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Garden Cress (*Lepidium Sativum*) Seeds – An Important Seeds of Medicinal Purpose: A Review

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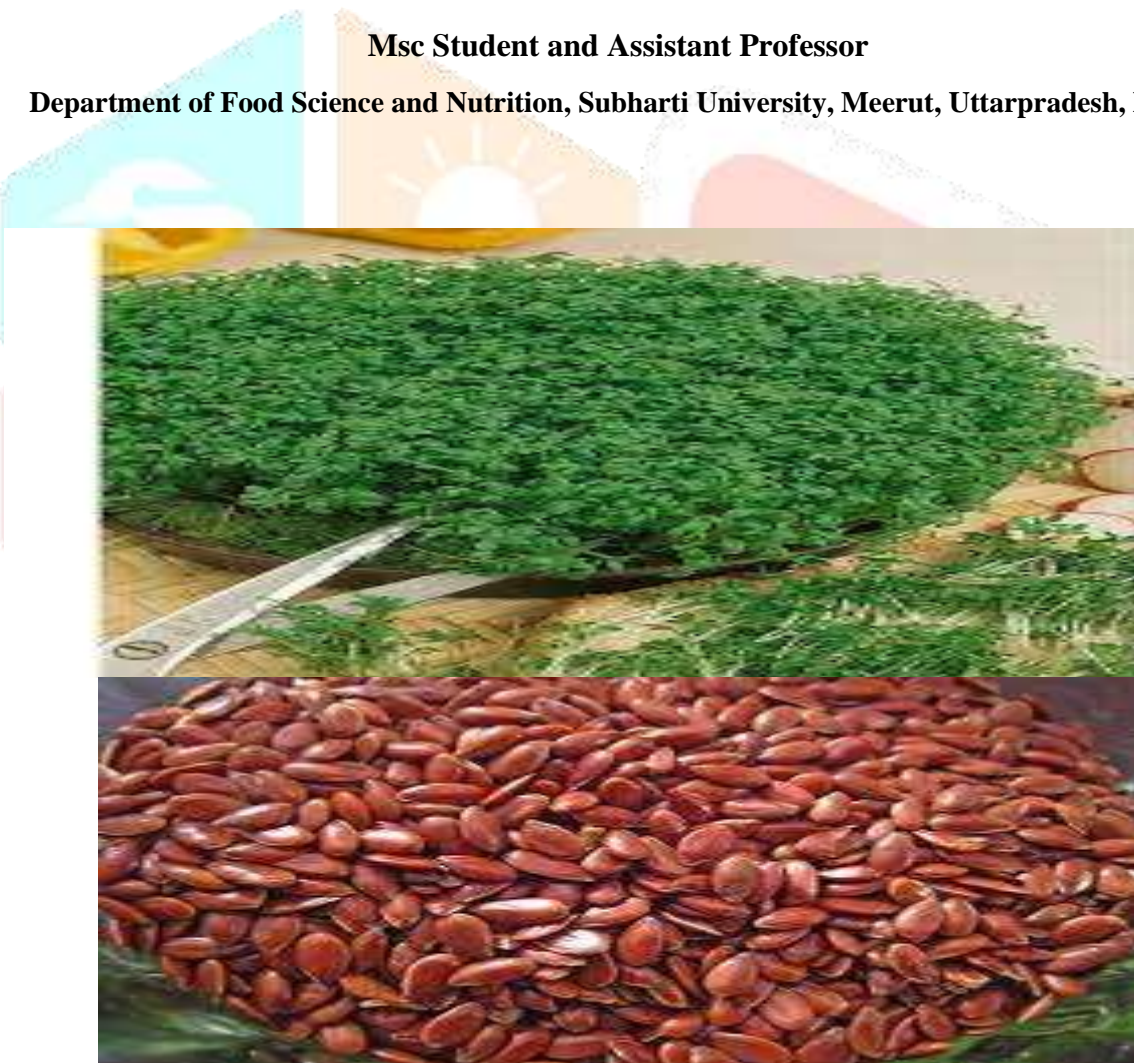


Figure 1:- Plants and Seeds of garden cress seeds (*Lepidium Stavium* Linn)

