

MEDICAL SIGNIFICANCE OF ROSACEAE REPRESENTATIVES**Sh.M.Muxitdinov**

Associate Professor of the Department Medical Biology and Genetics, Samarkand State Medical University

Z.D.Hasanov

A student of the 101st group of the medical faculty of Samarkand State Medical University

M.J.Maydonov

A student of the 101st group of the medical faculty of Samarkand State Medical University

F.F.Neymatov

A student of the 101st group of the medical faculty of Samarkand State Medical University

<https://doi.org/10.5281/zenodo.6734827>

Abstract. An herbal medicine is a folk medicine. Weeds, though often planted, are the power of nourishment, medicine, magic, and beauty. Their healing properties, when taken wisely and used, can counteract major and minor health disorders. Rosaceae family. There are 266 species of families belonging to 32 genera in Central Asia, and 96 species of 11 genera in Uzbekistan. The family is divided into 7 families according to the characteristics of generative and vegetative members. These include the Spiraeoideae, Rosaideae, Maloideae-Pomoideae, and Prunoideae families, which are widespread in Uzbekistan. In ancient medicine, the most therapeutic effect of *Rosaceae damascena* is to treat abdominal and chest pain, strengthen the heart, treat menstrual bleeding and digestive problems, and reduce inflammation, especially in the neck. North American Indian tribes used a decoction of the root of the *Rosaceae damascena* plant to relieve children's coughs. This plant is also used as a mild laxative. Rose oil cures depression, sadness, nervous stress and tension. It helps to reduce thirst, treat old cough, women's special complaints, heal wounds and keep skin healthy. Steam therapy of rose oil is useful for some allergies, headaches and migraines. The medicinal functions of rosaceae are partly due to the abundance of phenolic compounds. Phenolic substances have a wide range of pharmacological activity, such as antioxidants, free radical scavenging, anti-cancer, anti-inflammatory, antimutagen and antidepressant.

Keywords: Rosaceae, Hawthorn, Pomum, Bitter almond, Amygdalin, Cancer, Antioxidant properties, Traditional medicine, Spiraeoideae, Rosaideae, Maloideae-Pomoideae

INTRODUCTION

We will consider the medical significance and biological properties of some plant species in the family Rosaceae. Because members of this family are important in medicine. Thirteen varieties of black currant (*Ribes nigrum* L.) grown in Serbia were distinguished by their pomological properties and chemical composition (common phenolic substances, common anthocyanins, anthocyanin aglycones, sugars and vitamin C). The average amount of vitamin C ranged from 122.4 to 193.2 mg / 100 g fresh weight (FW), and the invert sugar concentration ranged from 6.3% to 11.1%. The highest amounts of total phenolic substances and anthocyanins were detected in the Ometa variety (278.9 mg gallic acid equivalent [mg GAE / 100 g FW] and

135.4 mg / 100 g per 100 g FW). Quantitative analysis of anthocyanin aglycones in berries was performed using high-performance liquid chromatography, and delphinidine was found to be the dominant compound in 11 species. During the processing of berries into juice, the total amount of phenolic substances and anthocyanins decreased, and the decrease in anthocyanins was more pronounced - 12% -80%. The radical permeability activity of black currant juices was studied by 1, 1 -diphenyl-2-picrylhydrazine, and the IC50 value ranged from 1.9 to 4.0 mg / ml. Our results showed that freezing as a method of storage and storage allows you to save on the important phytochemicals and health benefits of berries and berry juices. The total content of phenolic substances in berries increased by 46.09% -171.76% during 1 year of storage, and even 107.58% in juices, and the total amount of anthocyanins in berries and juices was 5.63% -52.76% and 13.04 Decreased by 36.82%, respectively.

