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THE USE OF HERBAL MEDICINE IN ARAB COUNTRIES: A REVIEW

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ABSTRACT

The utilization of herbal medicine is common worldwide in many societies. About 60% of the population worldwide and 80% of the population in Arab countries use herbal medicines for the prevention and treatment of illnesses. Arab people through successive eras depended on plants for food, fuel, fibre for construction and herbal medicine. The majority of the world's population in Arab countries still rely on herbal medicines to meet their health needs. Furthermore, in cases where synthetic medicine could not relieve patients suffering from hard-to-cure illnesses, they find peace of mind and psychological comfort with herbal medicine practitioners. The recent call for "going back to the nature" has affected all public sectors in the Arab region, either because some synthetic drugs failed to prove to be effective with serious side effects, or could not cure recently discovered illnesses. This review presents the use of herbal medicine in Arab countries by reviewing all related materials published between 2000 and 2017. The result of the review shows that more than 200 plant species are used in Arab countries to treat different diseases. More attention should be paid to the herbal medicine safety and efficacy

Keywords: Herbal Medicine, Arab Countries, Use.

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1.0 Introduction

Traditional and folk medicines play an important role in health services around the globe. About three quarters of the World's population relies on plants and its extracts for health care. (Premanathan et al., 2000; Gabhe et al., 2006). Plants and herbal medicine have provided the basis for the great medical systems in human history. More than 60% of the world's people and 80% of Arab countries depend directly on plants for their medicines (El-Mokasabi, 2014). The majority of the population in Arab countries still rely on herbal medicines to meet their health needs (Abu-Irmaileh and Afifi, 2000). Most of these herbal remedies have stood the test of time, particularly for the treatment of allergic, metabolic and cardiovascular diseases (Igoli et al., 2005). Arab physicians introduced many new aspects and upgraded the knowledge about herbs and their potential medical efficacy and safety. This resulted in a huge development in pharmaceutical science; causing pharmacologists and ethnopharmacologists to start searching for different ingredients and extracts to be used as remedies, and they even started to study the chemical properties of the materials used in the treatment of various diseases and ailments. (Bin Murad I., et al 1991). In the tenth century, the well-known physician Abu Bakr Rhazes (846–930 ac) started lab animal testing to test the safety and efficacy of the extracted active ingredients. The first animal used in these experiments to test the effects of mercury on the human body was a monkey (Tastaa, 1991). Despite all the marvellous advancements in modern medicine, traditional herbal medicine has always been and is still practiced for the treatment of various illness in many Arab countries. This article aims to review the various herbal medicine used to treat various illnesses in Arab countries.

2.0 Methodology

2.1 Identification of publications

This review considered all studies related to herbal medicine used in Arab countries. The search strategies were designed to assess English-language published materials. Two strategies were used in the review of literature. First, an article search in the ProQuest Central, Google scholar, PubMed, ResearchGate was undertaken with the aim to identify published studies on the use of herbal medicine in Arab countries. The key words used were Herbs, Medicine, Arab countries, Use. While the search focused on publications from year 2000 to 2017, several valuable articles published earlier were also included in the review. Secondly, reference lists of useful review articles and meta-analyses in the area of Herbal medicine were scrutinised and manually searched to identify relevant references related to the field.

2.2 Inclusion and exclusion criteria

Duplicate references and those without abstract or are not related to herbal medicine were excluded. This review included any article that studied the use, prevalence and challenges of herbal medicine in Arab countries

2.3 Data extraction

Two review authors independently screened the titles and abstracts of retrieved studies, and performed study selection. Another two review authors read the full text articles and

independently extracted the data. The data were arranged according to the herbs used as cure in some common illness, preparations and other additional uses of the herbs.

3.0 RESULTS

In total 80 articles and reports were found but only 34 were found eligible for this review. The 34 articles and reports were analysed and the findings are discussed according to the different uses of herbal medicine in Arab countries.

