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## **Comparison of traditional and classical medicine herbs useful for joint pain**

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**Abstract**---Traditional medicine plants were used both externally and internally to treat joint pain. The positive effect of herbal medicines in correcting the pathophysiology of arthritis has led to a significant increase in their use as a treatment for this disease. Study of joint pain diseases from reference books of traditional medicine and extraction of traditional medicinal plants for the treatment of joint pain and their nature from the books of the medicine tank and Abadan calendar and identifying their definite scientific names from books by comparative description and matching of scientific statistics statistics and charts from the nature of plants that were useful for joint pain were done with related software. Introduction of various joint diseases in traditional medicine and folk, royal and dervish treatment methods, as well as the introduction of medicinal plants with effective medicinal properties in the treatment of joint pain diseases were presented. Comparison of the family of medicinal plants useful for the treatment of joint pain in the medicine tank and Abadan calendar showed that the family Asteraceae (sunflower) with 38%, Liliaceae (tulip) with 29% and Apiaceae with 21% have the most medicinal plants in the world. Their treatment is joint pain. In traditional medicine for joint pain, there are two types, cold and hot, called joint pain from cold and joint pain from heat. In traditional medicine, bone is cold and dry and absorbs moisture when joint pain occurs. It is noteworthy that traditional medicinal plants useful for joint pain have a warm and dry nature of 65%, cold and dry 12%, hot chord 5% and cold chord 5%. The most suitable plants for the treatment of joint pain are plants with a warm and dry nature that balance the phlegmatic temperament (cold and wet). In connection with traditional and classical medicine, new methods were proposed to prepare appropriate drugs for the treatment of joint pain. The introduction of more than 100 species of drugs in traditional natural sources shows that a large part of these plants have been included in the studies of classical medicine, which can increase the chances of treating joint pain with classical medicine.

**Keywords**---traditional medicine, classical medicine, species, Iran, apiaceae.

## **Introduction**

The use of medicinal plants has a specific importance throughout the history and in the lives of different nations. It causes every tribe to use the treatment effect of plants based on perception, experience, and even his/her guess in different methods throughout the history (1). During the time, storing the information resulting from the knowledge and experience gradually causes the views and doctrines to be formed in the world for the use of medicinal plants and their properties more and more (2, 3). In this regard, many books have remained in the field of medicinal plants. To utilize the experience of generations, it is felt that collection and classification of remaining contexts, their translation, and even knowledge of unwritten and remaining experimental reserves us at the heart of generations (4). Hence, employing the skills to use valuable information left in the past works can increase the level of our use from these works widely (1,4). Joint pain is one of the diseases, which can utilize the traditional treatment. Arthralgia (from the Greek arthro, meaning "a joint" and algos, "pain") literally means "the joint pain" (5). Arthritis is a term which often means every disorder which affects the joints (6). Particularly, symptoms include pain and stiffness of joints. There are more than 100 types of Arthritis (7).

The most common type of that is Arthritis (degenerative joint disease) and Rheumatoid Arthritis (RA). Arthritis usually occurs with increasing age and involves fingers, knees, and buttocks (8). RA is an autoimmune disorder, which involves hands and feet (9). Other types are gout, lupus, fibromyalgia, and septic arthritis. All of them are types of Rheumatic diseases (10). Osteoarthritis involves more than 3.8% of persons, while RA approximately 0.24% (11). Gout affects about 1-2% of the western people during their life (12). In Australia, about 15% of people are with Arthritis (13); while in the US, there are more than 20 types of Arthritis (14). In particular, this disease becomes more common with aging (15). Arthritis is one of the common reasons that the people do not work referred to decrease in the quality of life (16). RA or "Rheumatoid Arthritis" is a chronic inflammatory autoimmune joint disease (17). Systemic autoimmune disease affects most of the non-joint organs (non-articular limbs) such as skin, eyes, lungs, kidneys, salivary glands, bone marrow, and blood vessels (18). However, RA mainly attacks the joints. This common immunological disease inhibits the activity and performance of joints and affects the patients' health and quality of life. Based on the epidemiologic statistics, the incidence of RA is approximately 1% of the world's population; that is, about 700 million persons are affected by RA worldwide, among them, more than 80% of patients are women (19). There is no known therapy for RA. After diagnosis, the therapy for the relief of symptoms and reduction or end of the disease progression is administered. Since RA is naturally progressive, associated with worsening symptoms during the time, and often started in the primary or middle years of the life for many people, this disease mostly has a long-term effect on the performance (for many people more than 30 years); that is a long with remarkable social and economic costs (20).

