

Properties of cucurbita pepo l. In islamic persian medicine and modern scientific researches

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Abstract

Background and objectives: Cucurbita Pepo L. is a one-year creeper plant with wide heart shaped leaves covered by tiny trichome with many benefits in its fruit, seed, leaf and root. Currently some studies has been directed to show its preventive and curetive properties for some diseases as an alternative or supplement for other methods. The purpose of present study was to investigate the mentioned properties of Cucurbita Pepo L in Islamic medicine and traditional medicine and to find modern studies on these properties.

Methods: The resources used by the researchers in this study have been Tradition references including books and articles

Results: Books and articles demonstrated its effectiveness on prevention and treatment of different diseases such as diabetes, anemia, skin diseases, brain diseases and parasitic diseases but there is not an absolute and reliable idea due to dispersal of studies and absence of adequate well controlled randomized clinical trial

Conclusion: it seems that further well-designed clinical trials is necessary to discover and confirm the advantages of this miraculous plant.

Key words: Traditional Medicine; Herbal Medicine; Cucurbita Pepo L; Nutritional Sciences.

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Introduction

Cucurbit is a one year creeper plant with yellow flower and wide heart shaped leaves covered by tiny trichome .The male and female flowers are on the same stem .It has a long thin root with a sweet taste that drinking it,s extract is intoxicant. There are different types of Cucurbit that are categorized in three main categories including pumpkin , winter squash, Courgette. All types have a same scientific name (Cucurbit) but their shapes and properties are partially different(1).

According to Islamic medicine, nutrition including food and even its methods and codes has a substantial role in health.

There are many nutritional recommendations in many hadiths of Islam holy prophet and imams to treat diseases. Some plants have nutritional and medical role like Cucurbit that has been mentioned in holy Quran (2) and narrations of holy prophet(3) as a preventive and curative factor of some diseases. Some great scientists of Persian traditional medicine alluded to its advantages and current researches have been directed on it(4-9). Present study aimed at surveying the mentioned benefits of cucurbit mentioned in Islamic medicine, Iranian traditional medicine and finding modern scientific studies confirming the benefits of this plant.

Methods:

The resources used by the researchers in this study have been Tradition references including books and articles. The research method adopted here is a kind of descriptive content analysis methods which are used in the humanities. We analyzed article and books. From a comparative viewpoint. In such a research method, the researcher makes attempt to analyze and describe the contents. In content analysis, the desired themes and components are gathered, classified and then analyzed. These components may encompass words, sentences, paragraphs and complete texts whether in written and/or verbal forms

Results:

Cucurbits' properties mentioned in islamic medicine:

In 146 the verse of Asaffat surah of holy Qoran about prophet Yunes, God says: we planted a cucurbita bush on his body to rest under it, s wet and wide leaves (3). Also, holy prophet repeatedly mentioned its benefits and recommended his disciples to eat it. Eat cucurbita because it strengthens your wisdom and enlarges your brain. Once upon a time holy prophet bade Imam Ali "eat Cucurbita because everybody has it, will have a good mood and fresh face. It is my food and food of previous prophets". Holy prophet bade "eat Cucurbita because God would plant some other lighter plant on prophet Yunos if God found". Also Holy prophet commanded "use a lot of Cucurbita when you are cooking because it could delight your heart"(4).

Cucurbits' properties mentioned in traditional medicine of Iran

Mohammad-ebne- Zakaria Razi wrote in his book named Al-havi" if some crushed cucurbita as a poultice is laid on the fontanel of children affected by brain edema, curative effects will be achieved. Above mentioned poultice is curative for eye edema and organs affected by gout.

Cucurbita is digested easily. Cooked cucurbita added to sour juice of unripe grapes, pomegranate juice, vinegar, almond oil and olive oil can be a good food for patients with bile. Mixture of bread-paste and cucurbita can suppress thirst and is good for severe fever and cough (6).

Avecina in his book on medicine named Qanoon said" hair- washing with extract of cucurbita leaves help them grow"(page: 116). Avecina developed a tablet including cucumber and Cucurbita that is useful for inflammatory fever, liver edema, fever related to phlegm, bile and blood as well as curing the body's extra humilities(page: 394) also, he believed that cucurbita oil had miraculous benefits and could treat itching resulting from burning in any part of body. If skin itched, rub the oil on skin but if warmth is in kidney and bladder eat the oil and rub it on the location. If head itched, rub the oil on skin of head also inhale it and then sneeze (7).

Cucurbita' s properties mentioned in modern medical science

Mahyar Azar et al in a book on natural and medical properties of fruits and vegetables categorize the cucurbits into three main categories: pumpkin, winter squash and corvette. They are similar in properties but have few differences. Table 1 shows the nutritional value of Cucurbita.

Table 1: nutritional value of 100gr of Cucurbita

Material and Contents	Per 100g
Energy	26Kcal
Fat Tom	0/1 g
Proteins	1 g
Carbohydrates	6/49 g
Sugar	1/36 g
Fiber	0/5 g
Sodium	1 mg
Potassium	340 mg
Calcium	21 mg
Phosphorus	44 mg
Iron	0/8 mg
Copper	0/127 mg
Magnesium	12 mg
Manganese	0/125 mg
Carotene	3615 µg
Vitamin B6	0/06 mg
Vitamin C	21 mg
Vitamin A	7384 units
Vitamin E	1/05 mg

All parts of winter squash including fruit, seed, flower, root and leaf are medically useable and advantageous.

