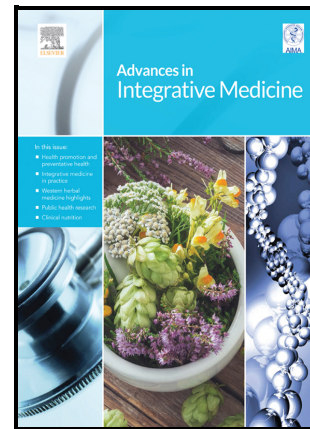


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The definitive publisher version is available online at <http://doi.org/10.1016/j.aimed.2021.07.007>

Approach of Persian medicine to health & disease

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PII: S2212-9588(21)00052-5

DOI: <https://doi.org/10.1016/j.aimed.2021.07.007>

Reference: AIMED302

To appear in: *Advances in Integrative Medicine*

Revised date: 15 May 2021

Accepted date: 18

Please cite this article as: Vahid Tfazaoli, Ali Tavakoli, Maryam Mosaffa Jahromi, Kieran Cooley and Mehdi Pasalar, Approach of Persian medicine to health & disease, *Advances in Integrative Medicine*, (2020) doi:<https://doi.org/10.1016/j.aimed.2021.07.007>

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Approach of Persian medicine to health & disease

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Acknowledgements: Authors would like to thank Mr.Sadeghfard for his valuable support in preparing the figure.

Conflict of interest: The authors have no conflict of interest to declare.

Short running title: Persian medicine

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Approach of Persian medicine to health & disease

Synopsis

Persian medicine (PM), as a holistic, whole system phenomenon of theory and practice that is sparsely known of among the international community, is an ancient human science with a history of several millennia. The philosophical, traditions and wisdom-based view of PM (also known as Iranian medicine and humoral medicine) comprises some of its most notable and indeed, defining features. The principles of health maintenance and disease prevention are highly regarded and come first in PM, with the principles of treatment (lifestyle modifications, nutrition, herbal medicines, etc.) possessing secondary importance. These principles are overlaid by the foundational concepts of balancing temperament (*Mizaj*) and body humors in PM. The natural temperament of an individual is a state of moderation that leads to good health, though any imbalances can give rise to disease and illness. With the recent revival of PM as a specialized academic discipline in Iran, research and discourse may help to the introduction of this ancient knowledge to the global community, ultimately with the goal of providing effective treatment strategies or options on a transnational scale. This has critical importance in providing and understanding culturally attentive care for patients who identify strongly with the traditions of PM. This article will introduce concepts relating to the origin of illness, and provide an overview of education, training and regulation, and research directions in PM as a means of knowledge dissemination within medical literature.

Overview

From the perspective of Persian medicine (PM), health can be regarded as the natural functioning of all body organs (both physiologically and conceptually), accompanied by the natural structure of all tissues. Temperament (*Mizaj*) predicates the natural functioning in the organs as each body organ acts within (or out of step) with its natural temperament; a natural

temperament is defined for each organ according to the suitable levels of hotness, coldness, wetness, and dryness. Conversely, disease is defined as incorrect organ functioning, abnormal limb shapes, or microscopic and macroscopic tissue damage [1, 2]. Naturally, the presence of an abnormal temperament (dystemperament) in the body organs makes them malfunction [3]. For instance, disproportionate hotness in a tissue leads to its improper or excessive functioning, while too much coldness gives rise to a reduction or loss of function. These two examples of disease are referred to as hot dystemperament and cold dystemperament, respectively. Another important determinant of body health is the maintenance of a natural amount of each of the four humors (*Ākhlāt*): sanguine (*Dám*), bile (*Sáfrā*), phlegm (*Bálghám*), and black bile (*Sáudā*). These humors each have their own temperament, namely hot and wet (Sanguine or *Dámáwiy*), hot and dry (Choleric or *Sáfrāwiy*), cold and wet (Phlegmatic or *Bálghámiy*), and cold and dry (Melancholic or *Sáudāwiy*), respectively [4, 5].

