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**Short Communication** 

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### **Coriander Seeds in Diet**

Nida Tabassum Khan<sup>1,\*</sup>

<sup>1</sup>Department of Biotechnology, Faculty of Life Sciences and Informatics, Balochistan University of Information Technology Engineering and Management Sciences, (BUITEMS), Quetta, Pakistan

### Abstract

Coriander, commonly known as Sabit dhania in Pakistan is a well-known spice used in traditional cooking. It is an essential component of ayurvedic medicine used for the treatment of digestion and gastric ailments. Coriander seeds are available throughout the year as whole seeds and in powdered form. Fresh Coriander seeds possess earthy bitter flavour with strong aroma. Essential oils of its seed extracts possess numerous valuable constituents which could be exploited for the preparation of medicinal combatants against several acute and chronic diseases.

<b>Corresponding author:</b> Nida Tabassum Khan, Department of Biotechnology, Faculty of Life Sciences and Informatics, Balochistan University of Information Technology Engineering and Management Sciences, (BUITEMS), Quetta, Pakistan, Email: <u>nidatabassumkhan@yahoo.com</u>		
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## Introduction

Coriander seeds also called as sabit dhania in Pakistan are widely used in local culinary as a flavoring spice [1]. While Coriander plant leaves are used in salads and servings because of their freshness [2]. Coriander is a small, hollow-stanched herb which belongs to family Apiaceae and genus Coriandrum. It is known by the scientific name of Coriandrum sativum [3]. Coriander is innate to South-Eastern Europe and is heavily cultivated all over the world such as in, Pakistan, India, Greece, Europe, Middle East, Egypt, North Africa, China and West Asia [4]. Coriander was also one of the numerous plants cultivated in the Hanging Gardens of Babylon [5]. Coriander is a 2 feet heighted plant with branched stems possessing dark-green leaves and small light pink flowers that successively transformed into bulbous shaped fruits (seeds) [6]. The diameter of its seeds is about 4-6 mm and is harvested when the plant turns brown, and its leaves begin to dry and fall [7]. Premature seeds are light green in color with bitter taste bitter [8].

# **Nutritional Composition of Coriander**

- Calcium
- Camphene
- Copper
- Dietary fiber
- Geraniol
- Iron
- Linalool
- Linoleic acid
- Magnesium
- Manganese
- Niacin
- Oleic acid
- Palmitic acid
- Petroselinic acid
- Potassium
- Riboflavin
- Terpene
- Thiamin



Vitamin-C.

• Zinc etc [9,10,11,12,13,14]

## **Therapeutic Benefits of Coriander**

Its Seeds Possess Potential Therapeutic Benefits Given Below

- Coriander seeds contain linoleic acid which is effective in the remediation of dermal problems such as skin inflammation eczema, dry rashes etc. In addition treats mouth sores and ulcers [15].
- Lowers high blood sugar level because of its seed's anti-hyperglycemic properties by stimulating insulin secretion from the pancreas and exhibiting insulin-like activity at the cellular level [16]. It also protects colon mucosa from cancers [17].
- Stimulates hair growth by reducing hair fall and revitalizing hair roots [18].
- Improves digestion by stimulating the secretion of digestive juices and possesses high dietary content which is required for the proper functioning of the stomach and liver [19]. It can ease gas, bloating, and other symptoms of an irritated digestive system and increases nutrient absorption by the gut [20]
- Coriander seeds contains coriandrin which controls lipid digestion process and in return lowers abnormal cholesterol level [21].
- Used for the treatment of common cold, flu and fever, seasonal body pains etc since its seeds possess high amount of vitamins such as vitamin C, folic acid, vitamin A and beta-carotene [22].
- Coriander seeds contain natural tonics that stimulates endocrine secretions to sustain hormonal balance, which ensures alleviation of mensuration associated pain [23]
- Exhibits strong antibacterial effects against food-borne pathogens such as Salmonella [24].
- It aids relieve the discomfort and pain associated with urinary tract infection and enhances the healing process [25].
- Regulates female mensuration cycle by monitoring



endocrine function. In addition, decreases bloating, mensuration pain [26].

- It targets inflammatory pathways and lowers incidence of neurodegenerative diseases [27].
- Relieves symptoms like hives, itchiness, and swelling [28].
- Protects eyes from contagious eye associated infections like conjunctivitis [29]
- Assists in healing of mouth ulcers [30].

## Conclusion

Thus Coriander seeds are enriched with high amount of minerals such as zinc, copper, iron, magnesium etc. These vital minerals regulate body's metabolism and enhance growth along with providing protection against a number of microbial infections and diseases.

## References

- Blumenthal, M., Goldberg, A., & Brinkmann, J. (2000). Coriander seed. Herbal Medicine-Expanded Commission E Monographs. 1st edition, Integrative Medicine Communications, Newton, MA, USA, 75-77.
- Sahib, N. G., Anwar, F., Gilani, A. H., Hamid, A. A., Saari, N., & Alkharfy, K. M. (2013). Coriander (Coriandrum sativum L.): A potential source of high-value components for functional foods and nutraceuticals-A review. Phytotherapy Research, 27 (10), 1439-1456.
- Chanwitheesuk, A., Teerawutgulrag, A., & Rakariyatham, N. (2005). Screening of antioxidant activity and antioxidant compounds of some edible plants of Thailand. Food chemistry, 92(3), 491-497.
- 4. Diederichsen, A. (1996). Coriander: Coriandrum Sativum L (Vol. 3). Bioversity International.
- 5. Nikhat, S., Khan, J. A., & Deoband, D. (2012). INTERNATIONALE PHARMACEUTICA SCIENCIA.
- Bhat, S., Kaushal, P., Kaur, M., & Sharma, H. K. (2014). Coriander (Coriandrum sativum L.): Processing, nutritional and functional aspects. African Journal of Plant Science, 8(1), 25-33.
- 7. Coşkuner, Y., & Karababa, E. (2007). Physical properties of coriander seeds (Coriandrum sativum

L.). Journal of Food Engineering, 80(2), 408-416.

