



JBP

Journal of Biochemicals and Phytomedicine

eISSN: 0000-0000



An Overview of the Most Important Herbal Antimicrobial Generic Drugs in Iran's Pharmaceutical Market

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ARTICLE INFO

Article Type:

Letter to Editor

Article History:

Received: 28 April 2022

Revised: 24 June 2022

Accepted: 26 June 2022

Available online: 25 Dec 2022

Keywords:

Nature

Herbs

Infectious diseases

Antimicrobial agent

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ABSTRACT

In recent years, due to an increase in microbial resistance to antibiotics and more awareness of the side effects of synthetic chemical compounds, there has been a great interest in the use of herbal products with antimicrobial properties. Today, medicinal plants are considered as a valuable source of natural compounds for use in the production of antimicrobial drugs. This letter has been made to introduce herbal medicines with the antimicrobial application which are available in the Iranian market.

Please cite this paper as:

Mahadeva Rao US. An overview of the most important herbal antimicrobial generic drugs in Iran's pharmaceutical market Medicinal plants and the human needs. Journal of Biochemicals and Phytomedicine. 2022; 1(1): 1–2. doi: 10.34172/jbp.2022.1.

Dear Editor,

In recent years, the use of medicinal plants has increased in different countries of the world. Medicinal plants have a special value and importance in providing health to communities both in terms of treatment and prevention of diseases (Rathore et al., 2022). Medicinal herbs have been used by humans since ancient times because of the therapeutic effects of their secondary metabolites. These compounds (such as flavonoids, phenolic acids, alkaloids, and carotenoids) have commercial value due to their wide applications in medicine, pharmaceuticals, cosmetics, agriculture, and food industries (Chand et al., 2022).

Medicinal plants have been used as one of the most important sources of treatment for various diseases since thousands of years ago. These plants produce a large and diverse group of secondary metabolites (Kandoudi et al., 2022). Numerous side effects of synthetic drugs have attracted attention to medicinal plants in recent decades as

a source of new drugs. Due to the fact that the antimicrobial effects of a large number of plants have been mentioned in the traditional medicine of Iran, many studies have been conducted on this issue in Iran, which has caused the need to review them (Arshed et al., 2022). In recent years, due to the increase in microbial resistance to antibiotics and more awareness of the side effects of synthetic chemical compounds, there has been a great interest in the use of herbal products with antimicrobial properties (Jampilek et al., 2022). The increasing resistance of pathogens to conventional antimicrobial agents has led to the use of alternative methods to overcome microbial resistance (Garcia et al., 2022). Medicinal plants have fewer side effects than chemicals due to their natural origin. Today, medicinal plants are considered as a valuable source of natural compounds for use in the production of antimicrobial drugs. Scientific

observations have shown that medicinal plants possess various biological properties, including antimicrobial properties, and the presence of phytochemical constituents such as polyphenolic compounds (such as quercetin and kaempferol) have been introduced as effective active ingredients in the treatment of various types of diseases (Michalak et al., 2022). In this article, an attempt has been made to review and introduce herbal medicines with antimicrobial application which are available in the Iranian markets. There are many herbal medicines in Iranian markets. One of them is Colpermin capsule that contains *Mentha piperita*. It has anti-diarrheal, anti-inflammatory and intestinal disinfectant effects. Plantagel powder contains *Plantago major*, which is used as anti-diarrheal, anti-inflammatory and intestinal disinfecting agents. Gastrolit Barij oral drop is produced from *Zataria multiflora*, which is used as anti-diarrheal, anti-inflammatory and intestinal disinfectant. D-Reglis tablets is derived from *Glycyrrhiza glabra*, which possess the anti-diarrheal, anti-inflammatory properties and acts as antiseptic agents of the intestine. Myrtexoral paste and drops contain *Myrtus communis* which have antimicrobial applications. Chamomill drop (*Matricaria chamomilla*), Matrica mouthwash (*Matricaria recutita*), licorice powder (*Glycyrrhiza glabra*, *Achillea millefolium* and *Matricaria chamomilla*), fragrant Regalis granules (*Cuminum cyminum*, *Althaea officinalis* and *Foeniculum vulgare*) and Camilasin drop (*Matricaria chamomilla* and *Achillea millefolium*) which are used as antidiarrheal, anti-inflammatory and intestinal disinfectant agents. Pelargin syrup contains *Pelargonium Sidoides*, Neurotec capsules contain *Tanacetum vulgare*, *Rosa canina* and *Urtica dioica*, as well as Ursolia coated tablets contain *Salvia officinalis* and *Vaccinium macrocarpon* are used as systemic antibiotics. Iran has a rich plant flora due to the variety of climate. Currently in Iran there are more than 1000 types of medicines that are widely used in traditional Iranian medicine. Medicinal plants are popular with people due to their natural origin and diverse biological and medicinal properties. Many medicinal products have been produced from medicinal plants that are used as antimicrobial agents in the pharmaceutical market of Iran. An important reason for the antimicrobial effects of medicinal plants is the presence of antioxidant compounds, terpenoids, polyphenols, tannins, flavonoids and flavonoids and anthocyanins.

Conflict of interest

There is no conflict of interest among the authors

Acknowledgement

NA.

Consent for publications

The author approved the manuscript for publication.

Funding/support

None.

Authors' contributions

USMR is the single author of the manuscript.

Ethical considerations

Ethical issues (including plagiarism, misconduct, data fabrication, falsification, double publication or submission, redundancy) have been completely observed by the author.

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