Abstract

The garden cress seeds whose scientifically known as *Lepidium sativum* which is a fast growing annual herb, herbaceous edible plant, that is native to the Egypt and West Asia, as now it is cultivated all over the world. The seeds of Garden cress seeds are rich in iron, folate, vitamin-A, vitamin-C, vitamin-E, and vitamins like carotene riboflavin, thiamine, niacin, proteins, dietary fiber, omega-3 fatty acids, and also other essential nutrients and phytochemicals. Garden cress seeds are mainly used in medicine for the treatment of disorders such as asthma, coughs, diarrhea, dysentery, leprosy, lumbago and leucorrhoea, poultices for sprains, skin disease, scurvy and seminal weakness. The present review deals with the common problem of malnourished, due to lack of availability of food or if available is not nutritious.

Keywords:- lepidim sativum, photochemical, leprosy, lumbago, leucorrhoea, medicinal properties.

Introduction

Garden cress seeds (*Lepidium sativum* L.) comes under the family Brassicaceae family. It is an annual herb grows once in a year, medicinal plant, which is equivalently distributed in India, United States and Europe and widely cultivated in hot temperature climates throughout the world for various culinary and medicinal uses. Garden cress seeds commonly referred to the “Aliv” in Marathi, “Halim” and “chandrasur” in Hindi and “Asali” in Malayalam (Singh and Paswan, 2017).

It has been uses since Vedic era as an important medical plant. The Garden cress seeds are small, pointed, oval- shaped, triangular at one end, smooth, about 3-4mm long, and 1-2 mm broad, reddish brown in color. It is herbaceous grow up to the height of almost 15-45cm, erect in nature. And the flowers are of white in color having long racemes with broad and obovate pods. They are elliptic, emarginated, notched at apex on tip, rotund and winged. Garden cress seeds are harvested and sown several times throughout the year but mainly sown and harvested in the months of January, February and November during winter season due to a Mediterranean climate. During soaking in water seed coat swells up and coats gets covered with transparent colorless, mucilage wit mucilaginous taste. Its oil, seeds and there powder contain proper amount of fat , minerals, protein, photochemical and fibers which are used in many functional beverages and foods the garden cress seeds is having many pharmacological properties like antioxidant, ant anemic, galactogogues etc. Having capacity to develop a fortification by functional food. It can be consumed in raw material or with salad also (Shail et al, 2016).

To improve the human diet so that it can be used as a medicinal plant for medical purpose to improve health benefits and to take precautions regarding increase in the number of diseases diversity. From the point of view for human health the isothiocynates are the important biochemical agents as major inducers of carcinogen – detoxifying enzymes. The garden cress seeds are bitter in taste, and having a sharp peppery flavor, galactogogue, depurative, thermogenic, depurative, aphrodiastic, rubefacient,, ophthalmic, anticorbeutic, antihistamine , diuretic and act as tonic . It can be consumed in dried form or in fresh form also (Shail et al, 2016).

Table 1:- The Taxonomic classification

Kingdom	Plantae
Division	Magnoliophyta
Order	Magnoliophyta
Family	Genus
Genus	Lepidium sativum

Uses

This garden cress seeds are used in many diseases like in asthma, coughs, diarrhea, dysentery, leprosy, lumbago, leucorrhoea, poultices for sprains, skin disease, splenomegaly, scurvy, and seminal weakness can be treated. It can be used in a diet as a nutrient supplements for lactating women for increase of milk secretion during the postnatal period and can also be used for dysentery and diarrhea. These seeds of garden cress are also prescribed by the ayurveda practitioner for the treatment of bronchial asthmatic patient (Paranjape and Mehta).

Garden cress seeds nutrient contain

They are rich sources of folate, iron, vitamin A, vitamin C, vitamin E, and vitamins like Carotene, riboflavin, thiamine, niacin dietary fiber, calcium and protein (Balasubramaniann, 2009) and having acids like arachidic acid, folic acid, ascorbic acid, and beta carotene which helps us to improve our immune system. Having plant chemicals like estrogen which helps to regulate Menstruation and stimulate milk production for mother (Tukaramrao, 2009).

The oil of these seeds having balanced amount of (MUFA) monounsaturated fatty acids (37.6%) and PUFA (Polyunsaturated fatty acids) 46.8 %. It carry natural Antioxidants like eugenol and vitamin A, E, which helps to protect cells from damage by free radicals. Protects from reactions like oxidation and rancidity (Tukaramrao, 2009).

