A DETAILED OVERVIEW OF THE RUMEX GENUS IN TRADITIONAL FOLK MEDICINE, ITS BIOACTIVITY, THE PHARMACEUTICAL PREPARATIONS EXTRACTED FROM IT, AND THE PROSPECTS FOR ITS USE IN CONTEMPORARY MODERN MEDICINE

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Abstract: This study aims to shed light on the sorrel plant (Rumex), belonging to the Polygonaceae family, in terms of popular traditional medicinal uses, as it was used in many countries of the world in diseases of the digestive system, especially constipation, and the treatment of some skin diseases and other diseases, in addition to its use in food to prepare various food authorities.

As well as the therapeutic medical effects of some types of sorrel (Rumex) its extracts and chemical derivatives, which studies have proven to have a range of effects, including anti-bacterial, anti-inflammatory, anti-tumor, antioxidant, anti-aging and other effects.

He presented some pharmaceutical preparations prepared from the sorrel (Rumex) plant and allowed them to be used in modern medicine.

In conclusion, it was concluded that the sorrel plant (Rumex) was used in the past in traditional folk medicine to treat a group of diseases. Recently, studies and research have proven that the sorrel plant (Rumex) and its various extracts have various medical and therapeutic effects and have great hope for their use in the production of medicines in the future.

The researcher recommends paying attention to the plants of Palestine in general and to the sorrel (Rumex) plant in particular because of the various medicinal therapeutic effects that it possesses, which may be the basis for its use in contemporary modern medicine in order to manufacture a very large number of medical and pharmaceutical preparations.

Keywords: Rumex, traditional folk medicine, bioactivity, pharmaceutical preparations, modern medicine.

I. INTRODUCTION

All There are more than 200 species of plants in the genus Rumex L. of the family (Polygonaceae) which are widely distributed throughout the world [1]. Of the 29 Rumex species, 268 chemical components have been documented so far [2]. The primary chemical components were tannins, flavonoids, and anthraquinones, which have a variety of pharmacological properties [3].

Certain varieties of rumex have been used for generations as food in the regions where they grow, and are used in traditional folk medicine in many countries to treat conditions that affect the digestive system, such as constipation and some skin conditions [1] [3-7]. Recent research has demonstrated that the rumex plant and a few of its chemical derivatives possess a variety of medicinal and therapeutic effects, including antibacterial, anti-inflammatory, anticancer, anti-tumor, antioxidant, anti-aging properties, and antidiabetic effects [2-3][5] [8-12].

There is a lot of literature that talks about the sorrel (Rumex) in terms of its chemical composition, its use in folk medicine, and its various medical effects, the most famous of which is [1] [9-12].

However, our study differs from previous studies in several points:
1- Our study is distinguished by adding new information about the uses of the sorrel (Rumex) in traditional folk medicine in the world.
2- It is distinguished by the addition of recent studies on the medical and therapeutic effects of the sorrel (Rumex).
3- It is distinguished by the addition of modern references.
4- It is characterized by the addition of medicines and medical preparations that are made from the sorrel (Rumex) and are permitted for use internationally.
5- Mentioning the types of Rumex that were officially included in the American, British, and Russian Pharmacopoeia.

The applications of sorrel (Rumex) in traditional folk medicine and therapeutic effects of the plant and its various extracts, which have been proven by studies and scientific research on different types of sorrel (Rumex), as well as the most famous medicinal preparations that have been manufactured from the sorrel plant and are permitted to be used globally and around the world, have been included in this review.

According to the current study, pharmacological tests and research have verified the primary traditional applications of Rumex species.

II. TRADITIONAL FOLK MEDICINES USES OF RUMEX SPECIES

Every kind of rumex holds significant value in traditional medicine around the globe. According to "Shennong's Herbal Classic," rumex has been approved for the treatment of infections, gynecological disorders, fever, head injuries, and skin scabies in China[9-10]. Since then, its use has expanded to South Africa, America, India, and Turkey[10]. Because of the roots' potential to treat bacterial infections, infections, cancers, and cardiovascular disorders, folk medicine has employed them[1] [6] [10-12].

Traditional folk medicine has used sorrel (Rumex) and its types in ancient times, as it has been proven that indigenous people use it to treat a wide range of diseases, including digestive system problems including constipation, diarrhea, and ulcers[4] [9-12]. Its herbal extracts are primarily taken orally and used to treat a variety of ailments, including rheumatoid arthritis, fever, wounds, ulcers, and snakebites [5]. Respiratory diseases, including cough, bronchitis and asthma. Kidney and liver disorders, including diuretic and jaundice and skin infections, including eczema [6] [10] [12]. The roots are mostly used to treat constipation, the seeds to treat diarrhea, and the leaves to treat skin problems [9].

