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Review Article

Use of natural products in preventive medicine and healthy life

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ABSTRACT

Natural compounds are the result of millions of years of evolution, natural compounds include a wide range of chemical compounds, as a result of which various medicinal compounds are obtained. Natural products have complex and diverse chemical structures. Meanwhile, the use of natural products as modifiers of biological performance has also attracted considerable attention. Global market demand for natural products is growing day by day, public health issues and safety concerns are also increasingly recognized. These products have become one of the most important sources for the development of new lead compounds and scaffolds. Natural products will be used continuously to meet the urgent need for the production of effective and useful drugs and play an important role in the production of drugs with effective compounds for the treatment of a wide range of human diseases. Many clinical studies have been conducted on the use of these compounds. In addition to what has been stated, herbal compounds are used for other diseases related to chronic inflammation such as atherosclerosis and ischemia. We hope this work will provide important knowledge for therapeutic or preventive applications of natural products in chronic inflammatory diseases.

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1. Introduction

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The use of medicinal plants has increased worldwide. Most consumers believe that herbs are of "natural" origin and are therefore safer aids for treating disorders.[1] Traditional medicine is based on natural compounds and is of great importance. Natural products that have evolved over the years are diverse in terms of chemical structure, which leads to different biological activities and medicinal properties. Natural products have a wide variety of multidimensional chemical structures. In the meantime, the use of natural products as modifiers of biological performance has also attracted much attention.[1–4] Today, the use of plants as medicine and nutrients derived from them is increasing rapidly all over the world, and recently, a large population of people have turned to these products to treat some health challenges in various national health care settings. As the use of natural ingredients increases and many products with new ingredients enter the market, public health issues and safety concerns are increasingly recognized.[4–7] The use of plants to treat diseases is almost common among non-industrial societies. At the end of the 20th century, a number of traditions prevailed over herbal medicine. Many of the drugs currently used in medical science have a long history as herbal remedies, including opium, aspirin, digitalis, and quinine. Plants are used in medicine to maintain and strengthen physical, mental and spiritual health as well as to treat certain conditions and diseases. African, Asian and Latin American countries use traditional medicine for their primary treatments. Health Care Needs For example, in Africa more than 80% of people use traditional medicine for primary health care. In industrialized countries, compatibility with traditional medicine is called "supplementary ?" They are called alternative medicine. Traditional medicine has maintained its popularity in all regions or developing countries, and its use is expanding rapidly in industrialized countries.[8–12]

Today's medicine requires an industry to produce pharmaceutical drugs, which are mainly based on the active principles of plants, and hence are used as raw materials in many cases.[13] The compounds derived from plants and the use of their extracts in foods for the treatment and prevention of a wide range of cancers continue from the past until now, hence research in the field of traditional medicine is emphasized by researchers. These compounds have become one of the most important sources for the development of new lead compounds and scaffolds. The natural compounds produced by plants are frequently used for the production of various drugs and will play a major role in the production of drugs for the treatment of human diseases, especially chronic diseases.[14–17]

Natural compounds of plants are valuable medicinal secondary metabolites. Secondary metabolites are complex for several reasons, as they are useful in the literature due to the diversity of their chemical structures and their effects as drug candidates and/or antioxidants. There are few examples of the chemical diversity of plant metabolites, so they are compounds that cannot be synthesized by industry. The use of plant metabolites began in 2600 BC, and in the following 4000 years, secondary metabolites of plant origin were mainly used for traditional remedies as well as food compounds.[18] The use of natural plant compounds in clinical studies is increasing worldwide. In addition to the above explanations, the use of natural compounds for other diseases related to chronic inflammation such as arteriosclerosis and ischemia has been found to be useful and effective.[19–23] The present research provides important results regarding the therapeutic or preventive effects of natural compounds in chronic inflammatory diseases.

1.1. Natural products

Natural compounds that have evolved over many years have complex chemical structures that lead to changes in their therapeutic properties. These compounds have become one of the most important sources for the development of new lead compounds. Natural compounds will be continuously used to meet the research needs for the production of effective drugs in the medical field and will play an important role in the production of drugs for the treatment of human diseases, especially acute diseases.

2. Materials and Methods

Considering the importance of natural compounds and their role on human health, we have reviewed many studies and studied the importance of these compounds in various types of research, and we will present the results of these studies in the rest of this article.

3. Results and Discussions

It seems that the production of new drugs that have a biotechnology approach is increasing. In the development of new drugs, the pharmaceutical industry has tended to adopt a lot of synthesis methods. But many efforts in this field have not led to the expected drug production. Different pharmaceutical companies are facing serious problems to produce new drugs. In the past, much attention has been paid to natural compounds in the search for modern drugs in combination with new methods, such as the selection of high throughput.[24–26] Consequently, effective work should be done to increase new medical research on natural compounds. Medicine providers, such as doctors, nurses and pharmacists, have little knowledge of how herbal medicines affect their patients' health. Most of them have little knowledge about these medicinal compounds and the method of their use. Awareness in this area is now very necessary because most patients use other types of prescription or over-the-counter drugs almost as often. For this to be effective, it is necessary to establish a trusted intermediary to facilitate adequate sharing of knowledge

about the use and safety of herbal medicines. Indeed, education of physicians, herbal medicine providers, and patients and consumers is important to prevent serious risks as a result of herbal medicine abuse.

