

A Wild Vegetables in Sindhudurg District : Great Source of Nutrients

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Abstract: *Wild but edible vegetables growing in monsoon play a significant role in the sustenance of rural people. It is believed that the wild vegetables boost immunity, if consumed in certain period of time. The objective of present study is to identify the wild vegetables traditionally utilized by local communities, in rainy season who reside at the rural areas of Sindhudurg district of Maharashtra region. Utilization of wild plants as food is the oldest tradition. The edible part of these species utilized by local people include rhizomes, corms, stems, leaves, petioles, inflorescence, flowers, petals, fruits, pods and seeds. Vegetables play an important role in human diet. A diet rich in vegetables and fruits is considered healthy and supposed to reduce the possible risk of various diseases. Vegetables contain vitamins, minerals and carbohydrates which are necessary for good health. Vegetables represent a protective food and are highly beneficial for human health and also useful as a traditional medicine. Leafy vegetables are mostly herbs but leaves of shrubs and trees are also used as vegetables and are generally a good source of nutrients. Green leaf contains maximum amount of vitamins and minerals but it is low in fats and calories. Constituents present in leafy vegetables help to build teeth and protect the body, regulating its processes. An abundant amount of phytochemicals are present in leafy vegetables which act in the defense mechanism. Some leafy vegetables are a rich source of essential oils, glycosides and pigments which help to stimulate appetite. Some of them contain important digestible and nondigestible carbohydrates. Soluble and insoluble fibers in leafy vegetables help in digestion. Mineral constituents in vegetables like Ca, Mg, P, Fe, Cu etc. provide alkalizing effect and neutralize acidity produced by other foods. All these factors are necessary to grow healthy and strong.*

Keywords: Wild Vegetables, Monsoon, Immunity, Nutrition, Diet, Traditional Medicines, Phytochemicals.

I. INTRODUCTION

Maharashtra is one of the rich states in terms of floristic and ethnic diversity in India. It has its own tradition to conserve and utilize the plants for various purposes Vartak (1980); Vartak and Gadgil (1980). Vegetables that grow naturally without any cultivation or care are called wild vegetables. In the early days of the monsoon season, the vegetables begin to grow naturally and become available for consumption. They grow in forests, wilder areas, edges of farmlands, barren fields and waste lands. These vegetables were collected by villagers and used as source of food for them. Sometimes, depending on availability, they are sold in the local market which makes additional emergency income to the poor. The diversity in the wild vegetable not only gives variation in diet but also provides nutritional supplements. It is well known for their essential biochemicals and nutritional importance as they contained good amounts of proteins, fats, carbohydrates, vitamins and minerals (Onwordi et al., 2009; Saikia and Deka, 2013). The wild vegetables play an important role in maintaining the balance in the diet and advised to eat more, that may help to reduce the risk of diseases like cancer, coronary heart attack, diabetes, etc. (Stangeland, 2009 and Aregheore, 2012). There are 1532 edible wild food species in India, mostly from Western Ghats and Himalayan regions (Arora and Pande, 1996).

Wild vegetables are extremely important for human health and nutrition levels. They are composed of the substances such as cellulose, hemicellulose and pectin, which give them their texture and firmness (Mohammed and Sharif, 2011). They provide people in developing countries with adequate amounts of dietary fibres, minerals, vitamins, and other nutrients (Asaolu et al., 2012). As a result of their low energy density, wild vegetables are recommended for weight loss

(Nwanekezie and Obiakor, 2014). Excessive production of field crops has resulted in a major decrease in the supply of indigenous vegetables. There is also an increasing lack of understanding among young people about the nature of these nutritionally dense food plants that are readily accessible (Odhav et al., 2007). Phytochemicals are a group of bioactive compounds found in plants that are directly beneficial to one's health. Researchers also discovered that phytochemical composition is very distinct and varies greatly between plants. The wild edible vegetables are largely ignored during land use planning and implementation, economic development and biodiversity conservation. Most of the popular vegetables that we know are recently introduced in our kitchens. A very scant information is available on wild vegetables growing in monsoon in konkan and their recipe. The information about diversity and uses of wild vegetables growing in monsoon has been sidelined due to lack of scientific knowledge and documentation (Garud et al., 2010). Hence, there is a huge gap in understanding the importance and significance of this information and the applications of the same. Thus, the need to document the perception of the communities becomes necessary as it would help in improving the understanding of these wild plant species. Moreover, lack of documentation of such interesting observations may result in the extinction of this traditional knowledge.

