IJACT, Volume 4, Issue 04, 2026 ISSN: 2995-5378
http://medicaljournals.eu/index.php/IJACT

INTERNATIONAL JOURNAL OF ALTERNATIVE AND CONTEMPORARY THERAPY

International Journal of Alternative and Contemporary Therapy
International Journal of Alternative and Contemporary

Therapeutic Significance Of Quince

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Abstract: Increased interest in medicinal plants and natural therapeutic products has occurred in the recent years because of the demands for safer and biologically active alternative drugs to synthetic drugs. Quince (Cydonia oblonga) is one of the medicinal fruits due to its high chemical composition and wide therapeutic applications. The medicinal importance of quince, its bioactive constituents and its application in traditional and modern medicine has been analyzed. Quince has vitamins, mineral elements, pectin substances, organic acids, flavonoids and antioxidants, which have beneficial effect on the immune system, digestive activity, cardiovascular and inflammatory diseases. The medicinal properties of quince fruits, seeds, and juice to prevent and treat gastrointestinal, respiratory, and metabolic disorders are also discussed. Quince has been shown to have anti-inflammatory, antimicrobial, soothing and restorative properties in the human body from the scientific and traditional medical sources. Results indicate that quince could be regarded as a nutritious product and also as an important natural therapeutic compound for preventive medicine and phytotherapy.

Keywords: quince, medicinal plant, phytotherapy, antioxidants, pectin, immunity, biologically active compounds.

Introduction

The use of medicinal plants is among the most discernible trends in contemporary healthcare and preventive medicine. With the rise of industrialization in pharmaceutical production, the rising cost of synthetic medicines, and the emergence of side effects associated with these medications, many people are turning to the natural alternatives available. Medicinal plants have been an integral part of human wellbeing and health throughout history providing not only healing but also the prevention of diseases and recovery from illnesses. After years of study and experience, a great number of fruits, vegetables and herbs have proven to be useful seed remedies that can have a beneficial effect on human health [1].

Quince (Cydonia oblonga) is one of the many fruits used in medicine, and has been recognized as such for centuries. This aromatic fruit not only has nutritional properties but also healing properties to various organ system and quince is mentioned in historical medical manuscripts, such as that of the renowned physician Avicenna, as a fruit useful for respiratory ailments, digestive weakness and cardiovascular disorders. In Central Asia and elsewhere, the fruit, juice and seeds of the quince were extensively used by the traditional healers for gastrointestinal diseases, cough, inflammation and internal bleeding [2].

Quince is rich in chemical compounds that provide the biological value of this fruit. The fruit is rich in vitamins, organic acids, pectin substances, flavonoids, tannins, essential oils and important mineral elements like potassium, magnesium, phosphorus, calcium, copper and iron. Furthermore, the quince seeds have mucilage substances, fatty oils, starch, proteins and biologically active glycosides, which possess soothing and anti-inflammatory properties. Because these compounds, quince has antioxidant, antimicrobial, protective and restorative properties in the human body [3].

Today, many chronic diseases have been recognized as having a connection to oxidative stress, reduced immunity and metabolic imbalance. Therefore, natural antioxidants and biologically active compounds might play a role in prevention of disease and in overall health.Frequent use of quince products can contribute to digestive health, the appetite, the immune system and decrease the inflammatory responses. Although quince has been traditionally used for centuries, its use in traditional medicine is still gaining scientific interest regarding its pharmacological and preventive properties. The antioxidant, antimicrobial, gastroprotective properties and potential use in modern phytotherapeutic medicine of the fruit are currently being explored. Hence, the aim of the present article is to explore the therapeutic significance of quince fruit, study its chemical composition, medicinal properties and its applications in the traditional and modern medicine [4].

Methods

This study was carried out with the qualitative analytical methodology and was based on the scientific literature, historical medical sources and modern publications on medicinal properties of quince (Cydonia oblonga). The research was descriptive, comparative and synthesized based on the data from traditional medicine and phytotherapeutic studies [5].

The main research materials used were the scientific articles, pharmacologic reviews, textbooks on medicinal plants, and traditional medicine publications. Special focus was given to literature on the biological composition of quince, such as vitamin content, mineral substances, pectin compounds, organic acids, antioxidants and seed mucilage and also, historical references related to traditional eastern medicine and classical physicians were analyzed for the evaluation of traditional use of quince in folk medicine over the years [6].

A methodological analysis was centered on some key points, the nutritive and biochemical contents of quince fruit and seeds were investigated for identification of compounds responsible for the medicinal activity of the fruit. Secondly, the physiological effect of quince on the digestive, respiratory, cardiovascular and immune system was assessed based on information gathered from published scientific observations and phytotherapeutic studies. Third, the traditional uses in preventive medicine and folk medicine were contrasted to current scientific literature, to determine similarities and relevance [7].