Main effective materials of winter squash are carotenoides (such as Zeaxanthin, Beta-cryptoxanthin, Lutein), unsaturated fat acid, ligands, vitamin E (toferol), phytosterols. Winter squash is full of vitamin A, C, potassium, fiber, folate. It is a good resource for omega6, vitamin B1 (thiamine), copper, triptophane, Vit B6, Vit B3 (niacine), Vit B5 (acid pantothenique). Seed of Cucurbit can pass off worms of intestine if it is eaten with shell.

Cucurbita is stimulant, tonic, nutritious and diuretic. It helps to prevent cancer of prostate, lung and colon as well as control their symptoms. Cucurbit improves the inflammatory diseases of joints and digestive system. It is effective to prevent pulmonary emphysema in cigarette-smokers due to having large amount of vitamin A. Cucurbit has omega6 and potassium so it helps cure hypertension and other cardiovascular diseases (1).

Forouzan-nia et al. wrote about advantages of winter squash on heart diseases in their book on medicinal plants for heart: Cucurbita seed includes near 1% different sterols.

This plant has several types of amino acids that amino acid cocorbitin, special amino acid of cucurbita, with its different derivatives is one of the most important of them.

Cucurbita seed has lots of vitamin E. 30-35% of its weight is fat acids, 25-30% is protein and remaining 30% is pectin and minerals specially selenium, zinc, copper, manganese.

Oil of Cucurbita seed has a potent antioxidant effect so can intensify curative effects of captoperyl to postpone hypertension progression (7).

Dr Nasser Rajab Zadeh says in his book entitled healthy nutrition (Foods' miracle from medical view) Cucurbita is one of the food that prevent brain stroke as eating half cup of Cucurbita per day can supply 400 mg potassium needed for body specially brain (8).

Discussion:

Some papers are about effects of cucurbita on diabetic patients such as Kazemi et al. articles stating the preventive effects of pumpkin on serum lipid levels in alloxan-induced diabetic mice and suggests that a significant increase in glucose cholesterol, triglycerides, low-density lipoprotein (LDL) and CRP (CRP) in diabetic rats compared to other groups and treated with pumpkin powder in diabetic rats caused a

significant decrease in the levels of biochemical parameters in diabetic and control groups ($p>0.05$). This study shows that the pumpkin may be effective in preventing diabetes-related complications. This effect is probably due to its phytochemical compounds (9). Also Asgari and colleagues in a study entitled: The protective effect of pumpkin (*Cucurbita pepo* L) On hepatic injury in alloxan-induced diabetic rats concluded that in diabetic rats compared to other groups, liver enzyme (ALT AST ALP) has increased significantly in rats treated with pumpkin powder that caused a significant decrease in the levels of these enzymes compared with diabetic control group (10). In another study by Kazemi et al. pumpkin's preventive effect on diabetic indices and histopathology of the pancreas in rats with alloxan-induced diabetes were studied and the results showed that treatment with mice Diabetes pumpkin powder significantly decreased serum glucose and insulin levels were significantly increased compared to diabetic group. Significant difference was found between the high and low doses of pumpkin powder. Histological examination of specimens of pancreatic tissue confirmed that pumpkin powder significantly increased the mean diameter of the islets are. Based on these results, it is proved that the consumption of pumpkin powder has favorable effects in the prevention of hyperglycemia and diabetes is the pancreas tissue (11).

Some papers addresses cucurbit as a rich resource of iron, phytoestrol, omega3, omega6. For example Naghiei and Mofid in a study added cucurbits' seed to cereals for breakfast. Statistical analyses showed significantly increase of serum iron and transferrin as well as significantly decrease of TIBC after using cucurbits' seed. They concluded that cucurbits' seed is rich of iron and can improve iron situation and prevents iron deficiency anemia. Adding a food source rich in iron such as pumpkin seed kernels improves body's iron status (12).

Other articles examine the biochemical aspects of squash and pumpkin seed oil supplements, especially those who paid such

as: Paper of Ahmadi and colleagues that examined the biochemical structure of squash and pumpkin and the oil sterols has been extracted. These sterols are effective for the treatment of benign prostatic hypertrophy (13).

Jafaryan et al studied the effect of various extracts of winter squash (methanolic, chloroform, ethyl acetate) on production of ... antibody in rats. They observed that all various extracts of winter squash fruit significantly improved edema of rat's legs and probably are regulator for immune system (14).

Radocaj et al, based on a their study, declared that peeled seeds of winter squash can be used as a rich source of omega 3 and omega 6 fat acids in developing a nutrition on base of plant oil (15) and also Veronezi conducted a study in saopaulo university and showed that oil of seed contained a great deal of macronutrients that were substantial in organizing the human body for example there is remarkable amount of carotenoid in *Cucurbita* seed (16).

Feitosa et al showed that the administration of pumpkin seed was effective in controlling gastrointestinal helminthes in naturally infected ostriches (17).

Conclusion

The above mentioned issues indicate that researchers studied about various properties of different parts of cucurbita plant including seed, fruit and root, also, all of them demonstrated its effectiveness on prevention and treatment of different diseases such as diabetes, anemia, skin diseases, brain diseases and parasitic diseases but there is not an absolute and reliable idea due to dispersal of studies and absence of adequate well controlled randomized clinical trial. So it seems that further well designed clinical trials is necessary to discover and confirm the advantages of this miraculous plant.

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