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MEDICINAL PROPERTIES OF MOMORDICA CHARANTIA L.

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ABSTRACT:

Momordica charantia L. (Cucurbitaceae), commonly known as bitter gourd or bitter melon, is widely cultivated in many tropical and subtropical regions of the world, and its unripe fruits are consumed as a vegetable. The plant contains triterpenoids, saponins, polypeptides, flavonoids, alkaloids, and sterols.

INTRODUCTION. There are 10-12 thousand species of medicinal plants on Earth. More than 1000 have been studied for their pharmacological and medicinal properties1. There are more than 750 species of medicinal plants. 112 types of medicinal plants are used in pharmacy. The active ingredients of medicinal plants are alkaloids, various glycosides, saponins, etc., flavonoids, coumarins, tannins and other mucilages. They may contain vitamins, essential oils, resins and other compounds.

Two types of characterization of medicinal plants are accepted:

1) According to the composition of active substances.

2) According to their pharmacological properties.

Medicinal and spice plants are cultivated in large areas worldwide. In this regard, “China (460 thousand ha) and India (300 thousand ha), Hungary (34–40 thousand ha annually), Poland (30 thousand ha), France (25 thousand ha), Spain (19 thousand ha), Germany (5.7

thousand ha), Austria (4.3 thousand ha) occupy the leading positions." The medicinal plant species belonging to the *Asteraceae* and *Lamiaceae* families grown in these areas provide high-quality raw materials for the pharmaceutical industry. This is important in the preparation of medicines based on natural organic products rather than chemical preparations.

It serves to a certain extent to implement the tasks set out in the Resolution of the President of the Republic of Uzbekistan No. PQ 4901 dated November 26, 2020 "On measures to expand the scope of scientific research on the cultivation and processing of medicinal plants, the establishment of their seed production" and other regulatory legal acts in this area [1].

Ministry of Agriculture of the Republic of Uzbekistan, Handbook for specialists in the cultivation and processing of medicinal and aromatic plants. Tashkent - 2020.

It serves to a certain extent to implement the tasks set forth in the Resolution of the President of the Republic of Uzbekistan No. PQ-251 dated May 20, 2022 "On measures to organize the cultural cultivation and processing of medicinal plants and their widespread use in treatment" and other regulatory legal acts in this area [2].

B.Sh.Samadov, F.S.Jalilov, D.H. Yuldasheva, F.S.Jalilova, M.M.Boltayev, Sh.Sh.Meliboyeva conducted research on the chemical composition of the medicinal plant *Momordica charantia* L, which is used in folk medicine [3].

Momordica charantia L. (bitter melon) is a plant belonging to the *cucurbitaceae* family and is widely distributed in tropical and subtropical regions worldwide, mainly in Asia, India, China and Brazil. It is traditionally used as a medicinal plant and the fruits of some *Momordica charantia* L. varieties are used as food.

Chemical composition. The medicinal plant *Momordica charantia* L. contains triterpenoids, saponins, polypeptides, flavonoids, alkaloids and sterols. The seeds are inedible, they contain mainly conjugated triene cis-9, trans-11, trans-13 isomers of linolenic acid, known as α-elstearic acid (α-ESA). It is known that α-ESA has anticancer and anti-fat properties. According to the literature, several biologically active compounds of the fruit of *Momordica charantia* L. have been reported: they are divided into carbohydrates, proteins, lipids, etc. [4,9]. *Momordica* fruits are very bitter, therefore they are used more for medicinal purposes than for culinary purposes. The core of the *Momordica* fruit is eaten when it is unripe, having a cucumber-like taste. When the fruit begins to ripen, the seed is orange, soft, but bitter. When the fruit is fully ripe, its seeds have a sweet taste and can be eaten raw.

Figure 1 ***Momordica charantia*** **L.**

Momordica charantia L. is one of the biologically active compounds found in all parts of the plant, especially its fruits. *Momordica charantia* L. improves blood sugar levels by increasing glucose uptake and glycogen synthesis in the liver, muscle, and fat cells.

It also enhances insulin release from pancreatic beta cells and restores or stimulates new growth of insulin-producing beta cells. An alcoholic extract of charantin has been found to be a more effective antidiabetic agent than tolbutamide, which is sometimes used to treat diabetes [5]. Charantin has been reported to be an anti-HIV protein [6,8]. According to the results of the study, the composition of the cultivated medicinal plant *Momordica charantia* L. has bactericidal, antihypertensive, antibacterial, antiviral, antitumor, immunomodulatory, antioxidant, antidiabetic, rich in vitamins, and a number of beneficial properties [7].

In conclusion, it can be said that the biologically active substances contained in the medicinal plant *Momordica charantia* L. are very important for the human body, especially in modern times, preparations obtained from this medicinal plant can be recommended as a medicine for people suffering from diabetes.

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