3.1 Uses of herbal medicine in Arab countries

Herbal medicine is defined by the WHO as herbs, herbal materials, herbal preparations and finished herbal products which contain parts of plants, or other plant materials, as active ingredient, (WHO, 2005). Most patients using medicinal herbs relied upon the advice of family and relatives. Such information on the use of medicinal plants could be based upon culture/traditional knowledge, (Blade, et al., 2006). The Arab world still relies on traditional medicine for health care either as primary care or as complementary care, (Alzweiri, et al., 2008). The Arabs separated the practice of medicine from that of pharmacy and were the first to create apothecary shops where most remedies were derived from plants or animal products, (Kelly, 2002).

In most Arab countries, the use of herbal medicine is increasing faster among the rich than the poorer ones; this could be due to the high cost of most herbal medicine, (Alaaeddine, et al., 2012). A survey in United Arab Emirates (2009) reported that 76% of the population are using herbal medicines. In total, 65 different herbs were being used to treat 48 conditions. The majority of UAE citizens in Abu Dhabi felt herbal medicines were safe yet more than 10% among 250 reported experiencing serious adverse effects, (Alaaeddine, et al., 2012, Albraik, 2008). Currently, <200–250 plant species are still in use in Arab traditional medicine for the treatment of various diseases, (Abu-Irmaileh, & Afifi, 2000). These herbs are commonly used in most Arab countries to treat several diseases, for instance *Silybum marianum* (L.) (milk thistle) is currently the most well researched plant used traditionally by Arab herbalists in the treatment of liver diseases, (Said, 2002). Below are some other common illness often cured with several herbal medicines in Arab countries.

3.2 Cancer

Cancer is a generic term for a large group of diseases that can affect any part of the body. Other terms used are malignant tumours and neoplasms. One defining feature of cancer is the rapid creation of abnormal cells that grow beyond their usual boundaries, and which can then invade adjoining parts of the body and spread to other organs, the latter process is referred to as metastasizing. Metastases are a major cause of death from cancer, (WHO, 2014). Possible signs and symptoms include a lump, abnormal bleeding, prolonged cough and unexplained weight loss, (American cancer society, 2017). Drugs used to treat most cancers are those that can block cell cycle, cell signalling, including growth factor signalling; inflammation, angiogenesis and others, (Saad, B., et al, 2010). Strikingly, herbal plant extracts and based drugs, including those attributed to the Islamic civilization were reported to

mediate their effects by modulating several of these recently identified therapeutic pathways, (Hilal, 2014). These herbal medicine is one of the most commonly used complementary and alternative therapies by people with cancer in Arab countries as shown in Table 1 of the most common herbs used to treat cancer in Arab countries. In Saudi Arabia, 3% of patients who have tumour and malignancy use complementary and alternative medicine (Aldahash, et al., 2012) and 58% of those who used the complementary and alternative medicine in Saudi Arabia are using herbs (Elolemy, & Albedah, 2012). In Jordon, 35.5% of patients with cancer used herbs (Afifi, et al., 2010) and in Palestinian, 60.0% (Ali-Shtayeh, et al., 2011).

Table 1: Medicinal herbs used to treat cancer based on the herbs Arab medicine

Plant species	Preparation	Additional uses
Allium cepa L.	Bulb juice	Diabetes, loss of appetite, liver disease,
Arum palaestinum	Foliage decoction	Internal bacterial infections, poisoning
Brassica oleracea L.	Whole plant juice	Respiratory system, asthma, joint inflammation, bacterial infection
Crataegus azarolus L.	Fruit and flower	Cardiovascular diseases, sexual weakness,
Quercus calliprinos Decne	Fruit and bark decoction	Bed wetting, ulcer, diabetes, skin diseases
Quercus ithaburensis Webb.	Stem, bark and fruit decoction	Fever, bed wetting, high blood pressure, ulcer
Triticum aestivum L.	Shoot decoction	Anaemia, skin disease (seed decoction)
Urtica pilulifera L.	Foliage decoction	Stomach, intestine pain and inflammation,
Zea mays L.	Kernel and fibre decoction	Urinary system and stones in kidney, blood pressure, joint inflammation and weight loss
Nigella sativa	Seed	Toothaches, headach
Punica granatum	Fruit	Inflammation, cardiovascular disease, diabetes,
Vitis vinifera	Fruit and seed	Anti-inflammatory, anti-cancer effects, prevent lipid oxidation and