In light of the points mentioned, it can be said that in order to appreciate the concept of health and disease in PM, one must understand the theory of temperament and humor. The main factors involved in the maintenance or loss of health come under the title of the six essential principles of PM, which collectively form major aspects of the lifestyle of an individual. These factors include weather, eating and drinking, activity and rest, evacuation and retention, sleep and wakefulness, and psychological and mental reactions. Of secondary importance are factors such as bathing, sexual intercourse, perfumes and aromas, massages, immersion in mineral water springs, and sand therapy (immersion in hot sand), which are collectively referred to as the nonessential principals [6, 7]. In the view of this ancient doctrine, “medicine” is recognized as the knowledge of maintaining health and treating disease, with the former having priority over the latter [8]. This may have critical importance for deepening understanding about how PM physicians are established as well as their roles.

It is more imperative while considering the expansion of PM to neighboring countries and the Middle East region [9].

In PM, the key measure (*Tádbīr*) for maintaining health is in fact the correction of one's lifestyle in terms of the six essential principles. Furthermore, unique measures are recommended for those who are not sick but require special care including groups such as children, the elderly, pregnant or lactating women, travelers, and people who have recently recovered from their illness. On the other hand, the approach for treating disease includes specific, individualized modalities such as lifestyle modifications (particularly diet therapy), pharmacotherapy, and hands-on physical manipulations like massage and phlebotomy [1, 10, 11].

The current state of Persian medicine

1. Education

Although PM has a history of more than 2000 years and despite the fact that the Jundishapur University in the ancient Persian civilization began training physicians even earlier than the institutions of the Greek civilization [12], formalized structure and academic training degrees were only recently (2007) approved by Iran's Ministry of Health in the form of a four-year PhD. Since then, physicians have been eligible to enroll in the Persian Medicine and Pharmacy PhD degree with a prerequisite national PhD entrance exam and oral interview. As such, PM may be seen as a developing 'specialty' within the field of medicine. Since its initiation, approximately 400 students have graduated in this field. In the devised PM degree, the topics of research methods, nutrition, principles of PM, specialized Arabic language for understanding the Arabic texts of PM, treatment methods, health maintenance, and hands-on physical manipulations such as massage, cupping (*Hijāmát*), bloodletting (*Fásd*), and leech therapy are taught. Furthermore, the trainees are familiarized with other fields of

complementary and alternative medicine such as traditional Chinese medicine, acupuncture, osteopathy, naturopathy, homeopathy, and Ayurveda, and they must complete dissertations on clinical topics related to PM. From the third semester onwards, students visit patients in the PM clinic and take part in the morning report and grand round discussions. This formal structure outlines elements of didactic knowledge acquisition, scholarly inquiry and activity, and clinical competency.

2. Medical license

After completion of the degree, graduates receive a medical license as a doctor in PM and can provide services such as counselling, temperament evaluation, lifestyle modification recommendations, wet or dry cupping, bloodletting, leeching, massages, enema (*Hoghná*), etc. in a PM clinic (*Sálámátkáde*). Expectations to maintain liability insurance, continuing education/renewal requirements are consistent with those of physicians.

3. Scope of work

A physician specialized in PM takes the patient history in terms of both conventional medicine and PM, then performs the necessary examinations and requests the laboratory data and/or imaging required based on the needs of the patient. Where necessary, the physician uses either or both of the two schools of PM and common medicine to assess the level of health or disease, make the diagnosis, and devise the individualized disease treatment or health maintenance plan. In this manner, PM is integrated with conventional care at the level of the physician autonomy.

4. Insurance coverage

In 2020, ~ 12 years since the formal academic recognition of PM, a resolution was approved by the Supreme Insurance Council to provide insurance coverage for the services and visits of PM specialists in a one-year pilot program.

5. *The profession of Persian medicine*

In Iran, eight main medical science universities situated in the capital of the respective provinces offer the PhD degree of PM. The graduates of this field may apply to become faculty members for research and education or can work in the private sector. Moreover, a number of these graduates are recruited by research centers. The distribution of faculty/educational departments, clinics, and research centers throughout Iran is seen in Figure 1.

