

# Medicinal Properties of Cannabis According to Medieval Manuscripts of Azerbaijan

Farid U. Alakbarov

**ABSTRACT.** Azerbaijani people have rich and ancient traditions in the medicinal use of cannabis. The traditional methods of its application are described in the medieval Azerbaijani manuscripts in the field of medicine and pharmacognosy written in Old Azerbaijani, Persian, Arabic and date back to the 9-18th centuries AD. As a result of these studies, it was established that various parts (the roots, resin, leaves and seeds) of *Cannabis sativa* L. were widely used in traditional medicine of medieval Azerbaijan. Recently, a number of forgotten recipes of the medicines containing cannabis have been deciphered. These recipes of the Middle Ages may be applied in modern medicine once they have been experimentally and clinically tested. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: <getinfo@haworthpressinc.com> Website: <<http://www.HaworthPress.com>> © 2001 by The Haworth Press, Inc. All rights reserved.]

**KEYWORDS.** Azerbaijan, cannabis, *Cannabis sativa* L., *Cannabis ruderalis* Janisch., traditional medicine, phytotherapy

## INTRODUCTION

Representatives of the plant genus *Cannabis* are common in the mountains, mid and low country of Azerbaijan, especially near rivers.

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*Medicinal Plants of Azerbaijan* classifies them as various forms of a monotypic genus (Damirov et al. 1988). Other botanists point out that there are two species of cannabis in Azerbaijan: *Cannabis sativa* L. and *Cannabis ruderalis* Janisch. (Rahimov 1961). *Cannabis ruderalis* is considered a wild herb, which occurs in the mountains of the Major Caucasus, Nakhichevan, and is also encountered in wastelands between the Kura and Araks rivers. *Cannabis sativa* is cultivated in these areas for fiber and seeds (Rahimov 1961; Alakbarov 1999).

Over many generations, selective cultivation by humankind led to the evolution of drug and hemp cultivars of this plant. Industrial hemp can be easily distinguished from drug cannabis by appearance, cultivation methods and chemical analysis. It is non-intoxicating, and contains less than one percent tetrahydrocannabinol, while the drug cannabis potentially contains up to 40% or more of this active compound. Currently, industrial cultivation and medicinal application of cannabis are very popular in many countries (Johnston 2000). In Azerbaijan, hemp fiber is used for making tow and oakum fibers, ropes, and sails. Hempseed oil is applied in culinary arts, for technical purposes, in preparation of drying oil, etc. Azerbaijanis consider hempseed-cake a good fodder for domestic animals (Rahimov 1961).

Cannabis has been widely used in Azerbaijan for medical purposes from antiquity. The author of the present study has attempted to collect and analyze the ancient recipes containing cannabis by examination of a number of medieval Azerbaijani manuscripts in the field of medicine and pharmacy that date back to the 9-18th centuries AD. As a result, for the first time, information about cannabis contained in the medieval Azerbaijani sources is available to a wider audience.

## **MATERIALS**

To study the traditional application of cannabis in Azerbaijan, a number of the medieval sources on medicine and pharmacognosy have been analyzed (Alakbarov 1992, 1998). Most attention was paid to the primary sources from the collection of the Institute of Manuscripts of the Azerbaijan Academy of Sciences. This Institute boasts one of the richest collections of medieval writings in the world. There are about 14,000 medieval manuscripts including 390 books in these fields. The information about medical application of cannabis has been collected from the books by Azerbaijani authors of the Middle

Ages. Their works are written in Old Azerbaijani, Persian and Arabic, the literary languages of the medieval Azerbaijan. These sources are as follows:

1. Mu'min, Sayyid Muhammad. *Tuhfat al-Mu'minin* (Gift of Religious Believers). The manuscript of the Institute of Manuscripts (Baku). 1669 AD, Code: M 243/3747.
2. Irawani, Haji Suleyman bin Salman Kajar. *Fawa'id al-Hikmat* (Benefits of Wisdom). The manuscript of the Institute of Manuscripts (Baku). 17th century. Code: B 39/19955.
3. *Tibbnama* (The Book of Medicine). The manuscript of the Institute of Manuscripts (Baku). 1712 AD, Code: C 331/1894.
4. Shirwani, Hasan bin Riza. *Siraj al-Tibb* (Light of Medicine). The manuscript of the Institute of Manuscripts (Baku). 17th century. Code: B 559/2394.
5. Khoyi, Ibn Kabir. *Jam' al-Baghdadi* (Baghdads Collection). The manuscript of the Institute of Manuscripts (Baku). 1311. Code: D 845/9456

These manuscripts have been collected from various regions in the Azerbaijan Republic from private owners, and were copied in our country. These books were widely used by medieval Azeri physicians and may be considered as the most popular medical books of medieval Azerbaijan.