For many patients, chronic fatigue and related pain do not considerably interfere with a natural ability. As a result, RA may inhibit a person from working. One study has estimated that approximately a third of people with RA are forced to stop their work within 10 years after diagnosis. This issue converts the utilization reduction into the important part of the overall burden of disease. Moreover, many health effects related to the RA increase the cost of this disease and can significantly have a negative impact on the life quality (21). Whenever RA is a simple effect, it is easy to manage. Because often this type of inflammation is simple and without any swelling and improves with changing the temperament. The best procedure in this issue is to excrete bile and take the blood (22). Sometimes, maybe RA occurs due to the severe cold and frostbite. In this way, this effect is eliminated by changing the temperament. Here, the best activity to warm the blood is to excrete phlegm (23). Also, the low digestive power has been proved in classical medicine, which can be one of the factors creating the diseases related to RA (24). Maltemperament is one of the factors creating RA, especially when the temperament is cold, which can occur in the whole body or only in the limbs such as heart, brain, and liver (25). The high activity and extreme use of joints are also the most importance factors of joint pain especially in Osteoarthritis after gaining weight (26).

Moreover, it has been referred to the impact in the modern medicine references as well, and stated that the impacts through anatomic injuries can make the joints be prone to joint pain and also creates pain with avascular necrosis (27). From the Iranian traditional medicine point of view, joint pain is mostly related to the intervention of tissues around the joint including ligaments, membranes, muscles, soft tissue, and the thin membrane covering of bone. Among these, muscles and ligaments are involved more than other cases. Joint pain is often physical, i.e. one or multiple sputum accumulates in the mentioned tissues. The reasons for influx of materials in the joints is mostly induced by the impact, quitting exercise, indigestion, lack of diet, colds and nausea, and mental illness and the most common materials creating joint pain is a combination of phlegm and bile. The entire approach for joint pain treatment returns to its cause in such a way that in physical maltemperament, the first step is to excrete the material from the whole body and the next step from the affected organ. Also, in most of the cases that the patient suffers from acute or severs pain, the first step in the treatment is to relieve pain (28).

## **Materials and Methods**

The studies of this research have been done in two very different sources which the first part contains information studied and collected from the written versions and reference books of the traditional medicine including "Makhzan al-Adviyeh" by Aghili Alavi Khorasani (29), "Taghvim al-Abdan" from Abu by Yahya ibn Isa ibn Ali ibn Jazla al-Baghdadi, and "Mofareh al Gholoob: a description of the law in medicine" by Arzani (25); also, in this regards, to identify and introduce the scientific name of medicinal plants, the new medical and pharmaceutical books such as "Matching the ancient names of medicinal plants with scientific names" (1) and "Comparative description of ancient medicinal plants" by Ahmad Ghahreman and Ahmadreza Okhovat (4) were also used to match scientific names of medicinal plants (31). The second part of this research was done by the new

scientific sources and scientific valid articles, which have been introduced the used medicinal plants in classical medicine as well as common ones between the classical medicine and traditional one.

## **Findings**

### **The list of effective medicinal plants in the treatment of joint pain**

The number of useful medicinal plants in the treatment of joint pain was depicted in Tables 1 and 2 along with the definitive scientific name and medicinal properties (88 types in Makhzan al-Adviyeh and 51 types in Taghvim al-Abdan). The percentage of nature of plant species as well as effect of plant families on joint pain was illustrated in two diagrams 1 and 2.

### **Types of joint pain diseases in the traditional and classical medicine**

- **Types of joint diseases in the traditional medicine.** The joint pain diseases are mostly known as Verak's disease (e.g. thigh bone and buttocks) which include women sweat, gout from cold, diseases caused by hot and cold joint as well as joint stiffness or hardness. Also, types of royal, Dervish, and general treatments have been mentioned.
- **Types of joint pain diseases in the classical medicine.** The joint pain diseases in the classical medicine are mostly referred to RA which the most prevalent property of that is joint tissue inflammation. It occurs when a person's immune system attacks to his/her body. In this way, the joints are often targeted, but maybe other organs such as lungs and eyes are also affected. The gout disease is the other types of Arthritis that attacks at night. Stress, taking some medicines and a certain disease may lead to its incidence. In this way, Uric acid crystals are formed in a joint. Uric acid is found in all human tissues and in food. The diagnosis of Arthritis is based on the blood tests and radiology. While Arthritis is mainly caused by increasing age and basically affects cartilages (9, 10). Arthritis is the inflammation of joints. The effect is mostly along with pain, swelling, stiffness, and warmth of injured joints. Arthritis may be confused with the number of ailments and diseases such as injury, infection, metabolic disorders, overactive immune system, and even problems caused by weight. According to the experts, currently more than 100 types of Arthritis have been known, the most prevalent of which are osteoarthritis, RA, and gout. In fact, every kind of joint inflammation is considered as a form of Arthritis (5). Arthritis is another term for osteoarthritis which is a non-inflammatory disease of joints and the cartilage is destroyed during it. This degenerative disease occurs due to injury, increasing age, and prolonged stretching or long-term rupture of the cartilage in the joints and causes pain and stiffness to be created in them. Every joint may be affected by Arthrose, but the reason for this effect is prevalent in the knees, spine, and pelvis. Arthritis is a result of inflammation, but Arthrose, indeed, is a physical problem resulting from the organ injury (11). Types of joint pain diseases in the classical medicine have been shown in Table 3.