METHODS AND MATERIALS

Black currant fruit juice has been found to contain a substance rich in polysaccharides, called cassis polysaccharide (CAPS), which has activity that stimulates macrophages. In particular, its interleukin (IL) -1- induction activity was significantly higher compared to other fruit juice preparations . CAPS was found to contain rhamnose, mannose, arabinose, galactose, xylose and glucose in a molar ratio of 11.3: 0.9: 54.1: 29.8: 2.0: 1.9. We have described the development and some properties of a substance rich in polysaccharides that have an anti-inflammatory effect. First, 37 types of fruit juice were tested for macrophage stimulation activity by measuring TNF- and IL-1 levels in a cell culture medium. TNF- directly causes hemorrhagic necrosis of tumor cells. A significant increase in IL-1 secretion leads to the maturation, differentiation, and proliferation of immunocompetent cells responsible for the host's defense mechanisms. However, it is generally known that thioglycollate-derived macrophages are prone to immunostimulatory agents such as lipopolysaccharide (LPS) compared to simple cells in the production of TNF . 'can be. 1Brasm shows that black currant juice has a sharp increase in IL-1 compared to other fruit juice preparations, and therefore black currant fruit is probably useful for dietary or pharmaceutical development.

Hawthorn-Hawthorn (*Crataegus*, more commonly known as hawthorn, hawthorn, and white thorn) belongs to the family Rosaceae. It is a bright red fruiting plant with light green three to five lobed leaves and white flowers. The hawthorn is found in eastern Europe, East Asia and North America and grows well in the temperate zones of the north .

There is currently great interest in polyphenolic phytochemicals due to their recognized antioxidant abilities and the abundance of dietary and medicinal plants. Polyphenols include flavonoids, phenolic acids, stilbens, and lignans. Flavonoids are common antioxidants found in fruits, vegetables and beverages (tea, wine, juice, etc.). It can be divided into several subclasses such as flavanols (catechins and proanthocyanidins), flavanons (naringin and hesperidin), isoflavones, flavonols (kercetin and myricetin), flavones (luteolin and apigenin) and anthocyanidins . Epidemiological studies have shown a link between flavonoid consumption and the risk of cardiovascular disease, such as myocardial infarction and stroke. This is due to their antioxidant properties. Hawthorn fruits, leaves and flowers are the strongest parts of the plant. They contain a number of chemical components such as flavonoids (kercetin, quercitrin, catechin, rutin and oligomeric proanthocyanidin), triterpene saponins (oleanolic acid, ursolic acid and krataegus acid) and amines (b-phenethylamine, tyramine and acetylcholine (R)). Flavonoids,

especially oligomeric proanthosandins present in hawthorn extract, are the main bioactive components with strong antioxidant effects. *In vitro* studies have shown that hawthorn extract from leaves, flowers and fruits is chemically can purify superoxide anion, hydrogen peroxide, and hypochloric acid in a cell-free system. It also reduces the amount of malondialdehyde in liver microsomal preparations.

Hawthorn extract can have a positive inotropic effect on the heart of rats and in patients with congestive heart failure. Possible mechanisms include increased intracellular calcium concentration and inhibition. Inotropic effects Hawthorn extract has been shown to have a cardioprotective effect of ischemic reperfusion in *in vitro* and *in vivo* models. Hawthorn extract significantly reduced contractile function deterioration and infarction volume in rat myocardium undergoing ischemia and reperfusion. Pre-treatment with hawthorn extract in an isolated rat heart significantly reduced LDH excretion during ischemia and reperfusion. cAMP phosphodiesterase activity. However, the mechanisms underlying the positive inotropic effect of hawthorn are still unclear.

RESULTS

Hawthorn extract has been shown to cause concentration-dependent relaxation in the mesenteric arteries isolated from rats, the effect of which is reduced if the endothelium is denuded. The gait effect was also reversed by the methyl ester N^o-nitro-L-arginine, an inhibitor of nitric oxide (NO) synthase, suggesting that endothelial gait factor NO may play a role in vasodilatation induced by hawthorn. shows. These results suggest that the active components of hawthorn extract can affect endothelial cells, leading to NO secretion and vascular relaxation. It can also explain the decrease in blood pressure and increased coronary blood flow mediated by hawthorn. Today, the plant is mainly used to treat cardiovascular diseases and is generally safe and well discussed. Krataegus extract is based on the results of *in vitro* and *in vivo* laboratory studies of the main mechanisms that have a beneficial effect on cardiovascular function. Decoction of the leaves and unripe fruits is used to treat cardiovascular disease, as well as cancer, diabetes and is prepared to treat impotence.