- Balasubramanian, S., Singh, K. K., & Kumar, R. (2012). Physical properties of coriander seeds at different moisture content. International Agrophysics, 26(4), 419-422.
- Bhuiyan, M. N. I., Begum, J., & Sultana, M. (2009). Chemical composition of leaf and seed essential oil of Coriandrum sativum L. from Bangladesh. Bangladesh J Pharmacol, 4(2), 150-153.
- Zoubiri, S., & Baaliouamer, A. (2010). Essential oil composition of Coriandrum sativum seed cultivated in Algeria as food grains protectant. Food chemistry, 122(4), 1226-1228.
- Anwar, F., Sulman, M., Hussain, A. I., Saari, N., Iqbal, S., & Rashid, U. (2011). Physicochemical composition of hydro-distilled essential oil from coriander (Coriandrum sativum L.) seeds cultivated in Pakistan. Journal of Medicinal Plants Research, 5 (15), 3537-3544.
- Ramadan, M., & Mörsel, J. T. (2002). Oil composition of coriander (Coriandrum sativum L.) fruit-seeds. European Food Research and Technology, 215(3), 204-209.
- Uitterhaegen, E., Sampaio, K. A., Delbeke, E. I., De Greyt, W., Cerny, M., Evon, P., ... & Stevens, C. V. (2016). Characterization of french coriander oil as source of petroselinic acid. Molecules, 21(9), 1202.
- Prachayasittikul, V., Prachayasittikul, S., Ruchirawat, S., & Prachayasittikul, V. (2018). Coriander (Coriandrum sativum): A promising functional food toward the well-being. Food Research International, 105, 305-323.
- Kumar, S., Parveen, F., Goyal, S., & Chauhan, A. (2005). Ethnobotany of Shrubs of Arid Rajasthan. Shrubs of Indian arid zone. Central Arid Zone Research Institute, Jodhpur, 15-26.
- Srinivasan, K. (2005). Plant foods in the management of diabetes mellitus: spices as beneficial antidiabetic food adjuncts. International journal of food sciences and nutrition, 56(6), 399-414.
- 17. Rajeshwari, U., & Andallu, B. (2011). Medicinal benefits of coriander (Coriandrum sativum L).







Spatula DD, 1(1), 51-58.

- Rathore, S. S., Saxena, S. N., & Singh, B. (2013). Potential health benefits of major seed spices. Int J Seed Spices, 3(2), 1-12.
- Ayyanar, M., & Ignacimuthu, S. (2008). Medicinal uses and pharmacological actions of five commonly used Indian medicinal plants: A mini-review. Iranian Journal of Pharmacology and Therapeutics, 7(1), 107-0.
- Kunnumakkara, A. B., Koca, C., Dey, S., Gehlot, P., Yodkeeree, S., Danda, D., ... & Aggarwal, B. B. (2009). Traditional uses of spices: an overview. In Molecular targets and therapeutic uses of spices: modern uses for ancient medicine, 1-24.
- Momin, A. H., Acharya, S. S., & Gajjar, A. V. (2012). Coriandrum sativum-review of advances in phytopharmacology. International Journal of Pharmaceutical Sciences and Research, 3(5), 1233.
- Yadav, S. S., Stevenson, P. C., Rizvi, A. H., Manohar, M., Gailing, S., & Mateljan, G. (2007). Uses and consumption. In Lentil (pp. 33-46). Springer, Dordrecht.
- Srinivasan, K. (2005). Role of spices beyond food flavoring: Nutraceuticals with multiple health effects. Food Reviews International, 21(2), 167-188.
- Silva, F., Ferreira, S., Queiroz, J. A., & Domingues, F. C. (2011). Coriander (Coriandrum sativum L.) essential oil: its antibacterial activity and mode of action evaluated by flow cytometry. Journal of Medical Microbiology, 60(10), 1479-1486.
- Uma, B., Prabhakar, K., Rajendran, S., & Sarayu, Y. L. (2009). Antimicrobial activity and phytochemical analysis of Coriander sativum against infectious diarrhea. Ethnobotanical Leaflets, 2009(5), 4.
- Somwanshi, S. B., Gaikwad, V. M., Dhamak, K. B., & Gaware, V. M. (2017). Women's Health Issue: A Brief Overview on Irregular Menstruation. IJNRD, 7 (5), 2456-4184.
- Cioanca, O., Hritcu, L., Mihasan, M., & Hancianu, M. (2013). Cognitive-enhancing and antioxidant activities of inhaled coriander volatile oil in amyloid β (1–42) rat model of Alzheimer's disease. Physiology & behavior, 120, 193-202.

- Verma, C. (2014). Applications and utilization of coriander–A. International Journal of Research in Engineering and Applied Sciences, 4(3), 85-94.
- Jabeen, Q., Bashir, S., Lyoussi, B., & Gilani, A. H. (2009). Coriander fruit exhibits gut modulatory, blood pressure lowering and diuretic activities. Journal of ethnopharmacology, 122(1), 123-130.
- Mahendra, P., & Bisht, S. (2011). Coriandrum sativum: A daily use spice with great medicinal effect. Pharmacognosy Journal, 3(21), 84-88.