

A review on medicinal uses of wild berries

Dr. Maya Pant¹, Mr. Vijay Bhatt²

¹*Bhagat Singh College, Jaora, Madhya Pradesh, India*

²*Department of Pharmacy, GIP, Neemuch, Madhya Pradesh, India*

Corresponding author: Dr. Maya Pant, mayapant0786@gmail.com

Article history

Received 9 Aug 2020

Received in revised form 29 Aug 2020

Accepted 30 Aug 2020

Available online 30 Aug 2020

ABSTRACT

Wild fruits are worldwide distributed and mostly found in the part of earth where evolution activities are no or negligible. Wild fruits are exotic or underutilized. Wild fruits contain many bioactive compounds, such as anthocyanins and flavonoids. Many studies have shown that wild berries possess various bioactivities and health benefits, such as free radical scavenging, antioxidant, anti-inflammatory, antimicrobial, and anticancer activity.

Keywords: Anthocyanins, Exotic, Flavonoids, Wild Berries.

This article reviewed by Dr. Ashish Rathore, Dr. Antim Vyas. Edited by Dr. Pradeep J., Dr. S Gaur. Available online 30 Aug 2020.

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INTRODUCTION

The word “wild berries” refers to a mixed group as to species and to type of fresh fruit, called also with other synonyms, such as “small fruit” or “fruit of the forest”. Berry fruits are recognized, worldwide, as “superfoods” due to the high content of bioactive natural products and the health benefits deriving from their consumption. Wild berries are spontaneous plants of the brushwood, whose fruits are small: the fruits, in fact, develop in the specific humid climate of the brushwood and include all the “berry” species that grow naturally, such as blueberries, blackberries, raspberries, currant, wild strawberries and gooseberry [1].

The most widespread species of wild berries are:

1. Strawberry or Wild strawberry (Botanical name: *Fragaria x ananassa*, an hybrid between *F. virginiana* and *F. chiloensis* or *Fragaria vesca*): It is a perennial herbaceous plant, belonging to the family of Rosaceae, which spreads through runners and is characterized by a short stem mainly under the ground (root stock), on which there are leaves and inflorescences; from the base of the stem start also primary and secondary roots which form a collated root system.
2. Jostaberry (Botanical name: *Ribes nigrigidolaria*): It is a bush with deciduous leaves, belonging to the family of Saxifragaceae. The plant is a hybrid resulting by crossbreeding currant and gooseberry: in fact, its name comes from the combination of the first part of the German names of the progenitors.
3. Raspberry (Botanical name: *Rubus idaeus*): It is a bushy shrub, belonging to the family of Rosaceae, with deciduous leaves. The grouped root system represents the perennial part of the plant of raspberry, while the fruit of the plant, that is the raspberry, is a summer fruit (ripening period varying from May to September), sweet and loved a lot by children.
4. Blueberry (Botanical name: *Vacciniu corymbosum* – giant blueberry from North America): It is a spontaneous busy shrub, belonging to the family of ericaceae, that develops mainly in the Northern Europe and in North America. The flavoured plant of blueberries is an upright

bushy shrub, characterized by sprouts that develop from the base or from the collar.

5. Blackberries and Mulberries: Both blackberries (botanical name: *Rubus fruticosus*), black or sometimes red, and mulberries, usually reddish, belong to the same family.

6. Currant (Botanical name: *Ribes nigrum*, *R. rubrum*, *R. vulgare*): It is a fruit bush belonging to the family of Saxifragaceae. There are three kinds of cultivated currants: white, red and black.

7. Gooseberry (Botanical name: *Ribes grossularia*): It is a bush belonging, like currant, to the family of Saxifragaceae: this species of fresh fruit is in fact commonly known also with the name of yellow currant or white currant [2].

ANTIOXIDANT ACTIVITY

Wild berries pack high levels of antioxidants. These compounds defend your cells from damage caused by free radicals. A buildup of free radicals can cause oxidative stress, which can lead to chronic conditions, such as heart disease and cancer [3].

Wild berries are an excellent source of polyphenols, which is a group of antioxidants that includes phenolic acids, anthocyanins, and flavanols. Studies explore that, antioxidants also cause decreased inflammation, as well as reduced bacterial and cancer cell growth.

ANTICANCER ACTIVITY

Animal studies show that the anthocyanins in berries may stop the growth of colon cancer cells, may reduce oxidative stress related to breast cancer, and reduce the number of harmful superoxide free radicals in blood.

HEART HEALTH BENEFITS

They may help people with metabolic syndrome, a cluster of conditions-including high cholesterol and triglyceride levels-that increases your likelihood of heart disease and diabetes. It can help to decrease triglycerides, LDL (bad) cholesterol, and total cholesterol.

IMMUNE SUPPORT

Berry extracts exhibited strong antibacterial activity against the potentially harmful bacteria *Escherichia coli* and *Bacillus Cereus*. It exerted this effect by reducing the bacteria's production of a protective shield called biofilm. Berries may also reduce inflammation by inhibiting the release of pro-inflammatory substances, such as tumor necrosis factor alpha (TNF- α) and interleukin 6 (IL-6), which may boost immune health.

DIABETES MANAGEMENT

A study published in April 2017 in *PLOS Medicine* found that, of about 500,000 Chinese adults, those who consumed fresh fruit daily were 12 percent less likely to develop diabetes compared with those who avoided it. Fruits that are lower on the glycemic index, which includes berries, might be the best options for blood sugar regulation, the researchers point out. In general, when enjoyed whole, these foods carry a low glycemic load, meaning they are unlikely to cause sharp swings in blood sugar levels [4].

DISCUSSION AND CONCLUSION

Hence from this we conclude that Berry is a very useful fruit. They are full of nutrient-rich building blocks such as antioxidants, phytochemicals, flavanoids, carotenoids, poly phenols, vitamins, and minerals. These constituents play vital role to maintain health by supporting immune system, diabetes control, anticancer agent, anti-inflammatory action etc.

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