6. *Therapeutic methods (modalities)*

6.1 Nutritional modifications and diet therapy. From the perspective of PM, the doctor should treat the patient using foods as much as possible. Apart from the food itself, the method of consumption, the volume consumed, the frequency of meals, and the way that water is consumed are considered to affect human health [5, 13]. The authors of the historic reference books of PM prescribed unique diets for diseases known in their time. These detailed instructions cover both acute and chronic diseases and take into account the digestive ability of the individual, the physical strength of the patients, and the requirements of special groups [14, 15]. Among the diets that are still prescribed by the academic physicians of PM are humidifying agents, strengthening agents, cooling agents, warming agents, weight-loss agents, fattening agents, internal strength enhancers, low-calorie diets, high-calorie diets, stew diets, soups, sweets, jams, and pickles (Torshi) [16]. *Nokhodab* (chickpea broth) is an extensively used medicinal food in PM, with recent studies having demonstrated its therapeutic effects, particularly in the treatment of joint pain [17]. The perspective of PM regarding the various types of eating behaviors is elucidated in the article of Dr. Nimrozi *et al* [18].

6.2 Behavioral correction. In addition to the conventional therapeutic methods, a branch of PM called "spiritual medicine" deals with the management of psychological and mental reactions. These reactions include happiness, sadness, concern, depression, anger, embarrassment and fear; they are evaluated and treated via the approach of PM [15]. Therapeutic recommendations include listening to stories, reading novels, listening to music with different themes and melodies, socializing with people, solitary relaxation, and watching natural scenes such as plains and seas. Furthermore, special recommendations have been devised for high-risk populations who may develop depression and mental illness, such as writers, thinkers, and physicians. The method of sexual behavior is also examined, with sexual intercourse therapy being among the topics of behavioral correction in PM [1, 19].

6.3 Phlebotomy. In PM, various methods of removing blood from the body are prescribed for certain conditions. These methods include wet cupping, bloodletting, and leeching with some evidence about use and its safety profile in current literature [20-25].

Wet cupping: pricking the surface of the skin to allow bleeding via suctioning. This method is performed as a gentle means of drawing blood from patients who have focal problems or blood humor disorders. Numerous novel studies have confirmed the benefits of this procedure such as strengthening the immune system and reducing blood lipid and pressure levels [26, 27].

Bloodletting: This method refers to the physician directly withdrawing blood from the veins or, in certain cases, the arteries. Due to the fact that this method is more invasive than wet cupping, the texts of PM mention many precautions for this procedure, with its prescription being limited to specific conditions [28, 29].

Leeching: This method offers more focused and localized effects than bloodletting and even more precautions have been noted for its prescription in PM. Furthermore, procedural expectations (preparation and observation, monitoring and documenting concerns, adverse effects) must be completed before and after leeching is performed. Some of the benefits of leeching that have been confirmed in recent studies include the reduction of venous congestion and the improvement of skin lesions [30].

6.4 Bath therapy. In PM, special baths comprised of four different sections and temperaments—cold and dry, hot and dry, hot and wet, and cold and wet—each with a unique architecture and purpose, are considered as a treatment for the maintenance of health. Bathing is performed to eliminate waste products that remain in the body despite the use of other methods of cleansing [15].

6.5 Mineral waters. The healing properties of various mineral waters that include ingredients like salt and sulfur are mentioned in PM, with both topical and peroral applications having been specified [4].

6.6 Sand therapy. Immersion under the hot desert sands is one of the special methods of PM for the treatment of rheumatologic pains and the elimination of waste products (e.g., in patients with cirrhosis and ascites) [1].

6.7 Aromatherapy. This includes the use of fragrances and massage oils as topical tools for the treatment of various diseases. A number of recent studies have demonstrated the comparable outcomes of PM aromatherapy relative to modern methods for the treatment of insomnia, fever, headache, and joint pain [11, 31-33].

6.8 Persian Materia Medica. The drugs prescribed in PM can be divided into three categories according to their origin, namely mineral, herbal and animal-derived drugs

[34]. Herbs have been used for therapeutic purposes for thousands of years, with many of today's most popular chemical drugs (e.g., metformin and aspirin) being of herbal origin.

Persian medicine offers both single and combinatory drug prescriptions. The textbooks of PM have detailed the botany, temperament, medicinal properties, adverse effects, and methods of correcting the toxic dosage of medicinal plants. Furthermore, these reference books mention the methods of preparing herbal, mineral and animal-based compounds, as well as their applications, properties, and dosages [35]. Nowadays, medicinal plants are offered in apothecary shops, while Persian pharmacy specialists oversee the preparation of combinatory drugs via standard procedures in drug manufacturing centers.