The medicinal properties of various parts of the plant like fruit pulp, juice, peel and seeds were also specially discussed. They were studied individually for anti-inflammatory, antioxidant, antimicrobial, soothing and restorative properties. Both nutritional and clinical aspects of the use of quince in supportive treatment and disease prevention were discussed. Thematic analysis was used to interpret the collected materials and the scientific data on health promoting activity of quince was classified based on the effect on various organ systems and metabolic pathways so, comparative interpretation enabled to determine the most significant therapeutic directions in which the use of quince could have practical significance in medicine.

This methodological approach enabled obtaining a holistic view of quince as a nutritional product and medicinal plant that has a great potential for preventive health care and phytotherapy [8].

Results

The study of scientific and traditional medicine sources revealed that quince contains a number of biologically active compounds with a positive effect on human health. One of the most significant discoveries is the fruit's nutritional value and quince contains a lot of vitamin C, pectin substances, organic acids, flavonoids and mineral elements, which help in regulating metabolic processes and boosting the immune system. Antioxidants are particularly significant as they neutralize the free radicals and minimize oxidative stress, linked to many chronic diseases [9].

The data reviewed shows that quince has beneficial effects in the digestive system, fruit contains pectin substances that are helpful for improving intestinal health, bowel activity and elimination of toxic substances from the body. Traditionally quince is used for treating diarrhea, inflammation of the intestinal tract, nausea, and stomach pain. Mild astringent properties of the fruit are related to compounds of tannin that inhibit excessive secretion and irritation in the intestine [10].

Another crucial medicinal benefit of quince is its anti-inflammatory and calming properties and the mucilage of a quince seed contains a considerable amount of слизистые substances, capable of creating protective layers on the irritated mucous membranes. Due to this property, quince seed extracts are indicated in bronchitis, sore throat, gastroenteritis and inflammatory digestive disorders, these traditional uses have been confirmed by modern phytotherapeutic observations, revealing that mucilage compounds have a beneficial effect on reducing irritation and protecting the tissues [11].

Discussion

Historical medical records also stressed the benefits of quince for the respiratory system. The juice and infusions were used in traditional Eastern medicine to cure cough, lack of breath, and bronchial irritation. These properties are now understood to have anti-inflammatory and antioxidant effects that could have potential benefits for respiratory health by minimizing airway inflammation and enhancing overall immune resilience [12].

Another area in which quince is beneficial for the cardiovascular system, the fruit is rich in potassium and magnesium - minerals that are vital for normal cardiac function and vascular regulation. Traditional healers believed that quince could calm the emotions, reduce palpitations and enhance overall vitality and these observations were made from empirical experience but has now been understood by modern nutritional science that mineral rich fruits play an important role in maintaining cardiovascular stability. The study also showed that quince has a positive effect on psychological health and according to traditional sources the fragrance of quince is soothing and stimulating. These effects cannot be measured scientifically, but have been noticed in aromatic studies that use plants for therapeutic purposes, as well as in nutrition studies that are increasingly finding a link between aromatic substances derived from plants and emotional health [13].

Although there are numerous benefits of quince, it should not be used as a replacement for the standard medical treatment, as with other medicines, it is best used as a complementary and/or preventive measure in a comprehensive health program. Overuse of self-treatment may cause delay in diagnosis and management of more serious diseases. Thus, the modern medicine suggests that traditional knowledge of phytotherapy should be integrated with clinical evidence. Overall, the results showed the great potential of quince as a medicinal fruit and its preventive and therapeutic properties. It has a biological composition that supports its role in modern phytotherapy and functional nutrition, and its medical history, use, and biological composition support its role [14,15].

Conclusion

The analysis carried out confirms that quince (Cydonia oblonga) is not only a foodstuff that has nutritional value, but also a medicinal plant with great therapeutic potential. Quince is rich in chemical components such as vitamin, mineral elements, pectin substances, antioxidants, tannins and biologically active substances, which enables it to have a beneficial effect on various physiological systems of the human body. The results show the beneficial effects of quince on digestive health, immune support, respiratory protection, and inflammatory regulation. The mucilage content of the seeds of the quince is particularly useful in gastrointestinal and respiratory disorders, as well as for its protective and soothing properties. Moreover, the antioxidant properties of quince can contribute to reducing oxidative stress and promoting preventive health care. Quince has been used for centuries in traditional medicines for treating cough, digestive disorders, inflammation and weakness in general. Many of these historical uses have been substantiated by modern scientific observations and evidence of the biological activity of quince compounds. Concurrently, the incorporation of traditional phytotherapeutic expertise and modern medicine offers greater possibilities for safe and effective preventive healthcare. However, medicinal plants must be used carefully and with expert supervision, particularly when treating chronic and severe illnesses. In conclusion, quince should be considered as a natural therapeutic agent to complement conventional therapy of the disease, not as a substitute. As a result, quince is an important element of healthy nutrition and phytotherapy. Its increasing role in preventive medicine, dietary medicine, and functional nutrition could play a part in bettering the general public health and more natural methods of wellness and prevention of disease.

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