## Discussion

In this paper, the list of medicinal plants for the treatment of joint pain was prepared by two mentioned books (i.e. *Makhzan al-Adviyeh* and *Taghvim al-Abdan*). It is noted that the patient's temperament and plant one must be identified and selected proportional to each other in order to result in a definite and entire treatment. The result of this research is that there is a treatment for each pain, which must be searched through a nature. The study of traditional medicine books in this research, especially book of the *Law* by Abu Ali Sina, is more valuable not compared to new scientific sources. It is recommended to make these valuable sources available for classical medicine. In the classical medicine, two temperaments (i.e. hot and cold) have been used for joint pain with titles of "joint pain from warmth" and "joint pain from cold". In the traditional medicine, the bone temperament is cold and dry which absorbs wet; and when joint pain occurs, it is often caused by creating two or multiple compound sputum (e.g. 'blood' with 'bile' and 'phlegm' with 'soda') and this compound more than phlegm (cold and wet) and bile (warm and dry) (29).

It is noted that traditional medicinal plants have the warm and dry temperaments (65%), cold and dry ones (12%), warm and wet ones (5%), and cold and wet ones (5%) for joint pain treatment (see diagram 1); the most suitable plants for this treatment are the ones with dry and warm temperaments, which balance the phlegm temperaments (i.e. cold and wet). Comparison of suitable medicinal plant families for the joint pain treatment, in *Makhzan al-Adviyeh* and *Taghvim al-Abdan*, showed that families of Asteraceae with 38%, Liliaceae 29%, and Apiaceae 21% are the highest medicinal plant species for the joint pain treatment. Also, two families of Cucurbitaceae and Colchicaceae with 9% and 3%, respectively, were studied as effective families in the treatment of joint pain diseases (see diagram 2). According to the book of the *Law* by Abu Ali Sina, a very important result obtained in this research is that "Sometimes, diseases such as joint pain occur due to stopping normal excretion of materials through the body including vomit, diarrhea, menstruation, hemorrhoid, sexual intercourse, and blue discharge (23)."

Accordingly, it can be found that there are some plants which purify liver and kidneys related to joint pain. Indeed, the relationship between the liver and kidney is very close and notable. Based on Rabizadeh's findings (32, 33), there are many common medicinal plants between the joint treatment and liver (or kidney) one. So, the common medicinal plants between liver and joint pain were 54 species, between kidney and joint pain 11 ones, and between the heart organs 10 ones that it was concluded that the relationship of liver with the joints was more than two other organs. After the liver, kidneys have the most common plant species between the kidney organ and joints that this issue has been mentioned in the book of the *Law* by Abu Ali Sina, as well (23), which waste of hepatic and renal metabolism functions creates joint pain. For example, in the warmth gout disease, the use of diuretics is very useful or a joint pain rarely occurs due to only bile, phlegm or pure soda. The disease often or always has a common state. However, sputum overcomes others. Then, a prescribed drug must be selected in such a way to affect all of them. It means that it must enable to eliminate them and be consistent with the hot liver and cold bone. The tradition medicine practitioners believe that remaining materials and ashes which create due to the

metabolism of cell nutrients in the body, enters into the blood and excrete through the lung, kidney, and skin. Sometime, warmth vapors rise from the liver and moves toward some organs and viscera where they are placed, and corrupt and destroy it (23).

In the traditional medicine books, the treatments have been mentioned to treat most of the diseases, especially joint pain which not only can be relieved by following and doing correctly, but also the disease is treated definitively and entirely after completing the treatment period, which it is possible to be used for all ages. However, it must be noted that if the disease gets old in the body, its treatment will be long and hard. However, in the traditional medicine, the careful review of the disease and temperamentology of the organ and patient can be performed by the actual and definite treatment. The treatment versions mentioned in the book of the Law by Abu Ali Sine (23) and Taghvim al-Abdan are proofs of this claim. In this study, 88 species of medicinal plants in Makhzan al-Adviyeh and 51 ones in Taghvim al-Abdan have been mentioned regarding the useful medicinal plants for the joint pain diseases. The common species between Makhzan al-Adviyeh and Taghvim al-Abdan are 28 species including crambe, cucumber, marjoram, sorrel, aloe, white mallow, chamomile, olive, violet, rue, chickpea, raisin, rose, celery, agaricus, honeysuckle, watermelon, evergreen, dill, ginger, pellucid, spinach, senna, and quince.