(Saad, et al., 2008, Saad, & Zaid, 2010)

3.3 Diabetes

Diabetes was recognized since early times and its main symptoms include increased thirst and frequent urination and tiredness experienced by the diabetics. Arab physicians and practitioners have used a series of herbs to treat these combined symptoms (Saad, et al, 2008). The prevalence of herbs used among patients with diabetes in Arab countries is 17.3% in Iraq, (Al-Asadi, & Salih, 2012), (17.4%) in Saudi Arabia (Al-Rowais, 2002)., 46% in Bahrain (Khalaf, & Whitford, 2010), 54.8% in Morocco (Alami, et al., 2015), 52% in North Sudan (Ali, & Mahfouz, 2014), and 31% in Jordon (Otoom, et al., 2006).

Table 2 below shows the most common herbs used in Arab countries to treat diabetes.

Table 2: Medicinal herbs used to treat diabetes based on the herbal Arab medicine.

Plant species	Preparation	Additional uses
Astragalus macrocarpus	Leaf decoction	Heart diseases
Ceratonia siliqua L.	Leaf decoction	Herpes and lip sores
Cichorium pumilum	Foliage decoction	Bacterial infection, poisoning and rheumatism
Cupressus sempervirens	Fruit decoction	Antiseptic and nervous system
Eryngium creticum	Foliage decoction	Liver diseases, poisoning, anaemia and
Juglans regia L.	Leaf and flower	Asthma and sexual weakness
Lupinus varius Gaertn	Soaked seeds	Kidney stones
Mercurialis annua L.	Leaf decoction	Cancer and skin diseases
Morus nigra L.	Leaf, stem and fruit	Teeth and gum inflammation and cholesterol
Paronychia argentea	Leaf and flower	Stones in kidney and heart diseases
Pinus halepensis Mill.	Leaf and seed	Sexual weakness
Prosopis farcta Sol. Ex	Foliage decoction	Menstrual cramps and kidney stones
Quercus calliprinos	Fruit and bark	Cancer, bed wetting and ulcer
Salvia fruticosa Mill.	Foliage infusion	Stomach ache, intestinal gas and
Sarcopoterium	Leaf, seed and root	Intestine pain, kidney diseases and ulcer
Smilax aspera L.	Fruit and root	Poisoning
Teucrium polium L.	Foliage decoction	Kidney stones, liver diseases, stomach and
Trigonella foenum-	Seed decoction	Sexual weakness, stomach and intestinal pain

(Abu-Irmaileh., et al., 2003, Azaizeh, et al., 2006).

3.4 Liver diseases

Since ancient times, herbal medicine has been used to prevent and treat liver diseases (Rajaratnam, et al., 2014**).** In Saudi Arabia, 31.8% of patients with liver disease use herbal medicine (Al-Zahim, et al., 2013). *Urtica pilulifera*, and *Rhamnus alaternus* are used as hepatic active herbals. *Cichorium pumilum* is a common traditional therapy, the plant as a whole contains several guaianolide sesquiterpene lactones. Similar compounds in other herbs for instance feverfew are known to have anti-inflammatory activity. In addition in Europe several known herbal medicines are used to cleanse the body and aid liver function as well as in stimulating the eliminative processes by the intestine and kidneys (Saad et al., 2008). *Urtica pilulifera* is an annual plant that has been extensively cultivated in the Mediterranean region and is known as stinging nettle (Irshaid, & Mansi, 2009). The plant has a long history of use as food and medicine. The leaves of *U. pilulifera* are rich in silicon and other minerals, and large quantities of flavonol glycosides, as well phenolic acids. *U. pilulifera* is used as an anti-inflammatory agent also as a part of treatment for problems related to blood sugar (Saad et al., 2008). Ecballium elaterium has been used in Libya for hepatitis B and C and inflammatory liver diseases **(**El-Mokasabi, 2014**).** Table 3 shows some of the herbs used to treat liver diseases.

