

DOI: 10.5455/msm.2022.33.70-79

Received: Jan 02 2022; Accepted: Feb 27, 2022

© 2022 Izet Masic, Nabil Naser, Aida Kapetanovic, Nizama Salihefendic, Muharem Zildzic

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. 2022 Mar; 34(1): 70-79

Traditional Healing in Treatment of Diseases in the Past in Bosnia and Herzegovina

Izet Masic¹, Nabil Naser^{2,3}, Aida Kapetanovic³, Nizama Salihefendic⁴, Muharem Zildzic¹

¹Academy of Medical Sciences of Bosnia and Herzegovina, Sarajevo, Bosnia and Herzegovina

²Polyclinic „Dr. Nabil“, Sarajevo, Bosnia and Herzegovina.

³Faculty of Medicine, University of Sarajevo, Sarajevo, Bosnia and Herzegovina.

⁴Medicus A, Gracanica, Bosnia and Herzegovina

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

ABSTRACT

Background: We could say that traditional healing is a way of healing that has been common since ancient times. It has been passed down from generation to generation for many centuries. Magic medicine, although not approved by any of the monotheistic religions present in Bosnia and Herzegovina, and strictly prohibited by Islam, in the form of various magical acts and spells, exists among the people. Some of these magical practices have their roots in the pre-Christian Slavic period and earlier. **Objective:** The aim of this article was to provide the review of the traditional medicine during the history and today in Bosnia and Herzegovina. **Methods:** Review of the available literature, personal contacts and personal experience in contact with the traditional medicine. **Discussion:** Some of these magical practices have their roots in the pre-Christian Slavic period and earlier. Since the cause of the disease was usually associated with evil beings of supernatural powers, a deity or God's will or punishment, it is understandable that priests have long been engaged in healing. Especially in the mentally ill, there seemed to be a certain divine or demonic origin of the disease. Muslim folk medicine divides diseases into two groups; in fevers and obsessions with unclean spirits. Folk medicine knows the healing properties of herbs and other substances of animal or mineral origin. The medicinal properties of simple foods that can be found in every home are also widely used, such as: milk, honey, vinegar, oil, onion, and garlic. Prescription books, known as "ljekaruše", were created by collecting and writing down folk remedies. They were written mostly by Catholic priests. "Witch doctors" or "healers" have been preserved in Orthodox monasteries. **Conclusion:** Traditional medicine is important for history of medicine, ethnology, an-

thropology, and abounds in folklore elements. It is an area that leads to knowing, understanding or feeling the very nucleus of a nation.

Keywords: Traditional medicine, methods of treatment, magic, religion.

1. BACKGROUND

The word tradition comes from the Latin word traditio (tradere - to hand over) and has the following meanings (1): a) Tradition, oral transmission of historical material; b) custom, order, rules of conduct passed from generation to generation; c) the manner of acquiring ownership of mobile property by handover from hand to hand; traditional, which has come to us by tradition, which transcends, which is handed down from generation to generation (2).

We could say that traditional healing is a way of healing that has been common since ancient times (3). It has been passed down from generation to generation for many centuries. Talking to people of different social backgrounds, educational status, refugees, doctors, professors, priests, neighbors and simply my friends, Its became convinced of how deeply rooted the belief in the therapeutic power of certain procedures is, and when they have no rational foothold in official medicine. The use of herbs for the purpose of treatment is very widespread and is used in parallel with the therapy prescribed by the doctor. After all, from the knowledge of the medicinal properties of plants grew modern pharmacology (3).

Traditional medicine recognizes herbal treatment, water, massage, spa use, beneficial properties of mineral and sulfur springs (3). It also knows how to remove stones from the bladder,

remove cataracts, fix broken limbs. Modern medicine did not originate from university clinics, but from the people and from practicing doctors (4). Traditional medicine has been recognized by WHO and named as “Complementary medicine” (3). Some of medical professionals call this kind of treatment as “Integrative medicine” (3).

2. OBJECTIVE

The aim of this article was to provide the review of the methods of traditional medicine and use common drugs and treatments during the history and today in Bosnia and Herzegovina.

3. METHODS

We used descriptive method to review of the available literature, personal contacts and personal experience in contact with the traditional medicine and people who practiced it.

4. RESULTS AND DISCUSSION

The attitude towards illness and treatment depends on the cultural and civilizational level of the people. It can be considered that religion is the most important expression of the culture of a nation, and accordingly, the importance of the influence of religion on traditional medicine should be taken into account. Dr. Karl Steiner writes at the end of the 19th century (2): “Religions also had a significant influence on the understanding and origin of the disease. Among Muslims, the dominant philosophical-religious understanding of the disease is that the disease or punishment is divine or is caused by evil spirits (jinn). Catholics believe that illness is a punishment for sins committed or comes from the destructive actions of witches. For the Orthodox, illness is always an animatum, a living creature that travels the world in the form of a man or a woman. According to that understanding, the plague is a woman who travels from village to village, to mow the old and the young.” (2).

Folk medicine (4-6) consists of magic, religion and empirical medicine (3). Empirical medicine usually means the use of medicinal herbs, medicinal sources and some other methods that will also be mentioned. Traditional medicine usually involves a combination of all three. Religious medicine, as part of traditional medicine, is still most prevalent in the Muslim population today. Even among Catholics in Bosnia and Herzegovina, there are still demands for therapeutic procedures that can be said to belong to religious treatment. The treatment of the mentally ill by records and prayers was widely practiced by the Franciscans among Catholics in the 17th and 18th centuries, although there were demands to treat the sick Muslim and Orthodox. The Franciscans were important as folk healers, but they were also the first physicians to practice scientific medicine in Bosnia and Herzegovina.

Magic medicine, although not approved by any of the monotheistic religions present in Bosnia and Herzegovina, and strictly prohibited by Islam, in the form of various magical acts and spells, exists among the people (5-7). Some of these magical practices have their roots in the pre-Christian Slavic period and earlier. Since the cause of the disease was usually associated with evil beings of supernatural powers, a deity or God’s will or punishment, it is understandable that priests have long been engaged in healing. Especially

in the mentally ill, there seemed to be a certain divine or demonic origin of the disease (8).

The treatment procedure looked something like this: “When someone in the house gets sick, they first use home remedies or seek advice in the neighborhood, or the help of an herbalist. If that doesn’t help, then they call the priest to read the prayer, since he/she is considered a mediator between the sick and the God who sent the disease. If this is left without success, then a charm is sought, because she is believed to be an inspired being. She approaches the patient in the early evening, so she caresses his/hers diseased limbs, roars, lures the demon, scares it, threatens it, persuades it to go to another being.” (5).