Also, useful medicinal species for joint pain studied in the classical medicine sources are from common species between Makhzan al-Adviyeh and classical medicine including elm, celery, garlic, pellucid, olive, and from common species between Taghvim al-Abdan and classical medicine including chamomile, egyptian lupin, and spinach. Studying the useful medicinal plants for joint pain in the traditional and new medicines, it is concluded that in the traditional medicine, the joint diseases have been treated completely and definitively by temperament conversion and then medicinal plants, while in the new medicine, it has only been mentioned some analgesic drugs to relieve pain, which were proved by Naseri et al.'s results (28). Old physicians, first, diagnosed the patient's temperament and then treated him/her; that this point has not been mentioned in the new medicine which a drug is prescribed for all patients. This causes the treatment to be slowed down or not to be done. As mentioned by elders: There is not any pain to not be treated naturally. In the old medicine, joint pain same as other diseases has a definite treatment. The relationship of the old medicine with the nature is more, but the new medicine is far away the nature and follows the treatment through industrial and chemical drugs, that this inattention should be eliminated by Iranian and Muslim physicians.

## **Conclusion**

In this paper, it has been reviewed the organ due to joint pain and introduced the useful medicinal plants proposed for this organ in the traditional plants. Also, the relationship between these plants and their common medicinal properties obtained from reviewing them. This relationship is considered as a new medicine and new way to identify the useful medicinal plants of this organ better and treat it more practical, which promises to cure and strengthen this organ. So, based on this, the list of medicinal plants of the old medicine related to the organ was

prepared for joint pain. In this research, the reference books which consist of all medicinal plants of the traditional medicine such as "Makhzan al-Adviyeh" by Aghili Alavi Khorasani were used. It is noted that the old plants of this list have been mentioned with the definitive scientific name and family (based on the books of "Matching the ancient names of medicinal plants with scientific names" and "Comparative description of ancient medicinal plants" by Dr. Ahmad Ghahreman and Ahmadreza Okhovat).

The way of relationship with new achievements in the field of medicine and modern medicinal plants is paved with the introduction of the scientific name and the certainty level increases. Also, the introduction of the high number of useful medicinal plants for joint pain in this paper with more than 100 species shows that the high number of these plants has been left out of the classical medicine. So, it is possible to increase the chance of the joint pain treatment with the classical medicine and studying and reviewing these species whose names have been mentioned in this paper. This research aims to reach a model of this use to be able to be utilized from remaining spiritual treasures more than before. In this model designed based on the information of old books and their valuable experience, the possibility of total properties of plants is reviewed. Then, the value of this review is defined that it has not been informed a specific medicinal property for many plants. Also, high costs based on the law of probability are utilized to determine the drug property of a plant, while the possibility of the successful selection of a plant considerably increases for a property. Human have always followed their comfort, welfare, and health. This is an experience that has reached from the first humans to the current humans without a moment's pause.

It is also being noted that if some ways of modern therapy were not forgotten, they could be a good help and companion to the traditional medicine. But unfortunately, we observe that despite the richness of the traditional medicine and its ability to treat most of the diseases efficiently, this medicinal method as well as valuable experience has been ignored and forgotten gradually. Because the current drugs which are mostly chemical, relieve pain very fast and the patient concludes whose disease has improved; so there is no need to do the long-lasting and hard treatment as well as definite one. While the traditional treatment presents types of Dervish, general, and royal treatments using higher sources than the medicinal plants, the type of the treatment is different based on its costs. So, it can be a way to decrease the high costs of the joint pain treatment in the countries involved with.

Table 1

List of useful medicinal plants for joint pain from Makhzan al-Adviyeh

No.	Species	Family	Tradition al Name	Nature	Medicinal properties
1.	<i>Sempervivum arboretum</i> L.	Crassulaceae	ابرون ديگر	Hot and dry	joint's pain
2.	<i>Asarum europaeum</i> L.	Aristolochiaceae	أسارون	Hot and dry	Sciatica-gout
3.	<i>Avicennia marina</i>	Avicenniaceae	اسرار	Moderate nature	Removes moisture of joint