## METHODS

Studying the medieval sources on medicine and pharmacy is fraught with numerous difficulties and requires involvement of various sciences. Medieval sources were handwritten in Arabic script employing scientific terminology and concepts of the era. This hampers correct identification and the deciphering of contemporaneous terms for plants and diseases.

This effort has been accomplished by use of modern and medieval dictionaries (Bedevian 1936; Sharaf 1928; Al-Biruni 1973). However, these dictionaries do not always contain necessary information or offer various interpretations of various terms. Fortunately, the medieval manuscripts on pharmacy contain detailed descriptions of botanicals and herbal medicines. The older and modern scientific literature and

reference books on flora (Abou Charr and Ades 1961; Alami 1975; Al-Rawi and Chakravarti 1964; Budge 1913; Damirov et al. 1988; Hakim Mohammed Said 1975; Jayaweera 1980; Kamal 1967; Palewitch 1986; Zargari 1991; etc.) were utilized to assist the author in various stages of this work.

The information on cannabis and its application is scattered in various sources written in different languages, and required great caution and a critical approach to the material, as well as a thorough comparison with the other data obtained on the basis of morphological, ecological and bio-geographical analyses of the plant species described in the medieval sources.

The linguistic material was analyzed as well. For example, there were different words in the medieval Azerbaijani for drug (*bang*, *banj*, *hashish*) and hemp (*kanaf*) varieties of cannabis. Both types were designated in Old Azerbaijani by *kinnab*, which is derived from the Greek *cannabis*. Hemp seed was called *shahdanah* (royal seed). *Bang* and *banj* are derived from the Sanskrit *bhang*, while such terms as *kanaf* and *kinnab* are of Greek origin. *Shahdanah* came to the medieval Azerbaijani from the Persian language. Physicians of those times used also the Arabic name for hemp seed—*habb al-malik* (royal seed). The word *naisha* (joy), used for the dried leaves of cannabis, is of Arabic origin. It is of an interest that the names for opium (*khash-khash*) and cannabis (*hashish*) have a common root: *hashish* is derived from *khash-khash*. Such medieval names as *ganja*, *lutki*, *mudra* and *charas* came in Azerbaijan from India. All these terms were widely used by medieval Azerbaijani scholars.

### HISTORY OF APPLICATION

The hemp plant has been cultivated in Azerbaijan from prehistoric times. From the 7th-6th centuries BCE, Azerbaijan was the center of the Zoroastrian religion. The *Zend-Avesta*, the holy book of Zoroastrians contains information about a holy beverage named *haoma*. According to these descriptions, *haoma* was a narcotic and hallucinogenic drink similar to soma of the Indian *Atharva Veda*, used in magico-religious ceremonies of the time. Some scientists hypothesize that *haoma* was prepared from a base of *bang* (dried leaves of cannabis) (Huseynov 1958). However, most authorities believe that *haoma* was prepared with another plant (so-called “haum al-majus” which is

deciphered as *Amanita* spp. or *Ephedra* spp.) (Alakbarov 1999). There is some documentation of medical application of *bang* by Zoroastrians (Russo 1998).

In the 8th-5th centuries BCE, Azerbaijan was inhabited by Medians, Caucasian Albanians and Scythian tribes (Huseynov 1958). All used cannabis widely to treat various ailments. For example, Herodotus mentions cannabis hemp as being cultivated by the Scythians, who used its hemp fiber for making their garments, and the seeds to medicate themselves in vapor baths (Dymock 1890).

The flowering tops of the female cannabis plants or the resin exuded spontaneously from the leaves and stems under certain climatic conditions were used medicinally or as narcotic. More recently, the powdered leaf is mixed with tobacco and smoked as a cigarette or in a pipe.