Furthermore, some PM products are produced on an industrial scale by a number of pharmaceutical companies [36].

It can be said that medicinal plants represent the main focus of current research in PM [37-41]. The key recommendation of PM about prescribing mineral, herbal or animal-based drugs is to use the simplest single-agent drug possible, with the dose being increased before the addition of a second agent in the case of an inadequate response; complex combinations are used as a last resort [1].

6.9 Physical methods. Persian medicine features various therapeutic methods such as massages (*Dálk*), cupping, focal pressure applied using a finger or needle (*Ghámz*) [42] and exercise-therapy, each of which is described in detail in the reference books [4]. These methods have also been examined in a number of recent studies [11].

7. Research

Current research in the field of PM is focused on both its basic and applied aspects as well as capturing and translation of traditional texts. Review studies are conducted to explain the related concepts, capture historical context, and discuss their applications to

common modern-day practice, while treatment methods are evaluated through laboratory, animal, and clinical studies [43, 44]. Among the basic topics pertaining to PM that is currently of immense interest is the study of the concept of temperament using genomics and proteomics [45].

Numerous review and original studies have been conducted so far and published in reputable international journals. A large amount of these studies have followed the novel scientific methods and ethical principles [43, 46-49].

8. *Integrated Persian medicine care*

Since about three years ago, the plan to integrate the approaches of PM in the healthcare system at the three levels of care has been piloted. Nowadays, PM specialists in Iran work in collaboration with common medicine specialists to provide integrated services, the most famous example of which is seen in the integrated cancer treatment clinic of *Shohaday-e Tajrish* Hospital in Tehran resulting in improvement of patients' quality of life and health status in those suffering from cancer and related adverse effects [50, 51]. Integration of PM with primary health care system was recently started in Yazd province, too. On the other hand, there are some barriers in the way such as lack of insurance coverage, high cost of PM health services, and inaccessibility to PM practitioners in rural areas. Moreover, some conventional medicine physicians are resisting this union. So, the ministry of health have started different mechanisms to combat these obstacles and merge PM to routine health system. Establishment of Persian medical departments in medical schools all over the country is a solution in this regard.

Resources

For more information on PM, both physicians and patients can refer to the website of the Iranian Traditional Medicine Association (www.itma.ir). Other sources of information are

available through the websites of faculties, educational groups, and research centers. Unfortunately, a major limitation is that most of these sources of information are monolingual and are not yet available to non-Persian users. This limitation cannot be neglected, and one of the key priorities of academic experts in this field is to resolve this problem. The addresses of the approved faculties and research centers for obtaining the necessary information for studying PM are presented in Table 1. Also, the practical points that should be taken into account when devising a treatment plan in PM are listed below.

Key points

1. The physician is the servant of nature [1].
2. Treatment methods include lifestyle modification, diet therapy, pharmacotherapy, and hands-on physical manipulation [15].
3. The treatment strategy is individualized for each person [13].
4. In planning the treatment, the patient's temperament, place of residence, body strength, season, age, gender, occupation, physical habits, and the organ involved should be considered [8].
5. Therapeutic approach is based on contrary mechanisms and body organs' reinforcement is based on cognate mechanisms [1].
6. The pain must be removed [20].
7. Before addressing the disease, the underlying cause must be identified and treated [16].
8. If the disease has a severe complication, the cause of the complication must be eliminated before the disease is treated [1].
9. The drug should reach the body via the nearest pathway [34].
10. The treatment plan should be devised while taking into account that a disease features the four stages of initiation, progression, completion, and convalescence [1].

Order of treatment in PM

- ✓ Preparation of the disease agent for excretion (*Nozj*)
- ✓ Excretion of the causative agent (evacuation)
- ✓ Reinstating the natural temperament of the organ (correction of temperament)
- ✓ Strengthening the organ [1, 13, 15]

To better understand the role of aforementioned theories, it would be helpful to present a clinical vignette; suppose that a 50-year-old woman living in a humid city recently changes her lifestyle. She starts sleeping midday for some hours in winter. Afterwards, she would develop knee pain, edema, and arthritis. According to PM pathogenesis, prolonged diurnal sleep especially in a cold season would result in the weakness of gastrointestinal system and consequent overproduction of phlegm humor in such a person. If a wise PM physician finds this process, he could rearrange the patient's lifestyle to remove excess humor without prescribing drugs or further invasive treatments. Based on the order of treatment advised by PM sages, he would advise her to apply hot pack (*Nozj*), to elevate her foot while resting (evacuation), to avoid foods with cold *Mizaj* (correction of temperament), and to exercise regularly (strengthening the organ).

