

Psychiatry and Psychology in Medieval Persia

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Objective: The history of psychological sciences and especially the ways in which related disorders were treated in medieval Persia are not well known in the West. The main objective of this article is to review the clinical approaches to psychological disorders used by practitioners in medieval Persia.

Data Sources: Several documents still exist from which the clinical data on different psychological syndromes in medieval Persia can be ascertained. Data for this review were identified by searches of MEDLINE, Current Contents, the Internet, references from relevant articles and books, the Astan-e-Ghods Razavi Library, the Tehran University Library, the Mashhad University Library, and the files of the authors. Search terms included *psychiatry*, *psychology*, *Persian*, *medieval*, *Avicenna*, and *pharmacotherapy*.

Discussion: The medieval practitioners defined various signs and symptoms, apparent causes, and hygienic and dietary rules for prevention of these disorders. Medieval Persian medical writings encouraged the treatment of psychological disorders by tackling the conditions that cause or contribute to the disorder and through the use of electrical-shock therapy, phlebotomy, psychotherapy, music and color therapy, and especially prescription of long lists of medicaments.

Conclusion: Some of the approaches of doctors in medieval Persia are accepted today, although most remain largely unexamined. With further research, more of these treatments may be shown to be of use to modern medicine. (*J Clin Psychiatry* 2006;67:1862–1869)

A rich body of psychological thought existed in the writing of ancient Persian scientists. However, the contribution of medieval Persian physicians to the psychological sciences was one of great magnitude, considering its effect upon scientific and philosophic thought and upon the psychology of later times. The Persians not only assimilated all the ancient medical information of Greece, India, and Egypt, but adapted this information to their own distinctive needs and ways of thinking and added to this knowledge their own ingenious studies based on their empirical findings.^{1–3} Some medieval Persian practitioners may be considered as the first psychologists and psychiatrists, even before the formal emergence of psychology as a separate scientific field. These physicians described detailed and precise clinical information on different types of psychological disorders. The methods of mental health treatment in this period were a mixture of psychotherapy, reassurance, and support. The common belief was based on the close relationship between psychological constitution, mood, and the body. Persian doctors used a combined method of persuasion, psychotherapy, and pharmacotherapy in the form of different remedies.⁴ The first psychiatric hospitals and even psychiatric wards in general hospitals were built in this period by Persian physicians. These departments were constructed by the standards of the times with modern facilities for a psychological ward.⁴ The medieval medical texts of Persia, such as *Ketab-al-hawi* (Continens; The Container, or The Comprehensive)⁵ and *al-Tibb al-Ruhani* (The Spiritual Medicine)⁶ by Râzi (860–940 A.D.), *Qanoon-fel-teb* (The Canon)⁷ and *Ketab-al-Shafa* (Book of Healing)⁸ by Ibn Sina (980–1037 A.D.), and *Zakhireh Kharazmshahi* (Thesaurus of the Kharazmshah Era)⁹ by Esmail Jorjani (1042–1136 A.D.), became the most valuable textbooks of medicine including psychological sciences in the medieval period.

Despite the intensity with which many scholars have studied the history of psychology in general, very few have touched on the history of psychology in Persia. Some of the traditional wisdom of psychology in medieval Persian medicine can still be rediscovered. In recent years, some experimental studies have evaluated medieval Persian therapies using modern scientific methods. These investigations raised the possibility of revival of traditional treatments.^{10–14} We hope that this review will inform further research into the clinical benefits of Persian treatments for psychological disorders.

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SEARCH STRATEGY AND SELECTION CRITERIA

Data for this review were identified by searches of MEDLINE, Current Contents, the Internet, the Astan-e-Ghods Razavi Library, the Tehran University Library, the Mashhad University Library, references from relevant articles and books, and the extensive files of the authors. Search terms included *psychiatry*, *psychology*, *Persian*, *medieval*, *Avicenna*, and *pharmacotherapy*. Only papers published in Persian, Arabic, and English were reviewed.

MEDIEVAL PERSIAN DESCRIPTIONS OF PSYCHOLOGICAL DISORDERS

Definitions and Clinical Features

Persian medieval physicians systematically described psychological disorders in terms of their associated features: specific age and gender features, signs and symptoms, course, complications, predisposing factors, and differential diagnosis. Different psychological symptoms, such as delusion, hallucination, sleep disturbances, etc., were defined in their writings. Persian physicians distinguished 4 major types of psychological disorders: *malikholia* (melancholia), mania and *daol-kalb* (literally, “dog’s sickness”), *ghotrab* (persecutory psychosis, paranoia), and *ishgh* (“passionate love disease”; lovesickness with anxiety and depression).^{5,7,9}

Melancholia. Melancholia was defined as a state of abnormal thought, unreasonable fear, irritability, and sequestered life in the early stages. Further signs and symptoms, which may develop later, were *haziyan* (delusion), hallucination, visionariness, grief, continuous obsession, and hatred of people. A discrete period of intense, persistent, and unreasonable fear cued by the presence or anticipation of a specific object or situation (e.g., wild animals, thief, genii, destruction/collapse of the sky) was described. Delusion of grandeur (to be a king), delusion of influence (controlled by Satan), and somatic delusion (to be an animal or an industrial tool) were mentioned as accompanying symptoms. It was observed that some patients had a desire to die and some others feared death. Vertigo, tinnitus, nightmare, increased or decreased sexual desire, tremor, stare, disturbed appetite, dyspepsia, and weight loss were sometimes observed in melancholia. Spring was considered to be the season most disposing to melancholia. Swarthy, shaggy, and thin people were believed to be predisposed to melancholia. It was described that young men were at greater risk of melancholia but that women suffered from more complicated or difficult-to-treat types.^{5,7,9}