To sum up, a variety of Rumex species are utilized globally for culinary purposes or as a folk remedy for a wide range of ailments [7] [12].

Plants belonging to the genus Rumex have been used in many parts of the world in traditional folk medicine either to treat many diseases or as edible plants (Table 1).

<table>
<thead>
<tr>
<th>No</th>
<th>Traditional folk medicines uses</th>
<th>Rumex species</th>
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</table>
| 1. | Gastrointestinal diseases and disorders: constipation, cramps, diarrhea, dysentery, ulcers, worms, astringent, hemorrhoids, abdominal pain, laxative, colic. | Rumex acetosa L [13-14]  
R. hastatus D. Don [15-16]  
R. alpinus [17]  
R. patientia L [17]  
R. aquaticus L [18]  
R. Chalepensis Mill [19]  
R. acetosella Linn [20]  
R. crispus L [20-21]  
R. dentatus L [22]  
R. gmelini [23]  
R. japonicus Houtt [24]  
R. maritimus L [25]  
R. nepalensis Spreng [26]  
R. obtusifolius L [27]  
R. crisatus DC [28]  
R. vesicarius L [29]  
R. luministrum Jaub & Spach [30]  
R. tingitanus L [31-32]  
R. ecklonianus [33]  
R. abyssinicus Jacq [34]  
R. confertus Wild [35]  
R. rothschildianus Aarons [36]  
R. maderensis [37]  
R. sanguineus [38]  
R. bucephalophorus L [9][39] |
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<tr>
<td>warts, scabies, abscesses, wounds, rashes, burns, itching, sores, blisters, and eczema</td>
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<td>anticoagulant, fever, blood pressure, purifies the blood, anemia</td>
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<td>kidney disease, diuretic, urinary tract and kidney diseases</td>
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<tr>
<td>sore throat, lung bleeding, cough, tonsillitis</td>
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<td>gonorrhea, sexually transmitted diseases (AIDS), aphrodisiac, syphilic</td>
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<td>rheumatism, joint pain and paralysis</td>
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<tr>
<th>12. Edema</th>
<th>R. obtusifolius L [27]</th>
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<tr>
<th>15. Scrofula</th>
<th>R. crispus L [20-21]</th>
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### III. PHARMACOLOGICAL ACTIVITIES OF RUMEX SPECIES

Crude extracts and isolated compounds from Rumex species have been shown to exhibit a variety of biological activities in pharmaceutical scientific investigations and research, including antioxidant, anti-tumor, anti-inflammatory, anti-ulcer, and antibacterial properties [1][3][8-12]. It should be highlighted, nonetheless, that the majority of pharmacological research was done using crude extracts. It has been discovered that pharmacological studies have verified and confirmed a few of the traditional therapeutic applications of Rumex species.

Table No. 2 summarizes the therapeutic medical effects of some of the results of studies and pharmaceutical research conducted on Rumex species and mentioned in the literature.

<table>
<thead>
<tr>
<th>No.</th>
<th>Pharmacological activities</th>
<th>Rumex species</th>
<th>Ref</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>Antifungal assays</td>
<td>Rumex dentatus</td>
<td>R. aquaticus, R. acotosa</td>
</tr>
<tr>
<td>5.</td>
<td>Antiviral assays</td>
<td>Rumex dentatus</td>
<td>R. aquaticus, R. acotosa</td>
</tr>
<tr>
<td>8.</td>
<td>gastrointestinal tract</td>
<td>R. aquaticus</td>
<td></td>
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</tbody>
</table>
IV. PHARMACEUTICAL PREPARATION PREPARED FROM SORREL PLANT

Due to their widespread usage in folk medicine to cure a wide range of illnesses, medicinal plants enjoy a strong reputation among civilizations. Since they are the primary source of pharmaceutical medications or the active chemicals required to prepare medicine, interest in them has grown recently as tests and scientific investigations have demonstrated their therapeutic medicinal benefits[1,3].

Promising in this regard are plants of the genus Rumex, which found all over the world, although they are particularly abundant in Turkey, Asia (China, India, Korea, Pakistan) and Eastern Europe (Poland, Hungary, Romania). Which are used as a source of herbal preparations and Pharmaceutical products[3,74-77].

Pharmaceutical products made from Rumex, which is used to treat some pathological conditions that are applied in contemporary modern medicine, Table No. 3.