Magic medicine and superstition in traditional medicine

The colorful and miraculous multitude of fairies, witches, evil spirits, demons and ghosts, with their supernatural powers and actions, inflict evil or disease on man. They are present in folk beliefs, stories, legends, fairy tales, legends and myths (6, 7). No matter how unreal the descriptions of these creatures may seem, many truths about human nature can be clearly understood from them, but also about the difficulties that afflict man on a daily basis.

“People have to say that she is a girl who goes at night and sucks blood, especially boys, girls and children. It can turn into anything, a fly, a flea, etc. She must, when she attacks a human on the chest at night, she can’t even remove the person, and the next day the person complains that its chest hurts, and it is noticed that its tits are swollen and sometimes water leaks and leaks from them.” (6).

“**Nightgown**” attacks small children and brings them death. It is recognizable by the fact that when a child dies, a blue stripe can be seen down the back. The nightgown attacks the relatives of those who died, and to whom they remained indebted. It can attack the children of debtors up to the ninth generation. To prevent the revenge of the “nightgown” to every deceased person must be prayed the Ja’sin (chapter) of the Qur’an. (8).

“**The poisonous fairy**” will poison the blood until the man is completely exhausted.” (6).

„**The bloodsucker**” sucks the blood of its victim at night, just like a werewolf, until it exhausts all its life force. (6).

The “**Činilica**” causes mental illness (10), the “**creature**” brings black death to people, “**frost**” causes discord in the house, a quarrel between a man and his/hers neighbors, wife, parents and children (11).

“**Parasites**” are evil people, in an unbreakable alliance with the devil, evil, dangerous and can cause great trouble to other people (6).

“**Werewolves**” were believed to be actually dead people rising from their graves to lead a terrible night life and inflict evil on people (6).

Witches” are, as people believe, very often the cause of various troubles. *A woman who is a “must” girl becomes when she marries a witch. The witches meet on the eve of St. George’s Day, at crossroads, hills and threshing floors (places where grain is harvested) and agree on where to go and which way. They split up two by two. If the devil allows them, they can drown a man, especially small children. The witch goes only with the soul, which is in alliance with the devil, and the*

body stays at home sleeping a hard dream (11).

Here's one way a witch can be recognized; catch a firefly, fry its wings and let it fly away with the words: "Come tomorrow, let me give you salt. "The first woman to come to your house the next morning is certainly a witch: give her some salt, or better yet, a little garlic, so she won't be able to hurt you" (5).

In addition to this, as protection against witches, the following is also recommended: from the wool that is sheared from a completely black sheep, braid a leash and carry it with you. Children up to the age of 7 should wear oman (Inula Helenium), yew, a clove of garlic, a sprig of cob that has not been received and comes from another village, or a little skin from the left heel (6). A very effective remedy against witches are also amulets, images of saints, and inscriptions.

From the gallery of creatures that cause trouble, we will mention one more "stuha." People imagine them as men who are not as evil as witches, who come out of their houses at night, make various devils, and know how to kill each other. So, he/she wakes up in the morning pale, tired and broken (6).

Spiritual medicine

In this text, we will limit ourselves to a description of the procedures of "healing" that are still very widespread among the people and are based on faith (8).

Muslim folk medicine divides diseases into two groups; in fevers and obsessions with unclean spirits (8). We will deal more with the latter. The spell is an evil look. An attack of evil giants is considered an ogram. Magic is a limited form of magic. Spells, programs and spells are both the causes of disease and the disease itself (disease and illness).

Sihra

Sihra (a. Sihr) means delusion or magic. Magic, according to strict etymology, means a limited form of magic called "delusion", "magic". According to the linguistic interpretation, it is the diversion of something from its true nature or form towards something that is unnatural or only apparent " (1, 8). Sihr is the infliction of harm on a person, through the subjugation of a jinn by a sorcerer. It is said among the people that someone is deceived in the sense that evil deeds have been cast on him. Because of that, his/her behavior changes and he/she behave as if he/she is under the influence of someone's will, or unexpected problems suddenly appear, e.g., the marriage contract is dissolved after everything has already been agreed. Magic thus causes severe psychological trauma and can also cause organic diseases. Usually, magic is drunk or brought into the house in the form of a bundle (3, 12). Making magic belongs to the domain of "magic" and is not approved by any religion. Healing through the record is the best way to get rid of magic (8).

Curse

A curse means an evil look. Young children in particular are sensitive to spells. The people distinguish between intentional and unintentional evil eyes (3, 8). The symptoms of a spell are sudden weakness, nausea, headaches, vomiting, constant yawning, and salty sweat on the forehead. Due to the spell, the child becomes crying and does not calm down all night. The therapeutic procedure consists of prayers. Muslims learn the relevant passages from the Qur'an. In addition to prayers, women from the Srebrenica

region also say three different basmas. People believe that a mother's kiss also has a healing effect on a child. However, records and amulets are considered the best means (11).

Effective protection against spells is considered to be a yew tree. Yew is a valued means of protection from various misfortunes, war injuries, demons, witches and spells. Pieces of yew sewn into a red cloth are placed in the child's cap, pillow or cradle, or hung on a string to surround the child. The string can be woven in four colors, for example in black, yellow, red and orange, and in addition to the yew, another object can be hung on it. Ordinary scissors, garlic, a piece of herringbone, a metal pot and the like serve the same purpose. Items worn by spells should attract unintentional or intentional evil eyes, or to ward off evil eyes that can cause disease. They are characterized by the place where they are worn, color or shine. These can be beautiful glass bobs of various colors from which necklaces are worn and worn around the neck, or pieces of expensive jewelry made of gold, silver, precious or semi-precious stones. And the stalk of a flower in the hair is worn as an object (protection) from "spells". Great protective power is given to the sign of the pentagram, which in Bosnia is called Solomon's letter (12). There is a tradition that the wisest of all rulers, King Solomon, wore it as a seal on his/hers ring. It is believed that Solomon possessed his/hers jiza, i.e., that God gave him the power to work miracles. That is why this sign is often engraved on the silver buttons of women's belts and hats. Corals, opals and camellias are worn against spells. Carnelian is thought to have the power to stop bleeding by simply pressing on the wound. Great power of healing and a safe remedy against spells, is also considered a snake crown, a pale yellowish stone. It is said to have been brought by pilgrims (pilgrims to Mecca) or sheikhs (heads of dervish orders) from the east. The snake crown is supposedly created in the head of some ninth-year snakes. "Spell" items can also be placed on livestock (10).