4.	<i>Spinacia oleracea</i> L.	Chenopodiaceae	اسفناخ (اسفناج)	Cold and wet	Severe joint pain
5.	<i>Equisetum arvens</i> L.	Equisetaceae	اسلنج	Hot and dry	joint's pain
6.	<i>Curcuma longa</i> L.	Zingiberaceae	اصابع الصفر	Hot and dry	joint's pain
7.	<i>Cuscuta epithymum</i> L.	Cuscutaceae	افثيمون	Hot and dry	joint's pain
8.	<i>Euphorbia</i> sp.	Euphorbiaceae	افربيون (فرفيون)	Hot and dry	Sciatica - joint pain
9.	<i>Artemisia silversiana</i>	Asteraceae	افسنئين	Hot and dry	joint's pain
10.	<i>Ferula Assa foetida</i> L.	Apiaceae	انجدان	Hot and dry	joint's pain
11.	<i>Myrtus communis</i> L.	Myrtaceae	أس بستاني	Moderate nature	Strengthen bones
12.	<i>Anthemis nobilis</i> L.	Asteraceae	بابونج	Hot and dry	Joint pain-gout
13.	<i>Melissa officinalis</i> L.	Lamiaceae	بادرنجويه	Hot and dry	joint's pain
14.	<i>Plantago ovata</i> Forssk	Plantaginaceae	بزر قطونا	Cold and wet	Joint pain-gout
15.	<i>Cucumis vulgaris</i> L.	Cucurbitaceae	بطيخ هندي	Cold and wet	joint's pain
16.	<i>Buxus sempervirens</i> L.	Buxaceae	بفس	Hot and dry	Osteoporosis
17.	<i>Hyoscyamus niger</i> L.	Solanaceae	بنج	Cold and dry	Joint pain-gout
18.	<i>Potentilla reptans</i> L.	Rosaceae	بنطافلن	Moderate nature	Joint pain-sciatica
19.	<i>Viola odorata</i> L.	Violaceae	بنفسج	Cold and wet	Soften joints
20.	<i>Ficus carica</i> L.	Moraceae	تين	Hot and wet	Joint pain-gout
21.	<i>Allium xiphopetalum</i>	Liliaceae	ثوم	Hot and dry	joint's pain
22.	<i>Opopanax chironium</i> L.	Apiaceae	جاوشير	Hot and dry	joint's pain
23.	<i>Teucrium polium</i> L.	Lamiaceae	جعدہ	Hot and dry	joint's pain
24.	<i>Androsace</i> sp	Primulaceae	خفت آفريد	Hot and dry	joint's pain
25.	<i>Alhagi mannifera</i>	Fabaceae	حاج	Hot and very dry	joint's pain
26.	<i>Moringa aptera</i> Gae	Moringaceae	حب البان	Hot and dry	joint's pain
27.	<i>Phillyrea latifolia</i> L.	Oleaceae	حب الملب	Hot and dry	Gout
28.	<i>Tribulus terrestris</i> L.	Zygophyllaceae	حسك	Hot and dry	joint's pain
29.	<i>Rumex crispobtusifolius</i>	Polygonaceae	خماض	Cold and dry	joint's pain
30.	<i>Cicer arietinum</i> L	Fabaceae	جمنص	Hot and dry	joint's pain
31.	<i>Cucumis colocynthis</i> L.	Cucurbitaceae	حنظل	Hot and dry	Sciatica
32.	<i>Veratrum album</i> L.	Melanthiaceae	خربق ابيض	Hot and dry	joint's pain
33.	<i>Althaea rosea</i> L.	Malvaceae	خطمى	Moderate Hot	Sciatica-joints
34.	<i>Salix acmophylla</i> Boiss	Salicaceae	خلاف	Cold and wet	Joint pain-gout-sciatica
35.	<i>Sambucuse bulus</i> L.	Caprifoliaceae	خمان	Cold and dry	joint's pain
36.	<i>Cassia fistula</i> L.	Cesalpinaceae	خيار شنبير (خيار ر چنبر)	Hot and wet	Joint pain-gout joint's pain
37.	<i>Viscum album</i> L.	Loranthaceae	يبق	Hot and dry	joint's pain
38.	<i>Asplenium adianthum nigrum</i> L.	Aspleniaceae	دروبطارس	Hot and dry	joint's pain
39.	<i>Dorycnium</i> sp	Fabaceae	دروفينون، درافينون	Hot and dry	Pain relieving joint pain
40.	<i>Croton tiglium</i> L.	Euphorbiaceae	دند	Hot and dry	Absorbent joint moisture
41.	<i>Cirsium arvense</i>	Asteraceae	دندب السنج	Hot and dry	Relieve joint

