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**EVALUATION OF NUTRITIONAL VALUE AND ETHNOMEDICINAL USE OF
Opuntia elatior MILL: A REVIEW**

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ABSTRACT

Nowadays people are very concerned about their health, it has been observed allopathy medicines that have many side effects and the alternative of allopathy is Ayurveda and Ayurveda is a heart and soul of India. People started using medicinal plants stated in Ayurveda in order to avoid the adverse effects of allopathic medicines. There are several plants with medicinal properties but mostly people are not well aware about these plants. *Opuntia elatior* Mill, commonly called Prickly Pear, Nagphani and hathlo-thore is a genus of *cetacean*. Several plants have medicinal properties in their parts or itself with the purpose of exploring the active ingredients in it, that can be used in production of new drugs. Due to the remarkable biological activity of *Opuntia* and its constituents, that can be utilized for developing medicines. These plants are also studies for its nutritional and medicinal value. Many pharmacological studies have demonstrated the ability of the fruit shows, Anti-inflammatory, Antibacterial, Antidiabetic, Antidiarrheal and Antispermatic. The fruit were preliminary evaluated by estimation of proximate analysis. The aim of study is to review different nutritional value and Ethanomedicinal use of *Opuntia elatior* Mill.

Keywords: *Opuntia elatior* Mill, Ayurveda, Anti-inflammatory, Antibacterial, Antidiabetic, Antidiarrheal and Antispermatic

INTRODUCTION

Phytopharmaceuticals product have served as a major source of drugs for centuries and today about half of the pharmaceuticals products are derived from natural products. Plants with solid bioactive constituents have as of late increased a lot of enthusiasm for improving in general prosperity just as for avoidance and treatment of different diseases. The nearness of conceivably dynamic constituents in cactus pear and their multifunctional activity, make cactus pear perfect contender for the creation of wellbeing advancing nourishments and Pharmacologicals. It is particularly isolated from plants to control diseases, the continuous use of these techniques has led to the discovery of more than half of the modern pharmaceuticals [1]. The counteraction of infection and clinical experts exceptionally incredible interest for improving by and large life. Right now, sorts of wild fruits and vegetables have been perceived as significant wellsprings of nutraceuticals. One of the commonly used herb is fruit of *Opuntia elatior* Mill. having an oval shaped, an elongated Berry, consisting of a thick pericarp with a number of clefts of small prickles, dark reddish in color with a luscious sweet pulp intermixed with many small hard seeds [2]. The plant

Opuntia elatior Mill. belongs to the family *cactaceae*, which is reported to have 130 genera, and 1500 species [3]. Cacti have been considered as a cheap, alternate source of food suitable for humans and feed for animals and are cultivated as Ornamental crops [4]. *Opuntia* species have been used by humans for different purposes since thousands of years and it is one of the most diverse and widely distributed genus in America, and India, but the highest richness of wild species are found in Mexico, as at least 126 species with different degrees of domestication have been observed [5]. It is mostly found in Saurashtra region of Gujarat and some other dry lands. They are commonly known as prickly pears, because of their edible fruits and they have been accidentally introduced into India and other countries by early European travellers, who used to carry these plants for use as vegetable to prevent scurvy during their long voyages [6]. This cactus fruits are used for treatment of inflammation, pain and detoxification agents for snake bites in China. These fruits are used in diet as an essential element to fulfill the requirements of nutrients which cannot synthesize in human body. The biochemical components present in the food are classified into six major groups are

protein, fats, carbohydrates, minerals, vitamins and rough age. The amount of the essential nutrients required differ by age and the state of the body [7]. High levels of some of chemical compounds like betalains, taurine, calcium, magnesium, and antioxidants present are very useful [8].

Morphology and Taxonomical distribution: -

Opuntia elatior Mill plant is scrubby, 34 m height. Leaves 67 mm long, recurved and reddish at the tops. Joints are 1830 cm size in height by 1018 cm in width, obovate, thin and dull bluish green color. Little territory spike bearing is around 45 cm and increment up to 10 cm, rather thin straight prickles which are, dim and obscure aside from when very youthful, the biggest of around 35 cm long. Blossom is 5 cm over, yellow or orange in shading. The perianth pivot, with the external fragments short, praise, intense, they are red in the middle, yellow at the edges, and the internal spatulate is intense. Stamens are somewhat shorter than the perianth. Style surpasses the stamens; marks of shame six in numbers. Berry pyriform are, bearing tufts of glochidia and a couple of prickles, rosy purple shading when ready [2].

Opuntia elatior Mill which belong to Domain Eukaryota, Kingdom is Plantae, Phylum is Spermatophyta, Subphylum is

Angiospermae, Class is Dicotyledonae, Order is Caryophyllales, Family is Cactaceae, Genus is *Opuntia*, Species is *Opuntia elatior*.

Opuntia ficus-indica which belong to Domain Eukaryota, Kingdom is Plantae, Phylum is Spermatophyta, Subphylum is Angiospermae, Class is Dicotyledonae, Order is Caryophyllales, Family is Cactaceae, Genus is *Opuntia*, Species is *Opuntia ficus-indica*.