Ograma

In folk medicine, the name "ogram" is used for mental health disorders (5, 11). The cause of the orgama is considered to be the attack of evil jinn. According to the interpretation of mystical doctors, jinn can inflict mental injuries on a person in seventy ways. They live by the water, in various cavities and ravines, in cemeteries and forests. The posher jinns settled by the fire. Their wives live in gardens, orchards, forests and ruins. They live very long, they have great strength, women get married, they are very emotional, impulsive, easily insulting, vindictive. There are Muslims, Christians and Jews, about 70,000 tribes, often at war with each other. Women are exposed to giant attacks during childbirth and 40 days after childbirth. Hence the custom among the people that women do not leave the house for 40 days after giving birth. Jinn attacks are manifested in the following way: a woman imagines that she is naked, becomes inaccessible to her husband, loses memory, does not recognize her family. Suddenly, serious changes in behavior occur; he/she tears and throws off his/her clothes, is in a changeable mood, cries easily, laughs unreasonably, talks constantly or is constantly silent. An attacked person may feel some crawling under the skin as if ants are walking. An attacked person can howl like a dog, throw himself into a

fire, or wander aimlessly for days. Obsession with evil jinns can also manifest as phantom pregnancy, birth disorders, fetal death and infant death. Some people complain of a feeling of weakness throughout the body, constant vomiting and abdominal pain. The symptoms of attacks on young children are almost the same. The specificity of attacks on young children is the appearance of body stiffness or the appearance of cramps. Both phenomena are transient. If the twitches recur and do not heal, they can turn into epilepsy. With a timely start of treatment, the chances of a cure are good. The older the patient, the more difficult the treatment (5, 13). The *orgama* is treated by records, direct or indirect (*daira*), by communication with the jinn.

Treatment of *ogram* with *dair* and exorcism

Daira is an Arabic word meaning district. The gathering of the *daira* is the gathering of jinn by means of Qur'anic verses or prayers (prayers), composed especially for this job, in a place that is specially surrounded by the convener. The goal is for the *daira* conjurer to use his/her authority to persuade the giants to leave and free the disease from the attacked person. Communication with the jinn is done through the media-child aged 9-12. *Daira* can be collected in several ways (8):

- * *daira* on water in a fryer (small, oval, porcelain vessel without a handle from which coffee is drunk);
- * *daira* on a mirror or porcelain dish;
- * *daira* on the nail;
- * *daira* on the palm;
- * *daira* on water in a glass (oval vessel made of copper or enamel in which water is poured to half).

Mr. E.C., Imam^{IV} and Hafiz (lives in one place near Sarajevo) practice exorcism, or direct communication with jinn. Healing consists in learning the Qur'an. His/hers help is most often sought by people who are financially situated, and according to him, the difficulties are the result of social maladaptation. "Clients are often refugees—returnees from third countries, but also people who have suddenly become rich or climbed the social ladder in a short period of time. Less than 10% of clients are people with the loss of loved ones. In my opinion, even large losses rarely cause mental illness. I have had several cases of people with losses, who were the object of giant attacks. Emotional pain leads to a state of narrowed consciousness, which facilitates the penetration of spiritual beings into the body. Spiritual beings can take the form of a dead loved one and appear to the patient, talk to him or even persuade him to commit suicide. The patient thinks that he/she is in contact with a lost loved one, but it is actually a villain from the spiritual world.

There are many requirements for healing students who have embarked on black magic or summoning spirits using various spiritualistic sessions, often for trivial reasons. "I am approached by the parents of drug addicts. In drug addicts who are under neuroleptics, they can feel the exact location of their pain, while they themselves do not feel anything. I am terribly torn by their pain. That's why it's hard to work with them." This is how Mr. E.Č. explains the diseases and treatment. He/she reportedly quickly establishes in which cases the patient or client cannot be helped.

In the 17th and 18th centuries, exorcisms were often practiced by the Franciscans. "Whether in monasteries,

daibudis at special Catholic farewells, in solitude, devil-expelling specialists used to fast themselves and fasting before they went into ritual exile. Sick people (obviously only Catholics) also spent the night in church. The consecrated garments themselves were to facilitate the expulsion of the unclean, so that the expulsion from the Muslims had to be done with great care, so as not to injure dangerous religious irritability. There is no doubt that in addition to prayer, some home remedies were practiced, namely garlic and garlic drink." (4, 11).

Any exorcism is dangerous for the healer, because jinn are very vindictive. They, only if given the opportunity, are severely punished, so there have been cases of healers being punished by having their mouths open (*pareisis n. Facialis*), stroke (*apoplexia cerebri*), in many tragicomic ways, but also death.

Strava

Sometimes a giant attack manifests itself as "fear". Symptoms of fear in children are epilepsy, fear, stuttering. In adults, acute mental disorder, severe headache, limb weakness, sleep apnea, chronic diarrhea that exhausts the patient. People think that fear shortens the patient so that they can determine it, measure it crosswise with different meals, and this is called "cutting the edge". (12). The patient usually does not know the cause of his/her problems, so primarily for therapeutic and diagnostic purposes ". Older women usually deal with *strava*.

The procedure consists in pouring molten lead with a bang over the patient's head into a container with cold water. From the appearance of the figure poured into the water, one can try to figure out the cause of the disease. The best therapeutic effect is expected if the spilled lead in water is broken into as small pieces as possible. Fear is poured on the "head", "stomach" and "legs", three places in the body where fear is thought to accumulate. The whole procedure is repeated three times so that a favorable effect can be expected. The person who harbors fear should be deeply religious and honest, because the success of "therapy" depends on it. Fear can be sent indirectly. The patient does not have to be present. Only a part of his/her clothes is needed (2).

Records and amulets

Records are a universal trappian tool that helps with somatic and mental illnesses, establishing disturbed marital or love relationships, harmony and harmony in the house. A record is a translation of the Arabic word **nusha**, which means the original composition from which a written word or drawing is transcribed, which serves as a cure for disease or as an aid to achieve something, or defense, to remove something. Muslim writings contain the words of God because it is believed that they can be used to cure mental illness and various afflictions. The Islamic world believes that the Qur'an containing God's speech is in itself the best medicine (7, 8).

In addition to God's words, there are many hadith prophets who talk about the effect of Qur'anic passages on various diseases, how to use them, or their teaching and writing, and the prohibition of using God's speech in a religiously illicit manner. Those priests who really know the science of making records are among the mystical doctors. The

science of records presupposes, in addition to the belief in the omnipotence of God, a different understanding of the structure of the world and the cosmos in general. It is an ancient science, about which there is an extensive literature in Arabic, Persian and Turkish (13, 14).