In ancient times, Azerbaijani medicine was influenced by Indian and Greek schools. The ancient Indian medical books *Atharva Veda*, *Susruta Ayurveda* and *Charaka Samkhita* were well known in medieval Azerbaijan. Such Azerbaijani scholars of the Middle Ages as Ibn Kabir Khoyi (manuscript 1311) and Haji Suleyman Irawani (manuscript 17th century) often cited these Indian books (Alakbarov, 1999). According to their writings, cannabis was also used medicinally. Its effects on humans were described as excitant, heating, and astringent. It was said to destroy phlegm, expel flatulence, induce costiveness, sharpen memory, excite appetite, etc. According to Mu'min (manuscript 1669), Susruta recommended the use of *bhang* (the Indian name for *bang*) to people suffering from catarrh (p. 605).

Muhammad Fuzuli, the poet of the 16th century wrote a poem named *Bang-u Bada* ("Hashish and Wine") where he criticized the excessive use of narcotics and alcoholic beverages. The poem is written in the Old Turkic from which the modern Azerbaijani and Turkish languages are derived.

The medieval scientist Muhammad Mu'min (d. 1697) pointed out that there were two species of cannabis in Azerbaijan and Iran: cultivated and wild cannabis (p. 604). Probably, the "wild" species of this herb was *Cannabis ruderalis*, while the cultivated was *Cannabis sativa* or *Cannabis indica*.

As a rule, physicians and pharmacists of medieval Azerbaijan and other regions of Orient cited the Greek scholars. For example, Abu Reihan Biruni (973-1048 AD) wrote (Al-Biruni 1973, vol. 1, p. 346),

“Galen says that the leaves of this plant cure flatus, dissolve the flatulent matter and act as desiccatives so much that if a man eats it persistently, his sperm dries up.”

Therefore, dried flowering or growing fruiting tops of the pistillate plants were traditionally used in Azerbaijan as medicine. Leaves, seeds and resinous exudations of the three varieties of cannabis were also applied for medical purposes.

The resin obtained from the pistillate plants of medicinal strains of cannabis was known in medieval Azerbaijan as *hashish*. More recently, the dried leaves of cannabis are called *naisha* and *anasha*.

*Bang*. This plant drug consists of the dried leaves, which are a deep green color and usually broken, so as to form a coarse powder. The odor is peculiar. The leaves have long petioles and are digitate, with linear-lanceolate, sharply serrated leaflets, tapering to a long smooth point. The information about bang is contained in the book by Irawani (manuscript 17th century, p. 232).

*Ganja*. This is the name given to the flowering tops of the female plant. The flowers form erect clustered spikes that are compressed, flat or round, glutinous, and of a brownish-green color. They have a peculiar narcotic odor (Dymock 1880). This remedy was usually brought to Azerbaijan from Bengal and other regions of India.

*Lutki*. It is a beverage that was prepared by soaking bang in wine (Zargari 1991).

*Mudra*. The kind of lutki that consists of bang, opium and henbane (Zargari 1991).

*Charas*. The concentrated resinous matters extracted from the leaves and flowering tops or agglutinated spikes of *Cannabis sativa* L. It is a greenish-brown, moist, resinous mass, having the peculiar odor of the plant, and consists of resin mixed with trichomes and fragments of the leaf. This remedy was usually brought to Azerbaijan from Sind (modern Pakistan). According to Mu'min (manuscript 1669), charas was widely used in medieval Azerbaijan.

### **RECOMMENDATIONS ON MEDICAL APPLICATION**

In the medieval Azerbaijan all parts of cannabis were used for medicinal purposes. The pharmacists of the Middle Ages pointed out that the roots of cannabis have strong antiseptic and antipyretic properties. As a rule, roots were used in the form of a decoction. Some-

times, prescription specified the grinding of roots to apply as a bandage.

In the folk medicine of modern Azerbaijan leaves of cannabis are used to treat quinsy, urinary diseases and prostatitis.