Table 2:- Nutritional composition

Nutrient	Percentage %
Protein	22.5%
Fat	30%
Dietary fiber	30%

Nutritional value of 100gm of garden cress seeds from alwosta.

Nutrient	Nutritional value
Energy	30 calories
Food fiber	1.1 g
Carbohydrates	5.5g
Fat	0.7g
Folic acid	80 micrograms
Vitamin A	346 micrograms
Vitamin C	69 mg
Calcium	81 mg
Iron	1.3 mg
Protein	2.6g

Medical properties of garden cress seeds

- **Rich in vitamins and minerals**

Garden cress contains a high proportion of Vitamin -C. An ounce of cress seeds provides to the body is about 32% of the daily requirements of Vitamin- C. It helps to maintain the bones, skin and the healthy gums. It also ensures to cover the body needs in Iron .As perhaps it improves the body ability to absorb iron from the eaten foods (Prajapati and Dave, 2018).

- **Anti cancer**

Garden cress seeds are rich in multi beneficial nutrients such as calcium, iron, manganese and vitamins and these nutrients make it a natural treatment for cancer patients (Prajapati and Dave, 2018).

- **Antibacterial**

The study of scientist proved that the garden cress plays a vital role in fighting bacteria. It mainly prevents the growth of 3 types of Bacteria (Prajapati and Dave, 2018).

- **Antiviral**

The scientific study conducted on Animals proved that the antiviral role of garden cress. But there are no studies to show this affect on humans (Prajapati and Dave, 2018).

- **Anti oxidant and inflammatory**

Garden cress seeds contain significant amounts of plant sterols, which are anti oxidant and anti- inflammatory compounds. It also contains a phenolic compound which helps in the contribution to the prevention of cardiovascular diseases, Cancer, oxidation and helps in delaying ageing (Sofowora, 2013).

Benefits

- **Helps to treat anemia**

Garden cress seeds contain high amount of Folic acids and Iron and helps in increases the standard of Hemoglobin in the blood of human. When they are consumed daily for almost 2 months. Which will helps to treat the deficiency of Iron which leads to anemia. Through any studies or research conducted when the supplements of Vitamin -C leads to the good absorption of iron. And also helps to increase the capacity of the digestive system to absorb the iron. as the seeds of garden cress contains the high amount of vitamin -C and iron they can be used for treating anemia or the deficiency of Iron, without consumption of any supplements of Vitamin -C (Falana, 2014).

- **Treats menstrual cycle disorders**

The continuation of menstrual cyclic is very important in women since early age and for knowing the approximate time of pregnancy. It forms the solution to the women for those who have less flow or irregular flow of menstrual cycle. Due to the presence of hormone Estrogen – like photochemical, the intake of Garden cress seeds helps to maintain the hormonal environment to start the menstrual cycle and to maintain the menstrual cycle or menstrual periods monthly (Falana, 2014).

- **Boots the secretion of breast milk**

Garden cress seeds are generally known by the highly nutritional value that is beneficial for the nursing mother. It helps in nursing mother for the continue flow and production of the Breast milk containing the high tenor of protein and iron (Prajapati and Dave, 2018).

- **Helps to treat diabetes**

In the Garden cress seeds, vegetable gum is present, that secretes photochemical. Due to the properties of reducing blood sugar in photochemical, it helps in controlling glucose levels in diabetes (Prajapati and Dave, 2018).

- **Treats constipation and stimulates gastrointestinal function**

Garden cress seeds help to treat the sore throat, asthma, headaches and coughing. It is advised to the people with bronchitis because it contains the characteristics of Bronchodilator (Prajapati and Dave, 2018).

- **Maintains arterial health and protects against heart diseases**

Garden cress seeds help to protect the arteries from the increase level of cholesterol as they are highly rich in Vitamin -C. and maintain the production of collagen. Collagen is a type of protein which is responsible for the elasticity of Arterial wall and also for containing the precious amount of Vitamin – K, which helps in preventing the deposition of calcium on the Arteries and heart valves. This is generally known as the Calcification of the arteries (Prajapati and Dave, 2018)..