Research in the field of medicinal plants and their products is very necessary because the knowledge in this field is limited.[27–29]

Plants produce a wide range of natural compounds, and it is important to note that these compounds are produced only by plants, and the therapeutic effects of these compounds have been investigated in various studies and have had promising effects, which we will discuss below. We will review several researches and therapeutic effects of these natural compounds.

In herbal medicine, walnut root extract is used to treat diabetes, and its leaves are used to treat rheumatic diseases, fever, diabetes and widespread skin diseases. And its flowers are used to treat malaria and rheumatic pains. As far as Iranian traditional medicine is concerned, this plant is widely used in Iranian cooking to treat various diseases. Walnut leaves are used in herbal medicine to reduce blood sugar and treat it. According to research, walnut leaves contain compounds that are beneficial for health. And they are widely used in herbal medicine to treat venous insufficiency and hemorrhoid symptoms. In some cases, it is used as medicine to treat diarrhea, parasites, and also to purify the blood. The results show that in the last two decades, extensive research has been done on the medicinal effects of walnuts. Different parts of this plant, such as its leaves, skin and fruit, have the property of reducing blood sugar in diabetic animals.[30–32]

Applied studies show that raspberries may help improve fertility in men and women by increasing vitamin C and magnesium, they argue that antioxidants and berries promote sperm health and protect against miscarriage. In a study conducted last year, researchers at the Lawrence Berkeley National Laboratory found a strong link between high vitamin C intake and improved sperm DNA quality. An analysis of 80 male volunteers found that those who consumed more vitamin C had 20% less DNA damage in their sperm than those who consumed less vitamin C. Medicinal plant researchers claim: similar damage to sperm DNA damage in younger men. This means that men who are prone to sperm DNA damage due to aging can do something about it. Reproductive nutrition consultant Juliet Wilson says: "The high level of folate (a type of B vitamin that promotes cell growth and fetal health) in raspberries is beneficial for pregnant women. During pregnancy, adequate levels of folate help prevent birth defects. In the baby's brain and spinal cord. Raspberries are not yet recognized as a nutrient among other berries, but raspberries have many nutrients that should not be overlooked, including a high content of vitamin C - one raspberry is the size of 173 grapes - which is a nutrient it is good. It is a source of folate and is known as a key component for fertility and early fetal development. In addition, raspberries are an excellent snack for weight loss, the high amount of fiber and low glycemic index (GL) absorb and ensure metabolism and help control hunger and satiety. As a result, researchers claim that for Fertility is also beneficial, as a healthy body weight helps balance sex hormones and increases the likelihood of pregnancy.[33–35]

Consuming plant Foods such as fruits, vegetables, and whole grains are rich in various metabolites, effective plant compounds, and are associated with effective and positive outcomes. Epidemiological studies have shown an inverse relationship between the intake of a diet rich in plant metabolites and the incidence of breast, colon, lung, pancreas and prostate. Cancers The cellular and molecular events regulated by these chemo preventive phytochemicals include apoptosis, cell cycle, cell proliferation, DNA repair, differentiation, carcinogen activation/detoxification by xenobiotic metabolizing enzymes, functional inactivation/activation of oncogenes and tumor suppressor genes, metastasis, and angiogenesis. Is. Along with these, reducing tumorigenesis caused by oxidative stress is one of the mechanisms by which phytochemicals exert their anticancer potential.[36]

A newly published meta-analysis of 93 studies argues that these phytochemicals have shown protective/preventive effects on healthy cells and reduce the risk of breast cancer in postmenopausal women and women with negative hormone receptors. In addition, many epidemiological studies have shown that high consumption of mushrooms, soy products, vegetables, and cruciferous fruits is associated with a reduced risk of BC, and that high consumption of certain dietary phytochemicals may reduce recurrence and increase survival.[37]

4. Conclusion

Finally, the study in this field will clarify many results from the research of scientists in this field. In addition, natural compounds are also effective for other diseases related to chronic inflammation such as atherosclerosis and ischemia. Finally, this article provides important information for therapeutic or disease prevention applications regarding the consumption of natural compounds in chronic inflammatory diseases and many human diseases. Related studies show brilliant results of the effect of natural compounds produced by plants in the treatment of a wide range of diseases. We suggest that these compounds should be investigated in combination in the treatment of diseases and finally the synergistic effect of these compounds should be measured and the results evaluated.

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None.

6. Conflict of Interest

None.

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