Table3: Medicinal herbs used in the herbs Arab medicine to treat liver diseases.

Plant species	Preparation	Additional uses
Allium cepa L.	Bulb juice	Diabetes, loss of appetite, prostate
Artemisia officinalis L.	Young shoots or above-ground parts	Diabetes, urinary system, lack of
Asphodelus microcarpus	Juice or tincture from roots, tincture	Ectoderm parasites, psoriasis
Cistance tubulosa Schenk.	Decoction of leaves	Urinary system and stones in kidney,
Citrullus colocynthis L.	Decoction from seeds	Diabetes
Cynara scolymus L.	Decoction of leaves, and seeds	Cholesterol regulation
Daucus carota L.	Root juice	Anaemia, urinary system
Ecballium elaterium L.A. Rich.	Fruit juice applied into	Sinusitis
Eremostachys laciniata L.	Decoction of leaves	Allergy, headache
Eryngium creticum Lam.	Whole-plant decoction	Poisoning, anaemia, infertility
Nerium oleander L.	Infusion of wooden	Skin diseases (foliage)
Pistacia lentiscus L.	Leaf infusion	Bed wetting, respiratory problems
Rosmarinus officinalis L.	Leaf infusion	Kidney diseases, arteriosclerosis,
Saponaria mesogitana Boiss.	Leaf and root decoction	Acne, stomach ache, kidney and
Urtica pilulifera L.	Foliage decoction	Stomach, intestine pain and
Verbena officinalis L.	Foliage infusion	Stomach pain, fever, menstrual

(Saad et al., 2008).

3.5 Gastritis

Gastritis describes a group of conditions with one thing in common: inflammation of the lining of the stomach (Rugge, et al., 2007). The inflammation of gastritis is most often the result of infection with the same bacterium that causes most stomach ulcers (Sugano, et al., 2015). The other causes of gastritis are injury, regular use of certain pain relievers and drinking too much alcohol (Glickman, & Antonioli, 2001). Herbal medicines for gastritis seek to reduce the inflammation and irritation of stomach lining. Table 4 shows the most common medicinal herbs used in Arab medicine to treat gastritis (El-Mokasabi, 2014).

Table 4: Medicinal herbs used in the herbs Arab medicine to treat gastritis

Species	Parts used	Preparation
Ajuga iva	Shoot	Decoction - Infusion
Arbutus pavarii	Leaves – Fruits	Decoction – Eaten fresh
Ballota pseudodictamnus	Shoot	Decoction
Cistus salvifolius	Leaves	Decoction
Globularia alypum	Shoot	Decoction- Hot infusion
Juniperus phoenicea	Leaves	Decoction
Matricaria aurea	Flowers	Hot infusion
Pistachia lentiscus	Leaves	Decoction - chewing
Rhus tripartite	Shoot – Bark	Decoction
Viburnum tinus	Fruits	Hot infusion – Eaten fresh
Cymbopogan schoenanthus	Shoot	Hot infusion – Decoction

El-Mokasabi, 2014

3.6 Renal stone

Renal stones form when the kidneys are not able to process toxins efficiently. Specifically, a crystallization of unprocessed minerals builds up. Renal stones cause pain and possible blockage of urine flow. Herbs can be used for acute pain relief and long-term toning of the urinary tract if used under the guidance of a knowledgeable health care provider (El-Mokasabi, 2014). Table 5 shows Medicinal herbs used in the herbs Arab medicine to treat renal stones:

Table 5: Medicinal herbs used in the herbs Arab medicine to treat renal stone

Species	Parts used	Preparation
Alhagi maurorum	Aerial parts	Decoction
Tribulus terrestris	Aerial parts	Decoction
Nigella Sativa	Seed	Decoction
Althea aucheri Boiss.	Aerial parts	Decoction
Lactuca sativa L	Leave	Fresh
Prunus cerasus	Fruit	Fresh
Alhagi camelorum	Aerial parts	Decoction
Mangifera indica	Fruit	Fresh
Prangos acaulis (DC.) Bornm	Aerial parts	Decoction
Urtica dioica L	Aerial parts	Decoction
Prunus cerasus	Fruit	Fresh
Fumaria officinalis	Leave	Decoction and fresh
Plantago psyllium	Leave	Decoction
Medicago sativa	Decoction	Decoction
Apium graveolens	Decoction	Decoction
Arctium lappa	Aerial parts	Decoction
Pimpinella anisum	Aerial parts	Decoction
Gundelia tournefortii	Leave	Fresh

(Bahmani, et al., 2016)

3.7 Skin diseases

Herbal therapy for skin disorders has been used for thousands of years. Even our biologically close relatives, the great apes, use herbal self-medication (Huffman, 2001). In Saudi Arabia 76% of patients with skin problems use complementary and alternative medicine and one of the most commonly used complementary and alternative medicine modalities was herbs (AlGhamdi, et al., 2015). Table 6 shows Medicinal herbs used in Arab medicine to treat skin diseases.

Table 6: Medicinal herbs used in the herbs Arab medicine to treat skin diseases

Plant species	Preparation	Additional uses
Achillea santolina	Decoction	Toothache
Arum cyreanicum	Decoction	Psoriasis, corn and bone spur
Asparagus stipularis	Decoction	Allergy and prostatis
Asphodelus aestivus	Juice	Arthritis, rheumatic and ovulation
Cictanche violacea	Powder, decoction and	Diuretic, renal stones and diarrhea

	ointment	
Convolvulus arvensis	Decoction, gargle	Varicose veins, gingivitis and rheumatic
Euphorbia paralias	Juice	Rheumatic
Lycium europaeum	Powder	Rheumatic and constipation
Matricaria aurea	Decoction and douche	Gastritis, menstruation, colic and diuretic
Nerium oleander	Decoction	Psoriasis
Pistachia lentiscus	Decoction and chewing	Colic, gastritis, piles, gingivitis and colitis
Quercus coccifera	Decoction	Cough, hypertension, ulcer and diarrhea
Ruta chalepensis	Decoction	Earache, menstruation and headache
Smilax aspera	Decoction	Blood purification
Solanum nigrum	Decoction and douche	Arthritis, rheumatic and diuretic
Urginea maritime	Juice, macerated and local packs	Back pain, rheumatic, bone spur and vulnerary

(Darwish & Aburjai, 2010).

3.8 Arthritis

Arthritis is a disease of inflammation, therefore adding anti-inflammatory herbs and spices to the diet helps to relieve the symptoms of arthritis.

Table 7: Medicinal herbs used in the herbs Arab medicine to treat arthritis

Species	Parts used	Preparation
Asphodelus aestivus	Roots	Externally
Citrullus colocynthis	Fruits	Externally
Thapsia garganica	Roots	Decoction
Marrubium alysson	Shoot	Hot infusion
Peganum harmala	Seeds	Powder
Solanum nigrum	Fruits	Externally
Thymus capitatus	Oil	Massage

(Al-Arifi, 2013)

4.0 Discussions

By expanding upon the wisdom of the Greeks over the centuries, indigenous Arab medicine has contributed greatly to the development of modern medicine in Europe and remains one of the closest forms of original European medicine. Indigenous Arab medicine is well documented in old traditional texts, and some of the practitioners have such texts and make use of them to complement their experiential knowledge. Overall, when herbs are prescribed appropriately, the safety of traditional herbal medications is high. It is generally recognized that life-threatening events in cases of using herbs to treat human diseases are rare compared with the hundreds of thousands of reports for pharmaceutical products each year. However, any plant parts used or prescribed by ethnopharmacologists should be tested for safety before being recommended for human use (Dutta et al., 2003).

