1995: 40 pp.
37. Muminagic S, Masic I. The classics of Arabic medicine. Med Arh. 2010; 64(4): 254-6.
38. Masic I. Historija zdravstvene i socijalne kulture u BiH. Avicena. Sarajevo, 1993: 48 pp.
39. Masic I, Dilic M, Solakovic E, Rustempasic N, Ridjanovic Z. Why historians of medicine called ibn al-Nafis second Avicenna? Med Arh. 2007; 62(4): 244-9.
40. Masic I. On occasion of 800th anniversary of birth of ibn al-Nafis - discoverer of cardiac and pulmonary circulation. Med Arh. 2010; 64(5): 309-13.
41. Masic I. i sar. Doprinos islamske tradicije razvitku medicinske znanosti. Avicena. Sarajevo, 1999: 212 pp.
42. Skrbo A, Masic I. Influence of Arabian Pharmacy on Diseases Treatment During Ottomans Period in Bosnia and Herzegovina. Med Arch. 2017 Jun; 71(3): 219-25. doi: 10.5455/me-darh.2017.71.219-225.