According to medieval Oriental medicine the properties of cannabis leaves are described as cold and dry in the third degree, that is, stimulant and sedative, imparting at first a gentle reviving heat, and then a refrigerant effect. The drug at first exhilarates, improves the complexion, excites the imagination, increases the appetite, and acts as an aphrodisiac. Afterwards its sedative effects are observed. It may lead to indigestion, wasting of the body, melancholy, impotence and dropsy. Modern studies reveal that cannabis leaves contain mucilaginous matter with antiseptic and emollient properties (Damirov et al. 1988). According to medieval Azerbaijani sources the dosage of leaf decoction for internal use was about 3 to 6 g.

Hempseed was called *shahdanah* in mediaeval Azerbaijan, or “royal seeds.” The seeds are used as bird food in modern times, and when cleaned, are free of THC. The seeds contain a fixed oil used as varnish. According to medieval Azerbaijani medicine, hempseed remedies flatulence, stops nausea and diarrhea, and is diuretic.

Along with hempseed itself, the hempseed oil was also widely used in traditional phytotherapy. According to Haji Suleyman Irawani (manuscript 17th century), it was prepared by pressing fresh seeds of *Cannabis sativa* L. (p. 232). Muhammad Riza Shirwani (manuscript 17th century) wrote that the hempseed oil was applied to treat neuralgia, tumors of uterus, pain in the ears, and external tumors (p. 122). Oil was used in the form of ear-drops and special unguents for healing of internal and external tumors. It was felt that hempseed oil, if applied internally decreased sexual desire in men. According to Ethan Russo (personal communication 2000) this is not documented for fresh, cold-pressed oil, devoid of THC. In medieval times, it is possible that a psychoactive oil was pressed from seeds that were not cleaned thoroughly, resulting in possible impotence, as has been described for drug cannabis when used in very high amounts over long periods of time. Another possibility is that hemp seed oil oxidizes rather quickly to form peroxides and epoxides at room temperature. Consumption of these toxins over time may also result in impotence and other complications.

Some recommendations of medieval authors are given in Table 1:

TABLE 1. Medicinal application of *Cannabis* according to the medieval manuscripts of Azerbaijan

<b>Diseases<sup>1</sup></b>	<b>Vegetative parts applied</b>	<b>Prescriptions</b>	<b>Medieval manuscripts</b>
<b>Abscesses</b>	roots	apply bandage with decoction <sup>2</sup>	Mu'min, <sup>3</sup> p. 605
<b>Anuria</b>	seeds	drink the seed's decoction	Mu'min, p. 605 Irawani, p. 232
<b>Appetite</b>	fresh juice of leaves	drink after eating	Mu'min, 604
<b>Burns</b>	oil of seeds	apply on damaged skin	Tibbname, p. 67 Shirwani, p. 122
<b>Cold</b>	fresh juice of leaves	drop into nose	Mu'min, p. 605
<b>Constipation of bile</b>	dried leaves	chew	Mu'min, p. 605
<b>Dandruff</b>	fresh leaves	apply the paste of fresh leaves on the head	Mumin, p. 605
<b>Diarrhea</b>	dried leaves	powder, mix with sugar, fry well in ghee, add some black pepper and administer in chronic diarrhea	Tibbname, p. 77
<b>Dysentery</b>	dried tender leaves	1. mix with poppy seeds and take. 2. mix about 1.5 gr. leaves with a little sugar and black pepper powder and eat	Tibbname, p. 85
<b>Flatulence</b>	seeds	drink the seed decoction	Mu'min, p. 605
<b>Hemorrhoids</b>	stem and leaves	apply poultice of the plant	Tibbname, p. 173
<b>Hysteria</b>	leaves	mix with asafoetida and take	Tibbname, p. 52