					pain
42.	<i>Calamintha incana</i> Boiss	Lamiaceae	راسن	Hot and dry	Gout-sciatica-joints
43.	<i>Crithmum maritimum</i> L.	Apiaceae	رجل الغراب	Hot and dry	joint's pain
44.	<i>Zingiber officinale</i>	Zingiberaceae	زنجبيل	Hot and dry	Absorbent moisture from the joints
45.	<i>Olea europaea</i> L.	Oleaceae	زيتون بري	Hot and dry	Joint pain-sciatica
46.	<i>Ruta graveolens</i> L.	Rutaceae	سُداب	Hot and dry	Joint pain-sciatica
47.	<i>Albizia lebbek</i> L.	Fabaceae	سرس	Cold and dry	joint's pain
48.	<i>Colchicum luteum</i> Bak	Colchicaceae	سورنجان	Hot and dry	Sciatica-gout
49.	<i>Anethum graveolens</i> L.	Apiaceae	شَبَبْت	Hot and dry	joint's pain
50.	<i>Aloe vera</i>	Liliaceae	صنبر	Hot and dry	joint's pain
51.	<i>Pinus sylvestris</i> L.	Pinaceae	صنوبر	Hot and dry	joint's pain
52.	<i>Anacyclus pyrethrum</i> L.	Asteraceae	عاقور قرحا	Hot and dry	Sciatica-joints
53.	<i>Laurus nobilis</i> L.	Lauraceae	غار	Hot and dry	Arthritis
54.	<i>Polyporus officinalis</i>	Polyporaceae	غاريقون	Hot and dry	Gout-sciatica-joint's pain
55.	<i>Elaeagnus angustifolius</i>	Elaeagnaceae	غُبيرة	Cold and dry	joint's pain
56.	<i>Piper nigrum</i> L.	Piperaceae	فلفل	Hot and dry	Arthritis due to high phlegm (Balgham)
57.	<i>Ecballium laterium</i>	Cucurbitaceae	قِثَاء الحمار	Hot and dry	Joint pain-sciatica-gout
58.	<i>Stachys officinalis</i> L.	Lamiaceae	فَسْطُرُون	Hot and dry	Joint pain-sciatica
59.	<i>Gossypium herbaceum</i> L.	Malvaceae	قَطْن (بنبه)	Hot and dry	Gout
60.	<i>Centaurium rythraea</i>	Gentianaceae	قَنْطَرِيُون صغير	Hot and dry	joint's pain
61.	<i>Artemisia montana</i>	Asteraceae	فَيْصُوم	Hot and dry	joint's pain
62.	<i>Seseli tortuosum</i> L.	Apiaceae	كاشيم	Hot and dry	Sciatica
63.	<i>Capparis spinosa</i> L.	Capparidaceae	كَبَر	Hot and dry	Gout-sciatica-joints
64.	<i>Linum usitatissimum</i> L.	linaceae	كَتَّان	Cold and dry	Joint pain-gout-sciatica
65.	<i>Stachy tarpheta jamaicensis</i>	Verbenaceae	كَتْبَنَه: كَتْبِينَه	Hot and dry	Cold joint pain
66.	<i>Vitis vinifera</i> L.	Vitaceae	كْرَم: (تاك)	Cold and dry	Joint weakness
67.	<i>Brassica oleracea</i> L.	Brassicaceae	كْرَب	Hot and dry	Joint pain - gout
68.	<i>Momordica charantia</i>	Cucurbitaceae	كْرِيَلَا	Hot and dry	Joint pain - gout
69.	<i>Ajuga chamaepitys</i> L.	Lamiaceae	كَمَافِيَطُوس	Hot and dry	Sciatica-gout
70.	<i>Boswellia carterii</i> Bird	Burseraceae	كَنْدُر	Hot and dry	joint's pain
71.	<i>Fraxinus excelsior</i> L.	Oleaceae	لسان العَصَافِير	Hot and dry	joint's pain
72.	<i>Mandragora officinarum</i> L.	Solanaceae	لَفَاح	Cold and dry	joint's pain
73.	<i>Prunus communis</i> L.	Rosaceae	لُوز	Hot and wet	Gout

74.	<i>Celastrus paniculatus Willdenow</i>	Celastraceae	مَال كَنَكْنَى	Hot and wet	Gout-sciatica-joints
75.	<i>Anamirta cocculus L.</i>	Menispermaceae	ماهيز هزج	Hot and dry	Joint pain-sciatica-gout
76.	<i>Linaria vulgaris Mill</i>	Scrophulariaceae	مُخَلَصَه	Hot and dry	joint's pain
77.	<i>Origanum majorana L.</i>	Lamiaceae	مَرزنجوش	Hot and dry	Arthritis
78.	<i>Pistacia lentiscus L.</i>	Anacardiaceae	مَصْطَكِي	Hot and dry	joint's pain
79.	<i>Glossostemon bruguieri</i>	Sterculiaceae	مُغَات	Hot and dry	Sciatic (عزق النسا) in traditional medicinal)- gout
80.	<i>Styrax officinalis L.</i>	Styracaceae	مبيعه سائله	Hot and dry	Joint pain-gout
81.	<i>Narcissus tazetta L.</i>	Liliaceae	نرجس	Hot and wet	Arthritis
82.	<i>Rosa canina L.</i>	Rosaceae	نسرين	Hot and dry	joint's pain
83.	<i>Melia azadarach L.</i>	Meliaceae	نيم	Cold and dry	joint's pain
84.	<i>Asparagus stipularis</i>	Asparagaceae	هليون	Hot and dry	joint's pain
85.	<i>Cichorium pumilum</i>	Asteraceae	هندباء	Cold and dry	Joint pain-gout
86.	<i>Hypericum perforatum L.</i>	Hypericaceae	هوفاريقون	Hot and dry	Sciatic (عزق النسا) in traditional medicinal)- gout
87.	<i>Morettia canescens Boiss</i>	Brassicaceae	هوم المجوس	Hot and dry	joint's pain
88.	<i>Jasminumsambac L.</i>	Oleaceae	ياسمين	Hot and dry	joint's pain