Records are usually written in Arabic script called *sulus*. They therefore contain mainly Qur'anic passages and prayers (prayers) composed for various diseases (8). If the patient has indefinite ailments, weakness, weakness, stabbing, for which he/she does not know the cause, then the Muslim priest must first "determine the star". According to the instructions of astronomical science, the Muslim priest (*hojas*, *imams*) finds that for patients who fall under this/her star, there are a number of possible causes of trouble (e.g., that he/she was attacked by *jinn* in some place and inflicted a disease). For such patients the star prescribes certain records. The star also determines the time (day and hour) at which the record should be made. If the required record is composed exclusively of Qur'anic verses, such a record can be made at any time, because the Qur'an is not limited in time. Records are carried, some are drunk, some are burned, and some are buried in the ground. There are records from which the patient should inhale smoke or put them in water and bathe in that water. The same is done if the patient knows the cause of his/her ailments, headache, toothache. For the record, the patient does not have to address the Muslim priest personally, he/she does not even have to know about him. In order for a record to be effective, the science of records prescribes quite precisely; the type of paper, the letter, the pen with which it is written, how the compiler of the record should be dressed, and how he/she should sit. Muslim inscriptions are rolled into a triangle and placed on the head, temples, neck or diseased area. The ordinary world wore them wrapped in wax cloth usually along the body, but necessarily above the waist. The richer ones put them in purpose-made silver boxes, cylindrical or triangular in shape, and wore them around their necks or obliquely over their shoulders. They can still be found at silver vendors and filigree stores in Sarajevo (13, 14, 16).

In addition to Muslim writings, there are Christian writings made and published by Catholic and Orthodox priests (15, 16). Christian writings rolled into a quadrangle. They were usually written in black ink or some brown color and were mostly printed. They had names according to the purpose, or the disease due to which they were worn. Typical Catholic writings (*powers*) that used to be worn a lot are the so-called *boxers*. These are silver boxes, worn as jewelry, in which the already mentioned printed records were placed, "from the stomach", "from the heathen and other evils of the body", "blessing of the child in the womb", etc. Christian records could contain sentences from the Bible, the Gospels, prayers (*benedictiones*), the sign of the cross, the figure of a saint. These records generally have no mystical content. These are prayers that were supposed to encourage and remind believers of piety. In addition to boxes, "powers" were sewn into rags and worn with the body or under clothing. Along with them could be found a piece of stone or a painted wall from a church or shrine, a waist of flowers, grass, a piece of yew (15). Church dignitaries tolerated the records, but constantly paid attention to their dogmatic

purity and purity of prayer forms over the sick. In addition to inscriptions, amulets were used as a powerful therapeutic and prophylactic tool.

Amulet is an Arabic word, which in translation means a pendant (11). As amulets, metal medals with the image of the Mother of God, Michael the Archangel, St. Ante, as well as medals made of wax taken from Easter candles of Roman churches with the imprinted image of a lamb. Egg-shaped pendants with a scene of Christ's resurrection are also prized amulets and often worn.

Christians in BiH also call objects made of precious and semi-precious stones talismans. There is a legend that the name originated from Talisman Hill, which is known for its stone mine suitable for making talismans. It is also believed that various spirits live on that hill, and even the stones from that hill have a special power (13, 15).

Muslims, on the other hand, use the Arabic word *tilsim* as a talisman, which means an object or figure without a record or a record that is not made according to the rules according to which records are usually made. It often contains mystical signs that cannot and must not be interpreted. The word *tilsum* itself is taken into Arabic from the Greek word *telesma*, which means precious, or a sacred object. The difference between an inscription, an amulet and a talisman are not always clear.

Fortune-telling in traditional medicine

The illicit means, although practiced, include fortune-telling, in any way. For leisure, women usually look at the coffee residue and predict the future by interpreting the meaning of the figures they see. Either they scatter beans or look at cards. But it happens that someone "hits" well, so people come to find out his/her fate, the outcome of treatment, the cause of the disease and the like.

In the Muslim world, the only way to predict destiny is to worship *istihara* (8). After performing a special ritual (prayer), the worshiper draws in late, prays to God to see a solution to a problem in a dream. He/she usually puts an object under the pillow, a "marker" of the person whose destiny it is. *Istihara* worships for several nights in a row until, by the grace of God, the worshiper dreams of a way to solve the problems of the one to whom the problem relates.

Empirical medicine

Folk medicine knows the healing properties of herbs and other substances of animal or mineral origin (16-19). The medicinal properties of simple foods that can be found in every home are also widely used, such as: milk, honey, vinegar, oil, onion, and garlic. Healing properties are attributed to radishes, figs, plums, barley, acorns, burdock. And on hand are butter, tallow, egg whites, soap, clay, charcoal or lye. Garlic is considered to have 77 medicinal properties. It is an appreciated remedy against intestinal worms in children (20).

"Folk" recipes are mostly herbal preparations that can be made from plants and herbs that grow in BiH (18, 20). In Herzegovina, 80 different herbs with medicinal properties are known in the Lištica area. The quality of plants and the concentration of medicinal substances also depend on the climate. Herbs, although less common, can be used as medicine and fresh, unprocessed. Medicinal preparations are usually made by processing; by boiling in water, milk,

wine, oil, drying, beating, kneading or squeezing juice from them. Most often, the plant is first dried, beaten and then cooked. The medicine is used in various ways: it is drunk, inhaled, or applied to the affected area.

It is interesting that sometimes the way the drug is applied is not directly related to the diseased organ. For example, for diseases of internal organs, it is recommended to apply a bandage. In an old physician from 1843 (20), there is a recipe by which infertility in women is treated by making a wreath of grass immortelle (*Helychrysum arenarium* L.) and putting it on a woman's head. It is also said that the medicine has certainly been tried. The most commonly used herbs are: buckthorn (*Plantago*), basil (*Basilicum*), comfrey (*Simphitium officina*), truffle, ash (*Ditamus Frosicinella*), ruta (*Ruta Graveoleus*), sage (*Salvia*), chamomile, nettle (*Urtica*), dill (*Anetum*), rabbit (*Millefolium*), lily (*Lilium*), mint (*Mentha*), odolin (*Valeriana*), wormwood (*Absin-tium*), horsetail (*Equisetum*), mallow (*Althaeaofficinalis*), rosopas (*calidonium*). These herbs and drugs were used by population in Bosnia and Herzegovina in the past following experiences of treatments described in books "Arabic medicine" and "Pharmacy in Islam" by Izet Masic. He called it "Avicennian medicine" as special kind of integrative medicine known as Prophet's medicine and Arabic/Islamic medicine (21, 23, 24).