The use of plants for medicines around the world greatly exceeds the use of modern synthetic drugs and is appreciated in pharmaceutical research as a major resource for new medicines . Medicinal plants are usually important to indigenous peoples all over the world. The essential role played by these plants is to maintain the needs of local people in different life styles (Arifi, 2013).

The Mediterranean area has a very rich tradition in the use of medicinal plants for treating different diseases (Saad et al., 2008). On the other hand to the above-mentioned historical importance of Arab medicine, research into the different modalities of complementary and alternative medicine in Arab region is relatively small and the current status of the know-how of Arab herbalists is few (Shaikh & Hatcher, 2005; Said et al., 2002). The number of scientifically well-oriented and experienced herbalists is few, but there are many who have found a thriving commerce, dealing with herbal medicine without a good background. Research into the medicinal herbs still in use has also been conducted in other Arab countries like Tunisia, Syria, Egypt, Yemen, Morocco and other countries (Abu-Irmaileh & Afifi, 2003; Heneidy & Bidak, 2004). According to recent studies, the Middle Eastern region is home to more than 2600 plant species of which more than 700 are noted for their use as medicinal herbs. At this time, less than 200–250 plant species are still in use in Arab medicine for the treatment of different ailments (Shaikh & Hatcher, 2005; Lev, 2000; Azaizeh et al., 2003).

Medicinal plants in the Arab countries are becoming ever more rare due to both the continuous destruction of their natural habitat in addition to the excess of wild species as well as unhealthy climatic and environmental changes. As a result, a number of species will disappear within the next 10 years, mostly in the desert or dry districts where almost a third of resident plants are found, unless urgent measures are taken to protect and preserve them. This is paradoxical at a time when there is an increasing interest overall in herbal medicines accompanied by increased laboratory investigation into the pharmacological properties of the bioactive ingredients and their ability to treat different illnesses (Cooper, 2004; Mueller et al., 2004).

With regard barriers that limit Arab communities from using herbal medicine, the most important ones are lack of time, lack of reliable resources, lack of scientific evidence that supports the use of herbal medicine, lack of knowledge on herbal medicine and lack of interest in herbal medicine (Sweet et al, 2003).

Some of these herbs are rare or even endangered species. With regard to the status of the know-how of herbalists, unfortunately, herbal medicine in Arab region is mostly prescribed by ethnopharmacologists symptomatically-based on signs and symptoms alone, rather than as a result of a full understanding of the underlying disease. In some cases, herbs used today may not even correspond to the plants described originally in the old literature, as the former are cultivated from herbs that went through different breeding procedures throughout several centuries (Wlna et al., 2003).

5.0 Recommendations

The finding from this review shows the need to pay more attention to herbal medicinal resources and extra efforts are required to increase the awareness of Arab communities to adverse drug reactions and side effects as well as the development of strategies for collecting, surveying and identification of herbal medicine in the Arab region, their habitats and field of studies for their regeneration
Also herbal medicine have to fulfil international requirements on quality, safety and efficacy which requires appropriate regulation and licensing in order to ensure supply of apposite and safe products. In addition, a uniform database should be established on the characteristics of herbs, the methods used for the preparation of these remedies, their application as well as efficacy and toxicity tests in order to avoid negative impacts on the patients.

6.0 Conclusion

Herbal medicine have been extensively used in Arab traditional medicine as effective remedies for the prevention and treatment of multiple health conditions. Herbal medicine can be used to treat a wide range of health conditions such as cancer, diabetes, liver diseases, gastritis, skin diseases, renal stone and arthritis. Cultural beliefs is an important factor that enhances the popularity and widespread use of herbal medicines in Arab countries. It is important to test any plant herb or ingredients taken from plants before using it as a remedy.

Declaration

Authors declare that the article has not been published or submitted for publication in any other journal.

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