

Pharmacological and Nutritional properties of Garden Cress Seeds (Halim Seeds) in the Traditional way

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ABSTRACT

In this study, we must investigate the properties of garden cress seeds in the pharmacological as well as nutritional fields. As per the literature, a survey shows that this plant belongs to the Brassicaceae family, also associated with a botanical member of a mustard plant. A huge number of phytochemical substances occurred in garden cress seeds, which are used for nutraceutical and Pharmacological purposes. It has been used in the treatment of many health problems such as hypertension, and kidney disease, and in the prevention of cancer. Garden cress seeds are widely used to heal fractured and increase milk secretion during lactation. Nutraceuticals show physiological benefits and protect against chronic disease caused due to dietary in the present work, we have formulated nutraceuticals rich in zinc, iron, minerals, vitamins, Calcium, and proteins. Due to these Multiple benefits, it is treated as a functional food.

Keywords: Graden cress seeds, Nutraceutical

INTRODUCTION

Aliv seeds are a well-known herbal plant from the Vedic era. It has several health benefits and thus it is considered a medicinal plant from ancient times.

The plant seeds are well known for their nutritional and medicinal value. The therapeutic features of plants have attracted worldwide interest about medicinal plants which resulted in novel sources of drugs for wide modern applications [1].

The seeds contain many phytochemical substances responsible for their medicinal properties. The seeds contain lepidine which acts as a diuretic. Imidazole compounds present in seeds are antihypertensive. Glucosinolates, flavonoid compounds and semilepidinoside (a and b) act as anticarcinogenic, antioxidants and antiasthmatic, respectively [3]. Grass cress seeds are one of the important medicinal plants which have considerable quantities of fat, minerals, protein, fibers, and phytochemicals playing an important role in many functional beverages and foods. *Lepidium sativum* (garden cress) seeds are largely used in Arabic countries for many purposes. Fortification of various food items is one of its different utilizations, due to its different nutritional and medicinal properties. Anti-diarrheal [4], antimicrobial, hypoglycemic, hypotensive, bronchodilator and cardiotoxic [5] properties may be due to bioactive compounds in the studying plants like flavonoids. Flavones, flavanones, is flavones, flavanols, chalcones and anthocyanins are mainly sub-classes in flavonoids compounds, all these compounds are combined to sugars in forms of C-glycosides and O-glycosides [6]. *Lepidium sativum* (Garden cress) is an annual herb that is rich in phytochemicals. Total phenolic compounds, one of the phytochemicals, tends to be a natural antioxidant that is responsible for the antioxidant activity of the Garden cress.

It improves memory. Since it is rich in antioxidants and nutrients, it is good for our skin and hair. These seeds contain phytoestrogen which helps to regularize irregular periods. It helps to treat menopausal symptoms.

Significance of Garden cress seeds:

There is scientific evidence that these seeds are effective to treat and prevent breast cancer. As they are rich in dietary fiber, garden cress seeds are a good home remedy for constipation

Garden cress seeds or Aliv seed or Halim seed is high energy (454Kcal / 100g), high protein (25.3g /100g), high fat (24.5g /100g), high fiber (7.6g /100g), low carbohydrate(33g /100g) food

It is the richest source of iron (100mg /100g) and a very good source of calcium (377mg /100g), magnesium (430mg /100g), and phosphorus (723mg /100g).

It is an excellent source of niacin (14.3mg /100g). It also provides thiamine, riboflavin, and carotene. These seeds are a very good source of phenolic antioxidants.

Aliv seeds have a high free radical scavenging capacity and thus reduce oxidative stress. For this reason, garden cress seeds help to prevent and treat many diseases like diabetes mellitus, hypercholesterolemia, dyslipidemia, cancer, etc., and help to maintain good liver and kidney health [7-10]

MATERIAL AND METHODS

Sample preparation :Lepidium sativum seeds (Fig.1) were obtained from the local Market. Seeds were dried with an oven at (40 oC) and ground in a mixer to be powder.Cooking and textural quality of laddu:

- a. To make halim laddos, soak the seeds in 250 ml of water in a deep bowl for 3hrs. Do not drain the water.
- b. Heat the ghee (one tablespoon) in a deep non-stick pan, add the soaked garden cress seeds, half cup of rava, jaggery, mix well and cook on a medium flame. Flame for 6-7 minutes or till the jaggery melts. While string continuously.
- c. Add the dry fruits and mix well particularly almonds.
- d. Transfer the mixture onto a plate and keep aside to cool slightly.
- e. Divide the mixture into 16 equal portions and shape each portion into round ball.
- f. Serve the halim ladoos or store in an air-tight container.



Table 1. Chemical composition, WAC, OAC, and Dietary fiber of garden cress seeds: Constituents (%)

| | |
|---------------|--------|
| Moisture (%) | 7.161 |
| Crude Fat (%) | 24.188 |

| | |
|--------------------------------------|-------------------------|
| Ash (%) | 2.985 |
| Crude Protein (%) | 22.402 |
| Crude fiber (%) | 14.282 |
| Carbohydrates (%)* | 36.143 |
| WAC (g H ₂ O/g) ** 11.207 | OAC (g oil/g) *** 0.726 |
| Dietary fiber Insoluble (%) 35.494 | Soluble (%) 6.966 |
| Total (%) 40.375 * | |

Carbohydrates were calculated by difference, ** Water Absorption Capacity, *** Oil

Table 2. Mineral content (mg/100g) of a whole meal of garden cress seeds:

| Minerals | mg/100g |
|-----------------|----------|
| Potassium (K) | 1215.476 |
| Phosphorous (P) | 780.494 |
| Calcium (Ca) | 398.549 |
| Iron (Fe) | 5.091 |

CONCLUSION

In this study, the utilization of Garden Cress seeds (*Lepidium sativum* L.) as natural sources of protein and dietary fiber in laddu (sweet dish) was investigated.

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