If we pay attention to the therapeutic approach in the abovementioned case, we could detect the 10 key points of PM practice available. For instance; starting with lifestyle modification, individualized plan of treatment, considering age and gender of the patient, and the management of underlying cause are some examples in this regard.

To put in a nutshell, PM is a holistic system of medicine with a long fecund history originating in the territory of ancient Iran. The scientific basis of this system dates back to the presence of outstanding masterpieces like *Canon of Medicine* as a distinguished primary medical reference [52]. PM believes in the complexity of body organs and approaches to the

health/disease as a whole. Consequently, a broader spectrum of investigation is necessary to achieve the treatment [53]. As a holistic system, PM has its own unique terminology, ontology, and career path. There are some resources and databases (<http://ir-go.net/>) available to understand these concepts more clearly.

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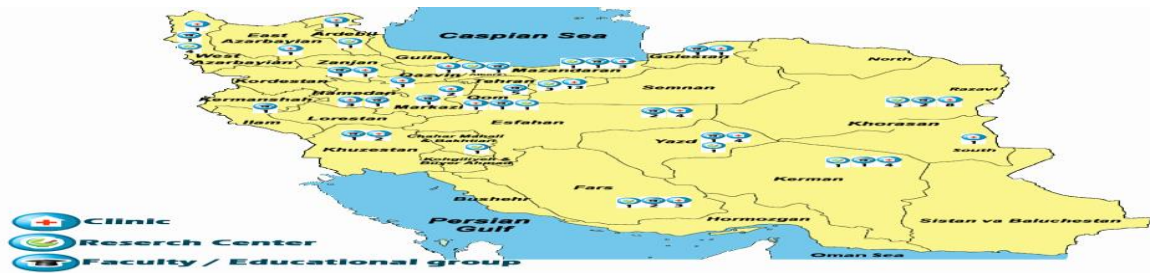


Figure 1. The distribution of Persian medicine faculty/educational departments, clinics, and research centers in Iran, 2020

Table 1. Main Persian medicine textbooks for further study

Book	Author	Time (AC)	Language
Ferdows al-Hikma	Ali ibn Rabban al-Tabari	9 th century	Arabic
Al-Tasrif	Al-Zahrawi	10 th century	Arabic
Kamel Al-Senaat Al-Tebieh	Haly Abbas	10 th century	Arabic
Hidayat al-Muta-allemin fi al-Tibb	Al-Akhawyni	10 th century	Persian
Canon of Medicine	Avicenna	10 th century	Arabic
Commentary on the Canon	Ibn al-Nafis (al-Qarshi)	13 th century	Arabic
sharh-ol-asbab va Alamat	Nafis ibn Avaz Kermani	13 th century	Arabic
Bahr Al-Jawaher	Heravi	16 th century	Arabic
Kholase Al-Hekma	Aghili Shirazi	18 th century	Persian
Makhzan Al-Aladvia	Aghili Shirazi	18 th century	Persian
Mizan Al-Teb	Arzani	18 th century	Persian
Mofarreh Al-Gholub	Arzani	18 th century	Persian
Tebe Akbari	Arzani	18 th century	Persian
Exir Azam	Azam Khan	19 th century	Persian

Author statement

<i>No</i>	Authors' name	Authors' role
1	Vahid Tafazoli	Conceptualization; Data search; Writing - original draft; Final approval of the manuscript
2	Ali Tavakoli	Conceptualization; Data search; Writing - original draft; Final approval of the manuscript
3	Maryam Mosaffa Jahromi	Conceptualization; Data search; Writing - original draft; Final approval of the manuscript
4	Kieran Cooley	Formal analysis; Methodology; Writing - review & editing; Final approval of the manuscript
5	Mehdi Pasalar	Formal analysis; Methodology; Writing - review & editing; Final approval of the manuscript

Conflict of interest

The authors have no conflict of interest to declare.

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