Apples (Pomum) contain several components that reduce the risk of cardiovascular disease. Apples have beneficial effects on the human body, including improving vascular function, maintaining healthy levels of lipids and glucose. Apples are the second most consumed fruit in the world due to their prevalence. They are an important contribution to overall nutrition. The cardiovascular protective effect of apples is achieved through various indicators, including improving vascular function and lowering blood pressure. In addition, apples have been found to have anti-inflammatory and anti-hyperglycemic effects as a result of polyphenols and fiber. Apples contain compounds. Apples contain water and carbohydrates in a ratio of 85:14. These carbohydrates contain both fiber and sugar (mainly fructose). 100 g of fiber contains 2.2 g of total fiber (1.5 g insoluble and 0.7 soluble). Apples are also rich in vitamins, especially vitamins C and E, along with minerals and polyphenols. The main mineral present in apples is potassium. Apples can be consumed as whole fruit or as apple products such as apple juice, fermented apple juice and apple cider vinegar. It should be noted that apple juice contains more sugar and pectin and polyphenols than clear apple juice. However, the juice contains less pectin and polyphenyls compared to whole apples. Compounds present in apples.

The fiber in apples can have an anti-inflammatory effect on the body. In a meta-analysis of studies on human intervention, an increase in dietary fiber consumption, a biomarker of chronic inflammation, reported a decrease in C-reactive protein levels. In addition, SCFA production in the colon is inhibited by nuclear factor-kappa B (NF- κ B), a transcription factor that affects the induction of anti-inflammatory enzymes.

These anti-inflammatory effects may be enhanced by the presence of prebiotic fibers that reduce intestinal permeability and consequently the absorption of lipopolysaccharides (LPS). LPS is an endotoxin produced by gram-negative bacteria and serves as a potent antigen capable of generating a strong immune response. Fibers in synergy with polyphenols are believed to be responsible for the overall anti-inflammatory properties of apples.

Apples can reduce the risk of developing type 2 diabetes by causing statistically significant delays in glucose absorption rates. This was shown in a follow-up study involving 38,000 women and 18 men who found that eating more than one apple per day reduced the risk of type 2 diabetes by 28% compared to those who did not eat apples.

Other studies confirming this finding are based on animal and cell culture by nature. The polyphenols present in apples, i.e. quercetin-3-O-rhamnoside, phloridzin and 5-coffeoilquinic acid, have been shown to inhibit the activity of glucose carriers. Apple peel contains more flavonoids than meat. This is due to the fact that the peel protects the fruit from harmful ultraviolet rays, as well as pathogens. Pesticides. Apples are one of the fruits with high pesticide residues because they are more susceptible to insects and diseases. It is always good to wash fruits like apples before eating.

Seeds. You may also have heard that consuming apple seeds or kernels is harmful to you. Seeds contain chemicals that are converted into cyanide in your body, but you will need to grind and eat a lot of seeds to make them harm you. In fact, the average adult should consume at least 150 crushed seeds for the risk of cyanide poisoning. The seeds are actually rich in protein and fiber.

Interactions. Apple juice allergy drug may interact with fexofenadine. Juice makes it harder for the medicine to be absorbed into your body. When you eat an apple, leave the skin on because it contains more than half of the apple fiber.

DISCUSSION

Bitter almond (*Prunus amygdalus*) is one of the medicinal plants used for centuries to prevent and treat diseases. Bitter almond essential oil treats wounds, hemorrhoids and hair loss, relieves joint pain, can be used effectively to facilitate birth, strengthen and improve hair. In addition, oral consumption of bitter almond seeds has been proven to have antioxidant, antibacterial, and anti-cancer effects because it contains certain compounds such as amygdalin. However, there have been some difficulties in research into finding bitter almond-based oral, herbal remedies to treat various diseases such as cancer due to cyanide poisoning, which has partially prevented the use of the plant. This study is conducted in order to comprehensively consider the traditional use of bitter almonds and its compounds, phytochemical compounds and their therapeutic effects, as well as side effects resulting from their use.

Medicinal plants are adapted to the body's immune system because they are based on nature. Almonds are a plant-based product that is beneficial to human health. The almond tree is native to the Mediterranean region of Asia and is grown in Central and Western Asia. It can

grow up to 6-8 m in height and belongs to the family Rosaceae. There are 2 types of almonds: bitter almonds and non-bitter almonds.

Although bitter almonds have various health benefits, bitter almonds have negative and toxic effects on the body due to the hydrocyanic acid that causes the bitter taste.