Opuntia ficus-indica grows mainly in the region with water scarcity. The plant contains the different parts, which includes seed, cladodes, skin fruit and pulp [9]. It is a succulent, xerophytic, spiny or spineless plant with multiple beneficial uses.

Different Properties of *Opuntia ficus Indica*

Traditional use:-*Opuntia ficus* indica have many uses for the medical treatment. It is used for treatment of burns, wound edema and indigestion. From other researches, it is found that its alcoholic concentrates have anti-inflammatory, hypoglycemic, antibacterial activities. Besides, the thorny pear cactus stem has been utilized generally to treat diabetics [10].

Phytochemical composition: *Opuntia ficus* indica is the potential source of useful phytochemicals like ascorbic acid, amino

acid, vitamins, flavonoids, alkaloids, carotenoids and fibers [11, 12].

Pharmacological activities: It is also consumed due to its pharmacological activities such as antimicrobial activity, antioxidant, anti-cancer, anti-inflammatory, antiulcer and neuroprotective activity. Therefore, besides its medicinal property, it is also being consumed as a food and beverages and is prepared as juice, jam, frozen fruit and spray dried powder [13].

Nutritional Value

Human body requires the proper nutrition for growth, reproduction and other metabolic activities in body such as food intake, absorption, assimilation, biosynthesis, and excretion. Appropriate eating regimen gives the quality and sustenance that people need to forestall sickness, Organic production of food incorporates cultural, biological, and mechanical practices that foster cycling of assets, advancing environmental parity and monitoring biodiversity [14]. *Opuntia* pads are studied in several stages of its maturity. The nutritional content varies by the maturity life. Some studies have defined the nutritional elements for fresh young pads and older maturity stage pads. Meanwhile, *Opuntia* prickly pad is also a source of different nutrients such as pectin, mucilage, and minerals. Other studies have defined as

the high level of amino acid into it. Essential nutrient includes vitamins, minerals, proteins, fat, carbohydrates. *Opuntia* contains different types of vitamins such as Vitamin A is help in cellular repair and maintenance. Nervous system development and also help in reproduction, bone growth and antioxidant activity [15]. Vitamin B1 is help in macro nutrient metabolism and Neuronal function in humans. Vitamin B2 helps in antibody and red blood cell formation and has an ocular function. Vitamin B6 helps in fat and protein metabolism, DNA and RNA synthesis, Electrolyte balance and neuronal function. Vitamin B3 helps in production of sex hormone. Vitamin C helps in wound healing and corticosteroid synthesis [16]. Vitamin E is help in synthesis of hemegroup. Lipid fraction of fruit and seed of cactus contain fat-soluble vitamin E or tocopherols [17]. Some of the minerals necessary for health are as follows: -Calcium and Manganese Both are important for bone strengthening. Also involved in blood clotting. Iron is primarily involved in the transfer of oxygen from the lungs to tissues. (News Medical) Magnesium Supports in healthy immune system. Zinc is essential for synthesizing protein, DNA, and RNA in human body. Sodium helps to maintain fluid volume outside of the cells.

Potassium prevents the excess rise of blood pressure with increased sodium intake [18].

Medicinal Value

Cactus have been used in treating several diseases. Every part of plant has their own functional properties.

Phylloclade is used in anthrax, abscess, wound and abdominal pain. Leaves are used in Body ache, inflammation and heat. Thorns are used in Diphtheria. Fruit is used in burning sensation in the stomach, Asthma, cough, inflammation and ophthalmia, Gonorrhoea, laxative, sterility, respiratory disorders, Ulcer. Stem is used in Asthma, joint pain, swelling and muscular pain. Flowers are used in Hemorrhoids, measles [19].

Also, it used in modern nutrition and medicine. Widely used as folk medicines, used to improve platelet function, promote wound healing and reduced cholesterol levels. The natural extract is a useful for alcohol hangover and the plant's gel like sap is often used as a hair conditioner.

It is to note that the ingestion of *Opuntia* prickly pears also improves the platelet function and haemostatic balance, thus contributing to prevent the atherosclerotic risk [20].

CONCLUSION

It can be concluded that, fruit of *Opuntia elatior* Mill. has rich nutritional values and it has too many medicinal properties. Most of world's population still depends upon these kinds of traditional remedies. The intake of proper nutrients helps increase your daily metabolism, improves the strength of your born and increases blood flow to brain. *Opuntia elatior* Mill. With its multi faceted properties is occupying prominent position in herbal medicinal system. Almost all parts of this plant are used in different therapeutic purpose. Further studies need to be carried out on cactus in order to confirm its medicinal uses and also explore other potential pharmacological activities. This plant could serve as source of bioactive constituents for future pharmacological studies and drug development. The review of literature revealed the presence of many bioactive constituents in cactus, which could be responsible for various nutritional, medicinal and pharmacological uses of cactus.

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