People see the reason for the occurrence of the disease in God's disorder, the action of evil spirits, witches and other evil beings in the disorder of body fluids. This can be deduced from the name of the disease: "water sickness" or "fat disease" (ascites), "dry disease", "dryness" (tuberculosis), "brain drop" (apoplexia). Disorder of blood properties causes disease, so people say, "defiled blood", "weak blood", "strong blood", "poisoned blood". According to folk medicine, skin changes, rashes, ulcers, scabs, blisters are often a symptom of "defiled blood" or a sign of its cleansing. Most generalized skin diseases are said to have been "expelled by the blood". That is why it is not necessary to control these rashes and it is harmful to control them, so that the dirt does not stay in the blood. The causes of the disease are also explained by some general reasons, such as a cold or fever. Diseases are named after the symptoms or organ they affect. For example: headache, toothache, headache, gout, chest pain. Some diseases have real descriptive names; "When one can't be with a woman", "eyes when they are bloody", "eyes when tears", "write when you can't", "when a vein bursts to stop blood", "who can't sleep because of the heat", etc. (25-29).

Struna

Various diseases of the digestive tract such as gastric ptosis (*Gastroptosis*), Hiatus hernia, cascading stomach, relatively common, are popularly known as "string". The disease is most often manifested by severe abdominal pain. The string is treated as follows (12).

Place the cup above the navel in the center line. A piece of candle is lit under the glass, and when the candle burns under the glass, a vacuum is created. The patient lies on his/hers back with the knees bent and slightly apart. With one hand you grab the glass and pull it upwards and with the other hand with the palm outstretched and with more pressure of the fingers you go under the left rib arch, to-

wards the navel. After this manipulation, the abdomen is tied over the navel. The bandage is made of twisted thread or thinner hard ribbons and must not be removed for 7 days.⁵

Another way to heal a string is by massaging. "It is massaged with oil, starting from the vein between the thumb and forefinger on the left hand, going towards the shoulder, and next to the neck down the spine towards the loins. After the massage, the patient's arm is firmly tied above the elbow, and the patient should lie on his/her side, legs bent at the knees. He/she is given to eat an egg fried in butter or oil. This method is supposedly not only effective in "cancer" of the stomach." (16).

Sandžije

A whole group of diseases that include chest pains of unclear origin, myalgias, neuralgia, acute lumbago, are popularly called "sandžije". Sandžije is usually treated by causing hyperemia in the affected area. Here is an old recipe that has remained in various modifications to this day:

"Knock the well-baked brick finely, take brandy, soap, egg whites, then mix everything together and pour it well, then pour it over the sage, then tighten it and the sandžija pain and don't take it off until it just falls off." (15).

Animal bites

Recommendations for the treatment of venomous snake bites and rabid dog bites are almost identical in all written sources in the field of folk medicine that we have been able to come across. They gave us identical recommendations orally in several places.

"Poisonous snake bites are treated by poking the wound on all sides, smearing it with scorpion oil and squeezing the grass (*Camedrion*). At the same time, a bite of that grass was swallowed." (14).

The bite of a rabid dog is treated as follows: "a bean or white bean is placed on each place where the tooth is imprinted, the hair of the same dog is applied to the wound, and then everything is wrapped in a cloth soaked in water and vinegar. Passion or bean grains are not removed until they fall off." (13, 14).

"Bone adjustment"

Some traditional healers were skilled in repairing broken and dislocated limbs, although they were reluctant to repair open fractures.

The repositioning of the broken bone looks like this: the fracture site is rubbed with hot oil until the bones are re-inserted, then flaxseed is taken, two egg whites are sprinkled on the affected area, and finely crushed alum and the fracture site is tightened with a belt or longer cloth. Hard rollers or thin boards are placed over the length of the broken limb. After eight days and after 14 days, the bandage is removed and a new one is adjusted, but the stakes are not placed for the third time. In a younger person the bone heals in three weeks, and in an older person the bandage is left longer (14).

Folk healers practiced bloodletting, tooth extraction, healing of war wounds, circumcision, extraction of stones from the urinary bladder—lithotomy using incisions made on the perineum. In addition, they performed eye cataract surgeries, so-called reclinations. With the development of surgery, the treatment of these diseases is no longer within the competence of folk medicine. Fixing broken and dislo-



Figure 1. Cover pages of the books: a) Jeremić R. Medical occasions. Contribution to the history of health and medical conditions in Bosnia and Herzegovina during Ottoman's and Austro-Hungarian period (1951); b) Mašić I. et al. Medieval Arabic medicine (2010); c) Hadžović S. i sar. Attars and their contribution to the development of pharmacy in Bosnia and Herzegovina (1999); and d) Mašić I. Roots of medicine and health care in Bosnia and Herzegovina (2004).

cated extremities is still being dealt with (21).

Mineral water springs

Mineral waters were used for therapeutic purposes in the Roman period (Ilidža near Sarajevo). Much later, hot springs near the village of Kruščica, near Travnik, are mentioned. Fojnički Kiseljak is mentioned in 1530 and 1792, salt water in Tuzla in 1557. In the 18th century, foreign travel writers wrote that Bosnia had many excellent sourdoughs, which are scarce in Europe (19-21). It is alleged that the Germans filled bottles of sourdough and Fojnica mineral springs with water in the 1960s and sold them in Austria and Dalmatia. Practical Germans immediately took advantage of the commercial aspects of the healing properties of these waters. The locals, in addition to consuming medicinal waters, or bathing in sulfur springs at their own discretion and on their own, enjoyed socializing by the water and greenery.

Ljekaruše

The Franciscans also organized the import of medicines to Bosnia, so in 1831 an order was issued that each of the three existing monasteries (Fojnica, Kreševo and Kraljeva Sutjeska) should provide 500 groschen a year and deliver them to the Kreševo monastery to equip a pharmacy. Also, the Franciscans were forbidden to treat Muslims and Christians, and people outside the monastery without the kadi's "murasela" (official order). If such a thing was found out, the monastery would pay heavy fines or be closed. This significantly narrowed the activities of the Franciscans for the purpose of healing the population, but it never completely stopped.

Prescription books, known as "ljekaruše", were created by collecting and writing down folk remedies (19-22). They were written mostly by Catholic priests. "Witch doctors" or "healers" have been preserved in Orthodox monasteries. Doctors are interesting books, they contain folk experience, beliefs, superstitions, they are a reflection of the time in which they were created. They are also interesting from a linguistic point of view.

In an old ljekaruša from 1843, authored by Toma A. Bratić, we find 117 prescriptions (22). Most are for the treatment of skin diseases; tuberi, ulcers-furunculi, contagious diseases-pestilientia, by which people mean typhus.