II. WILD VEGETABLES SOURCE OF NUTRIENTS

Antioxidant:

Wild vegetables have been recognized most abundant sources of protein, vitamins and minerals (Aletor et al., 2002; Shukla et al., 2006). Wild vegetables have been traditionally recognized as good sources of antioxidant. Antioxidants are molecules that fight with free radicals in your body. Free radicals are compounds that can cause harm if their levels become too high in your body. They are linked to multiple illnesses, including diabetes, heart disease, and cancer. Antioxidants vitamins like ascorbic acids, phenols etc. are important in human food since they function as an anticancer agent (Shibata et al., 1992, Yadav et al., 2013). It has been found that the total antioxidant activity was highest in *Murraya koenigii* (2,691.78 μmol of ascorbic acid/g sample) and least in *Centella asiatica* (623.78 μmol of ascorbic acid/g sample) (Gupta and prakash 2009). Amagloh et al., 2017 studied that *Moringa* had the highest levels of β -carotene and ascorbic acid. Priya et al., 2019. The consumption of these may play a role in preventing human diseases in which free radicals are involved such as cancer, cardiovascular diseases and aging.

Vitamines:

Wild vegetables are abundant sources of vitamins (Arasaretnam et al. 2018). Vitamin C is an antioxidant and an important part of the immune system, which defends against viruses, bacteria, and other pathogens. Studies show that low levels of vitamin C lead to problems with the immune system and other illnesses (Berry, 2019). For instance, any species of *Amaranths* are excellent source of vitamin C (Jiménez et al., 2017). Adebayo, 2019 investigated wild vegetables from the two different zones show that all the investigated vegetables are good source of vitamins with vitamin C being highest. (Settaluri et. al. 2015) found that among the vegetables the ascorbic acid content was highest in lettuce. *Asparagus* had been reported to contain up to 262 μg of folic acid additionally it fulfills the need of vitamin K, vitamin C, vitamin A, and manganese (Bansal et al. 2018).

Dietary Fiber :

Dietary fiber is a component of the cell wall of plants (Buttriss et al., 2008). Soluble dietary fibre (SDF) and insoluble dietary fibre (IDF) are two types of dietary fibre that make up total dietary fibre (TDF). Wild vegetables have long been considered to be healthy sources of dietary fiber (Gopalan et. al., 2000). Higher levels of vegetable fibre intake were related to a lower risk of cardiovascular disease and probably colon cancer (Jenkins et al., 2001). It was more important in addressing constipation, diabetes, diverticulosis, and obesity problems. Wild vegetables have been traditionally recognized as good sources of dietary fiber (Gopalan et. al. 2000).

Proteins :

Wild vegetables are the richest and cheapest sources of proteins. Protein is a nutrient needed by the human body for growth and maintenance. Next to water, proteins are the most abundant kind of molecules in the body. Protein can be

found in all cells of the body and is the major structural component of all cells in the body, especially muscle. Proteins: Proteins are large, complex molecules made up of a variety of amino acid combinations.

Minerals :

Minerals are inorganic chemicals that your body needs to function properly. There are million of tiny cells in our body that require essential nutrients to grow. These nutrients like iron, calcium, zinc, selenium are derived from various sources. These minerals can help in maintaining fluid balance, building bones, hormonal balance, carbohydrate metabolism, muscle contraction and secreting hormones. Many of the diseases that we have occur due to misbalance of minerals in our body. Minerals cannot be synthesized by humans and animals thus they must be provided through food and water (Mohammed and Sharif, 2011) [13]. Dark leafy greens are source of essential minerals. The predominant elements found in green leafy vegetables calcium, copper, iron, potassium, magnesium, and zinc. Dark leafy greens are a great low-calorie addition to any meal. (Dulce et. al. 2017) *Amaranthus* had the highest concentrations of Ca, Mg, Ni, Zn, and *A. deflexus* and *A. viridis* had the highest concentrations of Fe.

III. CONCLUSION

Wild vegetables are considered to be one of the cheapest vegetables in the market and it could be rightly described as 'poor man's vegetables'. Seeing the potential of Wild vegetables as a cheap source of antioxidants and other nutrients. Green leafy vegetables have plenty of vitamins, minerals and disease-fighting chemicals. Vegetables that contain beta-carotene, such that *Asparagus* help in the growth and repair of body tissues. Wild vegetables are good sources of folate, which can reduce your risk of cardiovascular disease and memory loss as well as warding off depression. Hence, consumption of wild vegetables benefits human health by improving nutritional status and reducing risks of specific diseases like diabetes, cancer and hepatotoxicity.

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