Phytochemical properties

As with non-bitter almonds, bitter almond kernels also contain a variety of nutrients such as minerals, vitamins and fatty acids. The main biologically active components of bitter almonds are prunasin, amygdalin, flavonoids and phenolic acids, which have anti-cancer and antioxidant effects. However, available data on the pharmacokinetics of amygdalin and other compounds in bitter almonds are insufficient.

Nutritional value can be determined by various methods such as inductively coupled plasma mass spectrometry (ICP-MS). The amount of nutrients in almonds depends on the region and species of origin. In addition to fat and many amino acids, bitter almonds contain minerals and vitamins such as Zn, Mg, Fe, Ca and K, especially vitamin E. Bitter almond kernels contain about 48% fat, 30% protein, 60% carbohydrates, 3% amygdalin and other nutrients. In addition, according to a study by Li and others on bitter almond nutrients, bitter almond kernels contain 49.6% fat and 94.84% of its fatty acids are unsaturated. In addition, the nucleus was found to contain 27% protein, 26.72% amino acids (a total of 17 amino acids), and 7.57% essential amino acids.

CONCLUSION

In addition to being freshly consumed and processed for food and used as a raw material for the production of wine, confectionery and alcoholic beverages, the fruits of some species are used in perfumery and medicine. Many pink fruits (plums, apricots, cherries, almonds) contain gum, and in some countries it is used in confectionery, dyeing and pharmacy, apricots, hawthorns, bay cherries, almonds, gravel, medyar) are widely used in the manufacture of various handicrafts and consumer goods. The fruits and seeds of wild roses are food for many birds and mammals (primarily bears and wild boars). is

List of used literature

1. Sreenivasan, L.; Watson, RR Chapter 14 - Reduction is a new age: the effects of polyphenols on brain aging and disease.
2. Williamson, G.; Carughi, A. Polyphenol content and health benefits of raisins. *Nutr. Res.* 2010, 30, 511–519. [CrossRef]
3. USDA. United States Department of Agriculture, External Agricultural Service. Market and sales data for raisin production worldwide. 2017–2019.
4. Kountouri, AM; Gioxari, A.; Karvela, E.; Calories, AC; Karvelas, M.; Karathanos, VT Chemical prophylactic properties of raisins in bioactive nutrients and dietary supplements in the prevention and treatment of neurological and brain diseases; Watson, RR, Victor, RP, Eds.; Academic Press (Elsevier): Amsterdam, The Netherlands, 2015; Pages 137–140
5. Milner, JA, Functional Food and Health: A U.S. Perspective. *Br. J. Nutr.*, 88, 151-158 (2002)
6. Wong, CK, Leung, KN, Fung, KP and Tea, YM, medicinal immuno-modulating and anti-tumor polysaccharides from plants. *J. Int. Med. Res.*, 22, 299-312 (1994)

7. Ali-Shtayeh, M.S., Yaniv, Z., Mahajna, J., 2000. Ethnobotanical survey in the Palestinian area: a classification of the healing potential of medicinal plants. *Journal of Ethnopharmacology* 73, 221–232.
8. Palevitch, D., Yaniv, Z., 2000. *Medicinal Plants of the Holy Land*. Modan Publishing House, Tel Aviv, Israel.
9. Zhang, Z., Chang, Q., Zhu, M., Huang, Y., Ho, W.K.K., Chen, Z.Y., 2001. Characterization of antioxidants present in hawthorn fruits. *Journal of Nutritional Biochemistry* 12, 144–152
10. Verhagen, H., Aruoma, O.I., van Delft, J.H.M., Dragsted, L.O., Ferguson, L.R., Knasmuller, S., Pool-Zobel, B.L., Poulsen, H.E., Williamson, G., Yannai, S., 2003. The 10 basic requirements for a scientific paper reporting antioxidant, antimutagenic or anticarcinogenic potential of test substances in in vitro experiments and animal studies in vivo. *Food and Chemical Toxicology* 41, 603–610.
11. Benzie, I.F. and Wachtel-Galor, S. eds., 2011. *Herbal medicine: biomolecular and clinical aspects*. CRC Press/Taylor & Francis.
12. Mahmoudian-Sani, M., Luther, T., Asadi-Samani, M., Saedi-Boroujeni, A. and Gholamian, N. *Journal of Renal Injury Prevention*, 6(3), pp.158-163