Table 3. Pharmaceutical preparations made from Rumex used in contemporary modern medicine

<table>
<thead>
<tr>
<th>Pharmaceutical preparation</th>
<th>Rumex species</th>
<th>Pharmacological activity</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chrysarobin and Ramon</td>
<td>Rumex Tianschanisci</td>
<td>A keratolytic action</td>
<td>Used externally in the treatment of psoriasis, trichophytosis and chronic eczema.</td>
</tr>
<tr>
<td>Alurvet</td>
<td>Rumex alpinus</td>
<td>Antibacterial, Anti-inflammatory and antidiarrheal activity.</td>
<td>Used for veterinary disease.</td>
</tr>
<tr>
<td>Pulveris radici Rumex conferti</td>
<td>Rumex confertus</td>
<td>Cathartic activity</td>
<td>For treatment of constipation</td>
</tr>
<tr>
<td>Fluid Extract radicis Rumex conferti</td>
<td>Rumex confertus</td>
<td>Cathartic activity</td>
<td>For treatment of constipation</td>
</tr>
<tr>
<td>Tincture Rumex</td>
<td>Rumex confertus</td>
<td>Sedative and</td>
<td>For treatment of hypertensive</td>
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</table>
Confertus Anti-hypertensive action Anti-inflammatory activity Used for treatment of eczema.

<table>
<thead>
<tr>
<th>Confertus Anti-hypertensive action Anti-inflammatory activity</th>
<th>Used for treatment of eczema.</th>
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</thead>
<tbody>
<tr>
<td>Ointment of radix Rumex confertus</td>
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<tr>
<td>Sinupret</td>
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</table>

Thus, the data presented indicate the wide range of biological activity of the Rumex plant and its use in the creation of many herbal preparations and medicinal preparations, perhaps the most famous of which are [74-77] the following:

- Chrysarobin and Ramon: are drugs consisting of oxidized and reduced forms of anthraquinones. These preparations are obtained from the roots Rumex Tiansch-ansci. The drugs have keratolytic and keratoplastic properties. Recommended for the treatment of psoriasis, eczema and some other skin lesions in adults and children.

- The Alurvent: contains roots of Rumex alpinus, it has an astringent, antimicrobial and anti-inflammatory effect. Recommended for use in veterinary medicine.

- Sinupret: is a pill containing powder of root Rumex confertus, also available in the form of drops. It has mucolytic, expectorant and anti-inflammatory effects, immunostimulating and antiviral activity. Used for acute and chronic diseases of the upper respiratory tract, as well as for acute and chronic sinusitis.

It is known that (R. confertus Willd) is considered a constitutional plant and is included in the Pharmacopoeia of the Russian Federation, the fourteenth edition, as its roots are used for liver diseases, dysentery, pulmonary and uterine bleeding, as a laxative, for hemorrhoids and anal fissures, externally for burns, wounds, stomatitis, gingivitis, and skin diseases [78].

R. crispus L. has also been added to the American Herbal Pharmacopoeia, where it is used in medicine as a means of treating poisoning (“general detoxifier”) and various diseases [79].
The British Herbal Pharmacopoeia also suggests the use of (R. crispus L.) to treat skin diseases [80].

V. CONCLUSIONS
With more than 200 species, the Rumex genus is widely distributed throughout the world and has a long history of use in traditional folk medicine for nutritional and therapeutic purposes. These plants have demonstrated a range of pharmacological properties, including antibacterial, anti-inflammatory, antiviral, digestive and other medicinal effects due to their diverse groups of active chemicals.
There has been agreement between the results of scientific studies and research on the medicinal uses of many species of the Rumex genus with the traditional uses of plants. Researchers also consider Rumex an effective future drug for many diseases; however, to elucidate the bioactive components of many Rumex species, comprehensive phytochemical research is required.

The author of the article hopes that the review's findings have succinctly informed the scientific community about current research trends regarding phytochemistry and the pharmaceutical uses of Rumex species, as well as about the uses of the sorrel (Rumex) in traditional folk medicine and its medicinal and therapeutic effects.

The review also addresses a number of medicinal preparations made from the sorrel (Rumex) in traditional folk medicine and application. It presents the researcher's primary goal of future study, which should be to extract more novel bioactive chemicals from Rumex species, comprehensive phytochemical research is required.

Researchers also consider Rumex an effective future drug for many diseases; however, to elucidate the bioactive components of many Rumex species, comprehensive phytochemical research is required.

According to the researcher, the primary goal of future study should be to extract more novel bioactive chemicals from Rumex components using phytochemical analyses so that they might be utilized in the production of contemporary medications.

We can conclude from the results of many researches that the rumex plant and its various extracts have a great deal of promise for use in the production of medicines in the future.

VI. REFERENCES