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Table 2

List of useful medicinal plants for joint pain taken from the Taghvim al-Abdan

No.	Species	Family	Traditional Name	Nature	Medicinal properties
1.	<i>Spinacia oleracea L.</i>	Chenopodiaceae	اسفناج	Hot	Yellow bile causes gout
2.	<i>Melilotus officinalis</i>	Papilionaceae	اكليل الملك	Cold	Sciatica
3.	<i>Punica granatum</i>	Poniceae	انار	Hot	Gout
4.	<i>Pimpinella anisum</i>	Apiaceae	انيسون	Cold	joint's pain
5.	<i>Anthemis nobilis L.</i>	Brassicaceae	بابونه	Cold	Sciatica و Arthritis due to high phlegm(Balgham)
6.	<i>Lupinus albus L.</i>	Fabaceae	باقلاي مصري	Cold	Sciatica
7.	<i>Viola odorata L.</i>	Violaceae	بنفشه	Hot	joint's pain
8.	<i>Raphanus sativus</i>	brassicaceae	ترب	Cold	Gout
9.	<i>Nasturtium officinale</i>	Brassicaceae	ترتيزك	Dry	Joint stiffness
10.	<i>Hordeum vulgare</i>	Leguminose	جو	Hot	joint's pain

11.	Polyporus officinalis	Polyporaceae	حب غاريقون	Cold	Arthritis due to high phlegm(Balgham)- joint's pain
12.	Trigonella foenum-graecum L.	Fabaceae	حلبة	Dry	Joint stiffness
13.	Cucumis colocythis L.	Cucurbitaceae	حنظل	Cold	Arthritis due to high phlegm(Balgham)- joint's pain
14.	Althaea officinalis	Malvaceae	خطمي سفيد	Dry	Joint stiffness
15.	Cassia fistula L.	Fabaceae	خيار شنبير	Hot	Gout
16.	Myrtus communis L.	Myrtaceae	ريحان	Cold	joint's pain
17.	Zingiber officinale	Zingiberaceae	زنجبيل	Cold	joint's pain
18.	olea europea	oleaceae	زيتون	Dry	Joint stiffness
19.	Carum carvi L.	Umbelliferae	زيره	Hot	joint's pain
20.	Ruta graveolens	rutaceae	سداب	Cold	Arthritis due to high phlegm(Balgham)- joint's pain
21.	Thymus Vulgaris	Labiatae	سعترا	Cold	joint's pain
22.	Colchicum luteum	Colchicaceae	سورنجان	Cold	Arthritis due to high phlegm(Balgham) - joint's pain
23.	Anethum graveolens L.	Apiaceae	شبت	Cold	Arthritis due to high phlegm(Balgham) - joint's pain
24.	Brassica napus	brassicaceae	شلغم	Dry	Joint stiffness
25.	Aloe vera	Liliaceae	صبر	Cold	joint's pain
26.	Anacyclus pyrethrun L.	Asteraceae	عاقرا قرحا	Cold	Arthritis due to high phlegm(Balgham)- joint's pain
27.	Lens culinaris medic	LEGUMINOSAE	عدس	Hot	joint's pain
28.	Vitis vinifera L.	Vitaceae	عنب(موزين منقي)	Cold	Muscle weakness
29.	Plantago ovata	Plantoginaceae	قطونا	Cold and wet	Gout
30.	Cichorium intybus L.	Compositae	كاسني	Hot	joint's pain
31.	Cinamoumon Camphora	Lauraceae	كافور	Hot	Gout
32.	Cucumis	Cucurbitaceae	حنظل	Hot	Muscle weakness