In addition to them, wounds are mentioned, scabs on the body, living wounds—those that do not heal, warts, lichens, mayasil- eczema. There are many recipes for the treatment of eyes, toothache, headache, fever, internal diseases, diarrhea, cough, lupus, frenjak-syphilis. You can also find a cure for women's infertility, impotence, enuresis, cherry-tremor, caries - "whose teeth are harmful, and worms bite them", menstrual cramps, baldness, cosmetics.

The famous ljekaruša Medica, known as "Tri ljekaruše" (18) included the recipes collected by three different authors: Budisavljević, Trbojević and Petričević (22). Budisavljević started collecting medicines around 1811, while serving in Kotor. Although Kotor is on the territory of Montenegro, the recipes are probably a reflection of the way of treatment in neighboring Herzegovina. Diseases are listed in order, and medicines are herbal, animal, and rarely mineral. Apart from herbs, whole living beings, human and animal excrements and the unclean pharmacy of the so-called Dreckapotheke are also recommended as therapeutic agents. According to these collections of recipes, the role in therapy is played by the worm from the rose head, cancer, salamander, snail, frog, pigeon, etc. Human urine is mentioned as a disinfectant for wounds. Medic's mares also use mare's milk, donkey, red goat, black sheep, rabbit, quail, goose, piglet fat, etc. for therapeutic purposes (18).

The most complete and well-organized ljekaruša is considered to be "Domaći ljekar" by Fr. Mijo Nikolić, from Široki Brijeg, published in 1868 (21-22). It contains instructions for the treatment of 141 diseases and 25 women's diseases. Diseases are listed in alphabetical order. In addition to folk names, Latin names are given. And the medicinal plants are arranged in alphabetical order. Along with the popular name, there is also the Latin name of the plant (22).

Attars

During the Ottoman rule, a significant role in the treatment of the population was played by Attars - drug dealers, or people who sold medicines, herbs, spices, etc. In 1580, the Jewish ghetto in Sarajevo was founded, known as Sijavush-pacina दौरا. Among them were medically educated people, who mostly studied medicine in Padua. Although it was previously forbidden for Jews to heal Chris-

tians, this ban was lifted in 1434 by the Venetian doge. More data on attars can be found in the 19th century. In 1876, 33 Attar Muslims joined the Attar guild in Sarajevo. With the arrival of the Ottomans, the health conditions of the common population on the territory of Bosnia and Herzegovina did not change significantly. The number of infectious diseases and epidemics has been reduced by introducing compulsory ablution five times a day before prayers, and by building public fountains. In case of the disease, the population sought help from folk healers and religious officials (21).

Upon their arrival in Bosnia, high-ranking officials brought their doctors with them, but they did not treat the rest of the population. There were many deceivers among the folk doctors, so the damage to health was greater than the benefits. Until the eighteenth century, there was a shortage of trained doctors and health facilities in Bosnia and Herzegovina. The first medical faculty in Istanbul was opened in 1843, which began the education of the Bosnian population in the field of medicine. During this period, the Franciscans played a significant role in establishing the missionary order, with the basic function of spreading Christianity. At the same time, they treated the local population and thus gained its favor. Until the beginning of the 18th century, they did not have a significant medical education. In 1710, Fr. Petar Bustrović graduated medicine in Padua and came to Bosnia, and since then the period of work of qualified doctors has begun. Afterwards, Fr. Mato Nikolić and Fr. Franjo Gracić also graduated in medicine. In 1861, six Franciscans completed a course in pulmonology at the Franciscan Monastery in Široki Brijeg. In the gardens of their monasteries, the Franciscans grew medicinal herbs for their own needs, but also for others who needed them.

An important role was played by the Berbers who dealt with the so-called “Small surgery”, for example bloodletting, sunbathing, etc. (22). In addition, they used to extract teeth, fix broken bones, give blood to patients with leeches, etc. Back in 1463 in Sarajevo there was a barber shop next to the Emperor’s Mosque, and the “Berber Bazaar” was founded in the 17th century. They were organized into guilds and passed the craft on to their sons.

They were also called hapars, because they were also engaged in making ointments and haps. The oldest barber shop in Sarajevo dates to 1463 near the Emperor’s Mosque. Of the other barbers in Sarajevo, the barber Ahmo was famous. The hapars who produced melhemes were known, namely: Mustafa Čadordžija and Mulasalih Brkić, known for the haps he used to treat syphilis. In the Turkish period, the ranchers were also important, who were then called “jerahi”. The first Jerah is mentioned in 1556, and their guild in 1631. They accompanied the army during military campaigns and performed various operations. Famous ranchers were: Ine-beg (1566), Muharrem and Sarajli from Foča (1671), Mehmed-pasha, son of Ibrahim (1789), Ahmed lebelebi (1796), Izet from Kostajnica, Ali from Jezera near Jajce, Avdaga Vilajetović. The barbers and the Jerahs were only Muslims. Hechims made diagnoses, prescribed medicines. Their activity was initially available to members of all denominations, and later exclusively to Muslims and Jews.

From 1878-1879, in addition to them, 22 other Jewish

attars were registered (21). At that time, this was a lucrative business, so in addition to about 140 medicines, other different goods could be found in Attar stores. They sold medicines for real and imagined diseases, aphrodisiacs, teriyaki, electriums, medicines against cancer, stomach diseases, worms, etc. In addition to medicines, they sold all kinds of spices from the Far East, cosmetics, dyes, etc. They imported more goods from the West. Jews, and Attar Muslims, mostly made purchases from the East. Caravans with goods moved from Bosnia through Vlasenica and Zvornik, along the Sava and Drina valleys to Belgrade and further towards Constantinople, from where they returned with goods sold in Attar shops. In addition to drugs, ointments and ointments were prepared and sold for various skin diseases and wounds, for the treatment of fractures and injuries.

In this period, the so-called “Zapisi”/“Records” made by the hodjas for various diseases and ailments. Records were made not only for people, but also for cattle. The uneducated population believed that such records protected them from disease and helped them solve problems. Also, prayers were taught, and fears were instilled. In the Ottoman era, the role of Turkish military doctors of various origins was significant in health care. The pashas and viziers were mostly treated by doctors from Greece, Italy and France, and the nobleman and their families by Franciscan doctors. Among them are the well-known Dr. Pet. do elenz, of Hungarian origin, who worked as a military doctor in the garrison hospital on Gradina from 1860 to 1876, and Turkish doctors Mehmed Said efendi and Muhidin-beg bimbaša (major) who worked in Tuzla after the reforms of Omer-pasha Latas. Doctors from Dubrovnik came to Bosnia even earlier, and this practice continued in the Ottoman period. They mostly came to today’s Tuzla and its surroundings, where salt baths were used to treat plague, leprosy, diphtheria, tuberculosis, malaria, rheumatism, hernia, intestinal catarrh and cholera. The important historical facts about this subject Izet Masic described in his book “The Roots of Medicine and Healthcare Protection in Bosnia and Herzegovina” (22).