Diseases <sup>1</sup>	Vegetative parts applied	Prescriptions	Medieval manuscripts
<b>Inflammation of mucous membranes</b>	seeds	apply embrocation (liniment) of the seed	Khoyi, p. 446
<b>Irritation of the skin</b>	stem and leaves	apply poultice of the plant	Tibbnama, p. 54 Irawani, p. 232
<b>Neuralgias</b>	oil of seeds	apply on the diseased part	Mu'min, 605
<b>Nervousness</b>	leaves	chew or drink decoction of the plant	Tibbnama, p. 74
<b>Quinsy</b>	leaves	gargle with decoction several times a day	Tibbnama, p. 57
<b>Pain in ears (1)</b>	fresh juice of leaves	drop into ears	Mu'min, p. 605
<b>Pain in ears (2)</b>	oil of seeds	drop into ears	Mu'min, p. 605 Khoyi, 446
<b>Photophobia</b>	fresh leaves	apply a poultice of the fresh bruised leaves	Tibbnama, p. 117
<b>Rheumatism</b>	oil of seeds	rub joints	Tibbnama, p. 47
<b>Toothache</b>	roots	rinse the mouth with decoction	Tibbnama, p. 53
<b>Tumors in uterus</b>	oil of seeds	apply on the surface of the tumor	Mu'min, 605
<b>Ulcers</b>	roots	bandage with decoction	Mu'min, p. 605
<b>Vermin</b>	fresh leaves	apply the paste of fresh leaves to the head	Mu'min, p. 605
<b>Vomiting</b>	seeds	drink the seed decoction	Mu'min, p. 605 Shirwani, p. 79
<b>Wounds</b>	powder of leaves	apply the powder to fresh wounds	Tibbnama, p. 45

<sup>1</sup> The names of diseases are taken from the medieval sources and may not coincide with the modern medical terminology.

<sup>2</sup> Medieval manuscripts did not show the exact proportions of compounds in these medicines.

<sup>3</sup> Detailed information about the manuscripts is given in *Materials* and *Methods*.

### ***Information on Side-Effects of Cannabis***

Medieval authors point out that excessive use of cannabis resin and leaves produced mental exaltation, intoxication, a sense of double consciousness, and finally loss of memory, gloominess, etc. Muhammad Mu'min (manuscript 1669) wrote (p. 605): "Excessive use of hemp leaves is injurious to organs of sense, liver, stomach, deteriorates color of the face, leads to dropsy, mental disorders, dries the brain, decreases sexual desire and dries the sperm."

A number of scholars pointed out that excessive use of hemp seeds may be injurious to human health. Abu Reihan Biruni (973-1048) who was very popular in medieval Azerbaijan and Central Asia cited the work of Dioscorides (Al-Biruni 1973) (vol. 1, p. 346), "The seeds, if eaten in excess, dry up the sperm. It is better to pour the infusion obtained by soaking the moist seeds in into the ears." According to Mu'min (manuscript 1669), overuse of hempseed led to decreasing sexual ability and ulcers in the bowels. To mitigate these side effects, it was suggested that hempseed be combined with poppy seeds and *iskanjabin* (a boiled mixture of honey and vinegar) (p. 604).

### ***Modern Data on Folk Uses of Cannabis in Azerbaijan***

All facts cited were collected by the author on the basis of personal communication with the folk healers from rural areas of Azerbaijan Republic. During the last 70 years, the folk medicine in Azerbaijan had been prohibited by legislation. Therefore, many old practices have already been forgotten. Recently, the laws against folk medicine are not as stringent as 10 years ago, and a folk healer who has a special license of the Ministry of Health may freely engage in the practice of medicine.

In rural areas of Azerbaijan, a hot decoction of cannabis fruits with milk is applied to treat dry cough, chronic bronchitis, laryngitis, whooping-cough in adults, or bronchial asthma. One infuses a tablespoon of seeds in a glass of water (approximately 250 g).

Cannabis leaves infused in *arag* (a strong alcoholic beverage similar to Russian vodka) are used against diseases of the stomach and intestine (2 tablespoons of leaves per 1 glass of *arag*). People use an infusion of hemp seed soaked in wine to treat stomach colic (1-2 teaspoons of seeds per 1 glass of wine).

Roasted seeds are considered a good remedy against helminthosis.

A decoction of seeds and flowers is recommended for treatment of the mild and moderate types of diabetes (1-2 tablespoons per 1 glass of water). Decoctions of flowering tops of female plants, as well as decoctions of seeds are used to prepare compresses for rheumatism. To reduce rheumatic pains, it is recommended to massage a patient with the hemp seed oil.

Leaves threshed in water are used in preparation of compresses against tumors, furuncles and as an anti-inflammatory remedy. It is believed that threshed leaves applied externally are good against snakebites and bites of rabid dogs.

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