	colocynthis				
33.	Apium graveolens	Umbellifera	کرفس	Hot and Dry	joint's pain
34.	Vitis vinifera	Vitaceae	کشمش	Cold	joint's pain
35.	Origanum majorana L.	Lamiaceae	کنجد+مرزنجوش	Dry	Joint stiffness
36.	lactuca sativa	Compositae	کاهو	Hot	Gout
37.	Brassica oleracea L.	Brassicaceae	کُرنب	Cold	Sciatica
38.	Sesamus indicum	PeDEAllaceae	کنجد	Cold	Sciatica
39.	Juglans regia L.	Juglandaceae	گردو	Dry	Joint stiffness
40.	Coriandrum sativum	Apiaceae	گشنیز	Hot	joint's pain
41.	Rosa gallica L.	Rosaceae	گل سرخ	Hot	Gout
42.	Vigna radiata	leguminoceae	ماش	Hot	Muscle weakness and Yellow bile
43.	Burseraceae	Commiphora	مرمکی	Cold	joint's pain
44.	salvia macrosiphon	Labiatae	مرو	Cold	joint's pain
45.	Cicer arietinum	leguminoceae	نخود	Cold	Gout
46.	Terminalia chebula	Combretaceae	هليلة	Cold	joint's pain
47.	Sempervivum arboretum L.	Crassulaceae	همیشه بهار	Hot	Gout
48.	Cucumis vulgaris L.	Cucurbitaceae	بطیخ هندی	Hot	Gout
49.	Dorema ammoniacum	Apiaceae	وشق	Hot and Dry	joint's pain

Table 3

A list of common types of joint pain in classical medicine

No.	Types of diseases
	Osteoarthritis
	Patellofemoral
	Gout
	Arthritis rheumatoid
	Tendinitis and tenosynovitis
	Osteoporosis
	Spondylitis ankylosing
	Multiple sclerosis (MS)
	Scleroderma
	Scoliosis
	Torticollis
	Disk ruptured
	Polymyositis and dermatomyositis
	Temporomandibular joint (tmj) syndrome

	Chondromalacia
	Osgood schlatter
	knee bursitis
	Rh incompatibility
	Frozen Shoulder Symptoms
	Thoracic outlet obstruction syndrome
	cervical spondylosis
	Sprains and strains
	Bursitis
	Bunion
	Heel spur
	Brucellosis
	Hip fracture
	Psoriatic arthritis
	Osteogenesis imperfecta

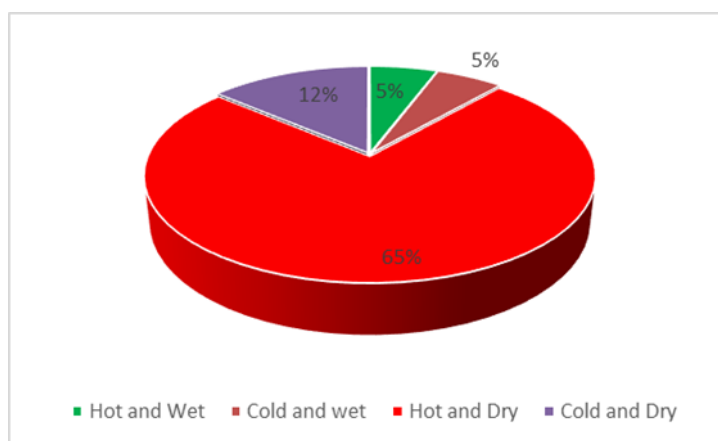


Figure 1. Showing the percentage of natures of medicinal plants useful for joint pain in traditional medicine books of Makhzan al-Adviyeh and Taghvim al-Abdan

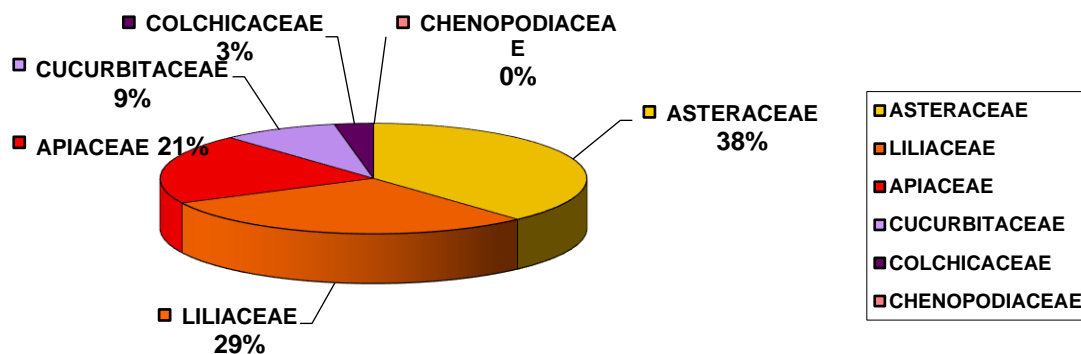


Figure 2. Shows the percentage of families of medicinal plants useful for joint pain diseases between the Makhzan al-Adviyeh and the Taghvim al-Abdan.

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