“Avicennian medicine” as way of treatment of population in Bosnia and Herzegovina during Ottoman’s period

The medicine have defined the famous Moslem physicians as are (23-37): Ar-Razi (865-925), Ibn-Sina (980-1037), Ibn-Nafis (1210-1288), and that on the following way: that this is the skill which treats the maintenance of good health, by battle with the diseases and the repeated diseases and the repeated establishment of patient health. This was the interpreting in the early thirties years of the ninth century, when in the majority of the medical texts the medical skill separated onto two parts: the theory and the practice. According to the theory of the medicine, the pupil and the beginning civil-service employee have studied the elements, the body might and spirit, either the animal or vital, the organs and their usefulness and the temperament, but, in the practical part have been learned the following branches: the therapeutics (including the use of the simple and combined drugs and medical receipts), setting of bones and less surgical grasps. Also, during the

same third of the 9th century valued the basic principles of the physicians skills, establish in the Arabic medicine, which were modified Greek manuscripts, with the important additions. It was interpreted six common principles of health and diseases as 6 “unnatural”. The Arabic version of these modified principles projects that, if these samples which hit the human constitution, correctly and moderately applied, this will result by balance and gets manifested in good health which someone keeps.

Here are shortly six principles (28):

a) The air of the ambient, for what they required clean air for the Moslem physicians repeatedly explain their conscientiousness of the fact that the polluted air and water are dangerous. Almost 11 hundred years backwards they emphasized the theory which is considered with nowadays main theme in its importance. They were persistent in that and, with right, that the unpolluted air insures the necessary elements for the keeping of the healthy living, while the pollution is the poison for the living organism;

b) The regulation of taking the food and water, that is the moderation in the diet. It means, in Islam there were interpreted in the clearly expressed statements as the diet considered as the addition and nutrition of the body in the goal of the compensating of losses because of the work and the rest activities of the organs and efforts. That concept is still always accepted in the modern science of the nutrition;

c) Work and rest for the moderation in both cases for the maintenance of good health;

d) Keeping awake and sleeping, with the insisting on the moderation of human daily work and the number of hours necessary for sleeping every day. This seems as an interesting consideration for the estimation of sleeping besides the rest in the sense of the modern concepts which concern the necessity of sleeping in its different phases. Really several Moslim physicians as Abd al-Latif al-Baghdadi (1162-1232) determined the sleep in the most rational manner and spoke about its place, when the health is in question and the normal body function;

e) The secreting and the maintenance, including the use of such things as are enema, laxative and the vomiting, by introducing of the drugs and even by drawing blood and the releasing from human body, the so called external secretions from the human body the so called secretions (sweating, and urinating);

f) The physiological diseases of the emotionally reactions (Al-Abdath an-Nafsaniyyah).

The most known physicians of the Islamic civilization emphasized the importance of the interpreting and the application of the “medicine sole” (At-Tibb ar-Ruhani). In this theme have been proclaimed the medical teacher and the clinician Abu Bakr Muhammad b. Zakariyya ar-Razi issued the immense book which carried the same title (translated and published in England 1950 year under the title “The spiritual physics of Rhazes” from A.J. Arberry). Ar-Razi was the first to write his encyclopaedic text “al-Mansuri” about the different aspects of skill of treatment of the diseases and the drugs as well as the keeping of the physical health. Soon was discovered that the real need existed in the similar texts about the diseases that the real need existed in the similar texts about the similar texts about the diseases of

soul and their treatments, and also its second known book about the soul medicine. These and other his books were known also in Latin language and the European physicians have consulted even up to the Renaissance.

As the Islamic medicine got ripened with the papers of Ar-Razi and his contemporaries in the 10 century, of the new medical theory and the concepts have also begun to appear. Here are 7 principles of the health as they are ramified and explained by Ar-Razi and arranged by the following order:

a) The moderation of work and rest, the fact realized through the ancient physician education;

b) The moderation in eating and drinking, the theory which Ar-Razi cordially proclaimed. He, for example, facing with the strong opposition, recommended that to the patient should be given the certain freedom of diet which he wishes and encouraged him giving him the balanced nutritive meals. The traditional concept of Rhazes was to lessen the diet up to the extreme. Ar-Razi required the loosening of such rules and common sense by the physician who should take into consideration the human importance and the importance of the nutrition giving the patient the balanced diet;

c) Elimination and the throwing out of the human external liquid, including the urination, sweating and drawing of the blood in the goal of the treatment;

d) To live and stay in the healthy places for the lodging suggesting the importance of the hygienic encirclement and the sojourn, when an individual spends the most part of his time. Also, some should ensure the clean and the refreshing atmosphere at the place of the rest, the beautiful environment and the household—the things which also are considered nowadays important;

e) Avoidance of the consideration, falling into the crises, and the surviving of the successive bad events, specially before than they become uncontrolled and dreadful;

f) The maintenance of the harmonic endeavours in the sense of the physiological ambitions, the emotional conflicts and their fundamental resulting. Making so, a man can escape the emotional conditions which injure, as is the anger, unjustified fear, worries, guilt and the unpardonable jealousy;

g) Insurance of good, impetus and useful habits which become a part of the healthy and the productive daily living, giving the impetus to the greater achievements instead to become an obstacle.

We need to emphasised the great role and influence of contributions of Arabic medicine (from 9th to 15th century) in developing of western medicine in 19th and 20th century, especially theoretical and practical experiences of Abdullah ibn-Sina (wrote in 1012-1024 in 5 volume book “Al-Qanun fitt-Tibb”, which 6 century was basic literature for studying of medicine in the world), Hunayn ibn-Ishaq (the great pharmacist and encyclopedist), Zekariyya ar-Razy (“Arabic Galen”, wrote great Medical encyclopedia), Abu al-Qasim az-Zahrawi (discover of more than 100 surgical instruments), Alauddin an-Nafis (discover of lung circulation in 1267), Al-Hussain ibn al-Haitham (discover of optical theory), etc. Large description about arabic medicine is visible in the book “Medieval Arabic Medicine” (2010) (28).

5. CONCLUSION

Traditional medicine is important for history of medicine, ethnology, anthropology, and abounds in folklore elements. It is an area that leads to knowing, understanding or feeling the very nucleus of a nation.

-
- **Author's contribution:** I. M. and A. K. gave a substantial contribution to the conception and design of the work and gave a substantial contribution of data. All authors gave final approval of the version to be published and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.
- **Conflicts of interest:** There are no conflicts of interest.
- **Financial support and sponsorship:** Nil.