- **Treats high blood pressure**

Garden cress seeds are recognized by the anti- hypertensive properties. It has also a diuretic property that helps in reducing pressure (Prajapati and Dave, 2018).

- **Protects against cancer**

The scientific study proves that it is possible to fight cancer by using cancer seeds. It contains antioxidants such as Vitamin A and Vitamin E which helps to protect cells from dangerous caused by free radicals. It also contain bioactive compound that stops the production of certain enzymes that cause the growth of tumors. It infusion contribute to kill breast cancer cells (Prajapati and Dave, 2018).

- **Strengthens the immune system**

Garden cress seeds contains 69 mg of Vitamin -C and 346 micrograms of Vitamin -A. These vitamins are good immunity Vitamin -C improves the function of white blood cells and is characterized by antibacterial and antiviral activity. Vitamin -A helps prevent viruses and bacteria from penetrating the body through sensitive mucous membranes on eyes, mouth, nose, throat, lungs, and stomach (Prajapati and Dave, 2018).

- **Facilitates childbirth**

In last months of pregnancy, and postpartum, garden cress seeds are helpful to stimulate delivery. But if consumed in early stages of pregnancy like in first quarter it leads to spontaneous abortion (Prajapati and Dave, 2018).

- **Increases sexual desire**

Garden cress seeds help to improve the sexual desire for both men and women. It also helps to improve the sexual desire for new mothers (Prajapati and Dave, 2018).

- **Prevent eye diseases**

Garden cress seeds contain carotenoids which is important for maintaining the good healthy eyes. The consumption of only one pounce of garden cress seeds provides about 40% of vitamin A and carotenoids are one of the best nutrients for the eyes vision. As they are capable of reducing the risks of night blindness. They also help in the prevention of retinitis pigmentosa, cataracts and even age related macular degeneration, which is the common cause of blindness in older people (Prajapati and Dave, 2018).

- **Helps to treat bone diseases , cold, rheumatism and teeth**

Garden cress seeds help to promote the health of bones and teeth due to containing the specific amount of Vitamin – K. Vitamin – K helps increase calcium levels in bones and joints. Helps to maintain the integrity and protects against fracture (Prajapati and Dave, 2018).

- **Maintains healthy gums**

Consuming the Garden cress seeds helps to stop the proliferation of destructive bacteria that cause tooth decay .at the same time, they helps to contribute towards the gums and teeth healthy as it is rich sources of Vitamins (Singh, 2015).

- **Helps treat hemorrhoids**

Consuming Garden cress seeds are one of the most important tricks to treat hemorrhoids and alleviate its symptoms (Singh, 2015).

- **Diuretic**

Garden cress seeds are recognized by diuretic properties, Patients with frequent urination should be careful when consuming these seeds (Singh, 2015).

- **Benefits of garden cress seeds for skin**

Garden cress seeds help to relieve the pains and treat wounds, also useful in skin disorder related with itching as they are rich in fatty acids, iron, calcium, folic acid, vitamin-A, Vitamin-C, Vitamin- E .Treatment for chapped lips, sunburns, skin irritation, and dry skin (Singh, 2015).

- **Benefits of garden cress for hair :-**

Garden cress seeds help to get healthy and thick hair. Boiled garden cress seeds help to treat damaged hair and prevent hair loss because it contains Vitamin – C and antioxidant (Singh, 2015).

- **Helps to lose weight and slimming:-**

Drinking the mix of Garden cress seeds with water in the morning before breakfast helps to reduce weight naturally (Singh, 2015).

Conclusions

The garden cress seeds which are rich in iron and other nutrients helps to treat the children who are malnourished like marasmus and kwashiorkor and also helps to treat many others diseases like in asthma, coughs, diarrhea, dysentery, leprosy, lumbago, leucorrhoea, poultices for sprains ,skin disease, splenomegaly, scurvy and seminal weakness can be treated. Plant chemicals like estrogen help to regulate Menstruation and stimulate milk production for mother. It also has fracture healing hepatoprotective, diuretic, nephrocurative, nephroprtective, galactagogue, antiinflammatory, antipyretic and analgesic potential. Health drink and food products incorporated with Garden cress seeds or its fractions were sensorily acceptable. Garden cress seed can be used as a promising multipurpose medicinal source whereas further clinical trial is required to prove its efficacy.

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