REFERENCES

1. Klaić B. Veliki riječnik stranih izraza i kratica. Zagreb: Zora; 1974: 1348 .
2. Steiner K. Etnografska studija-Bosanska narodna medicina. Glasnik Zemaljskog muzeja. Sarajevo: Zemaljska štamparija; 1903: 565.
3. Masic I, Skrbo A, Turkovic S. Alternative Methods of Treatment Used in the Cultures of Ancient Civilizations. *Int J Biomed Healthc.* 2021 Sep; 9(3): 194-235. doi: 10.5455/ijbh.2021.9.194-235.
4. Stanojević V. Postanak narodne medicine. Srpska narodna medicina i njena preventiva. Beograd: Poseban otisak iz Glasnika Zavoda za zdravstvenu zaštitu SR Srbije br 6, 7i 8; 1965: 45.
5. Jeremić R. Medicinske prilike. Prilozi istoriji zdravstvenih i medicinskih prilika u Bosni i Hercegovini pod Turskom i Austro-Ugarskom. Beograd: Naučna knjiga; 1951: 39.
6. Dragičević T. Narodno praznovjerje. Glasnik Zemaljskog muzeja. Sarajevo: Zemaljska štamparija; 1908: 311-334, 483-497.
7. Bosnić A. Kronika nepostojećeg svijeta .Zapisi i hamajlije. Sarajevo: ArkaPress; 1997: 31-32.
8. Smailagić N. Leksikon islama. Sarajevo; 1990: 544.
9. Sielski S. Hamajlije. Izdanja Hrvatskog državnog muzeja u Banja Luci. Banja Luka; 1942: 13-15.
10. Bosnić A. Sahr. Zapisi i hamajlije. ArkaPres. Sarajevo. 1997; 281-286.
11. Garčević M. Džini. Zapisi i hamajlije. Izdanja Hrvatskog državnog muzeja u Banja Luci, svezak 1. Sarajevo: Podružnica Hrvatske državne tiskare; 1942: 25-30.
12. Gluck L. O stravi. Prilog narodnom ljekarstvu Bosne i Flercegovine. Glasnik Zemaljskog muzeja. Sarajevo: Zemanljaska štamparija; 1892: 71.
13. Bratić A.T. Narodno liječenje. Separatni otisak iz Glasnika Zemaljskog muzeja u BiH, XX. Sarajevo: Zemaljska štamparija; 1908: 348.
14. Fabijanić R. Narodna kultura Drežnjaka. Glasnik Zemaljskog muzja BiH, sveska 37. Sarajevo; 1982: 37.
15. Stanojević V. History of medicine. Medicinska knjiga: Beograd-Zagreb, 1953.
16. Fabijanić R. Domaći ljekar iz 1868 iz Širokog Brijega. Posebni otisak iz Glasnika zemaljskog muzeja BiH, XXVI. Sarajevo; 1971: 118-131.
17. Matasović I. Fratri bosanski prema muslimanima “za ličit bonika”. Liječnički vijesnik. Skopje; 1939: 411-417.
18. Bosnić A. Sahr. Zapisi i hamajlije. Sarajevo: Arka Press; 1997: 281-286.
19. Medić M. Tri Ijekaruše. Separatni otisak iz Glasnika Zemaljskog muzeja BiH, XVI. Sarajevo: Zemaljska štamparija; 1904: 2-32
20. Džaja S. Bosanski franjevci i zdravstvo u BiH u drugoj polovici 18. i prvoj polovici 19. stoljeća. Zbornik radova sa I Kongreda za istoriju zdravstvene kulture Jugoslavije. Sarajevo; 1971: 298
21. Hadžovic S. i sar. Attars and their contribution to the development of pharmacy in Bosnia and Herzegovina. Avicena. Sarajevo, 1999; 160 pages. ISBN: 978-9958-720-12-4.
22. Mašić I. Roots of medicine and health care in Bosnia and Herzegovina. Avicena. Sarajevo, 2004; 228 pages. ISBN: 978-9958-720-24-8.
23. Đuričić A., Elazar S. An overview of the history of pharmacy in Bosnia and Herzegovina. Centralni higijenski zavod. Sarajevo, 1958.
24. Mašić I, Škrbo A, Žunić L, Mulić I. Pharmacy in Islam. Avicena. Sarajevo, 2010; 116 pages. ISBN: 978-9958-720-36-9.
25. Skrbo A, Mašić I. Influence of Arabian Pharmacy on Diseases Tretament During Ottoman's Period in Bosnia and Herzegovina. *Med Arch.* 2017; 71(3): 219225. doi: 10.5455/medarh.2017.71.219-225.
26. History of Medicine. Available at: <www.medicina.hr>. Accessed on: September 10th, 2021.
27. Mašić I. Treatment with traditional medicine in China - an own experience. *Med Arh.* 1998; 52(3): 175-180.
28. Mašić I. et al. Medieval Arabic medicine. Avicena. Sarajevo. 2010; 296 pages. ISBN: 978-9958-720-40-6.
29. Mašić I. Arabic medicine. Avicena. Sarajevo. 2001; 200 pages. ISBN: 978-9958-720-21-3.
30. Mašić I. Arabic medicine. Avicena. Sarajevo, 1994; 58 pages.
31. Mašić I, Dilic M, Solakovic E, Rustempasic N, Ridjanovic Z. Why historians of medicine called Ibn al-Nafis second Avicenna? *Med Arh.* 2008; 62(4): 244-249.
32. Mašić I. On occasion of 800th anniversary of birth of ibn al-Nafis-discoverer of cardiac and pulmonary circulation. *Med Arh.* 2010; 64(5): 309-313.
33. Mašić I. The classics of Arabic medicine. *Med Arh.* 2010; 64(4);254-256.
34. History of medicine. Available at: www.medicina.hr> Accessed on: September 10th, 2020.
35. Mašić I. History of medicine in Bosnia and Herzegovina. Avicena. Sarajevo, 2011; 234 pages. ISBN: 978-9958-720-45-1.
36. Catic T, Oborovic I, Redzic E, Sukalo A, Skrbo A, Mašić I. Traditional Chinese Medicine—an Overview. *Int J Biomed Healthc.* 2018 Jun; 6(1): 35-40. doi: 10.5455/2018.6.35-40.
37. Skrbo A, Mašić I, Catic T, Sukalo A. The Internet as a Source of Historiographical Documentation About Development of Pharmacy in the World—Cross-Sectional Study. *Inter J Biomed Healthc.* 2021; 9(2): 105-122. doi: 10.5455/2021.9.2.105-122.