Mania and daol-kalb (“dog’s sickness”). A state of raving madness with exalted mood was described by the Persian physicians, referring to a somewhat broader group of excited psychoses than in modern nosology. The

cardinal manifestations of mania were severe anxiety, irritability, excitability, sleep disturbances, and violent behavior. Noting the fluctuating nature of symptoms, Persian physicians described a special type of mania, *daol-kalb*, in which patients were prone to change their mind and personality readily, to become aggressive and run unrestrainedly, and, in a little time, to become kind and flattering.^{5,7,9} Ibn Sina observed that the appearance of anger, restlessness, and violence heralded the transition of melancholia to mania.⁷

Paranoia. According to Persian physicians, paranoia (*ghotrab*) manifested in patients who were depressed, secluded, averse to contact with people, and irritable. Patients with paranoia lay hidden most of the day and went abroad in the night, walking, barking, and howling, at graves, mortuary, and deserts. Due to lack of sleep, these patients were usually pale and dehydrated with hollow eyes and scabbed legs and thighs. Occurrence of paranoia was observed most commonly during midwinter.^{5,7,9}

Passionate love disease. Ibn Sina defines *passionate love disease* as “an obsessive disorder like melancholia, which man brings upon himself by concentrating his thinking totally on valuing some images and qualities.”⁷ Physicians defined *love* as an assiduous thought of depressive nature, born as a result of one’s thinking again and again of the features, gestures, or behavior of a person of the opposite sex. Physical signs accompanied by this disease were pale and wan complexion, palpitations of the heart, irregular pulse, swelling of the face, interrupted respiration, a sense of grief, sighing, causeless tears, fast blinking, insomnia, and headaches^{5,7,9} (Figure 1).

Etiology

The humor theory of health and mood was a widely held belief in the medieval period. In this theory, all diseases result from irregular distribution of the 4 *mazaj* (humors)—*dam* (blood), *balgham* (phlegm), *saфра* (yellow bile), and *sauda* (black bile). Humors are a combination of the 4 universal elements (fire, air, water, and earth) and have 4 basic qualities (hot, cold, dry, and moist). Individual health is a state of relative equilibrium of the humors, characterized by the dominance of 1 humor, the individual temperament. Disturbance of normal circulation of humors affects different parts of the brain and produces varied psychological disorders. Alteration and excess of yellow bile (hot and dry), which affect frontal lobes, leads to maniacal disorders. Derangement of brain blood circulation by excess of black bile (cold and dry) induces melancholia or paranoia.^{5,7,9}

Different changes in the balance among various humors elicit a wide spectrum of symptoms. Based on the harmony and balance of the 4 humors, Persian doctors distinguished 4 different types of melancholia: black bile–blood, black bile–yellow bile, black bile–phlegm, and pure black bile. Physicians speculated that “black

bile... be mixed with phlegm when the illness is coupled with inertia, lack of movement, and quiet... If black bile be mixed with blood, the patient is happy and laughing... if black bile be mixed with yellow bile, the patient is panicky and his disease resembles mania... when black bile is pure, the illness is accompanied with too much thinking and lack of movement. If the patient moves, then [the patient] becomes panicky and vengeful and always cries."^{5,7,9}

Ibn Sina suggested that the 3 ventricles of the brain perform 5 distinct cognitive processes: common sense, imagination, cogitation, estimation, and memory.⁹ Ibn Sina wrote that abnormal interaction between the brain and other organs, including the kidney, liver, stomach, peritoneum, and spleen, could lead to brain malfunction and consequently psychological disorders. Excessive attention or concentration and lack of physical movement were mentioned as predisposing factors. Overwhelming fright and anger provoked the melancholia. Chronic headaches, epilepsy, meningitis, and long duration of sleeplessness could trigger melancholia. Heart diseases also were reported to induce psychological symptoms.^{5,7,9}

TREATMENT

Medieval Persian medical writings encouraged the treatment of psychological disorders by tackling the conditions that cause or contribute to the disorder and by using electrical-shock therapy, diet therapy, phlebotomy, psychotherapy, music and color therapy, and prescription of medicaments.

General Recommendations

Living in a temperate and humid climate and taking moderate physical exercise were believed to facilitate the treatment of psychological disorders. Doctors mention that patients must avoid excessive or lack of physical activity, frequent sexual intercourse, solitude, and idleness. Attempts should be made to cheer and encourage depressive patients with different methods, such as reading, hunting, music and dance, swimming, playing chess, sport, and attending parties. Travel from the patient's country or a move to a new residence was recommended. Immersion of the body in a tepid freshwater bath, massage of the head and body, and frequent washing of the head with tepid water were advised for their relaxing effects. Treatment of sleep disturbances was very important in management of the psychological disorders. When patients had sleeplessness, water lily (*Nymphaea* spp.), camphor (*Cinnamomum camphora*), poppy seed (*Papaver somniferum*), and oils from squashes were recommended for their sedative effects. Excessive sleep was believed to be very beneficial for patients suffering from paranoia.^{5,7,9}

Electrical-Shock Therapy

Medieval Persian practitioners such as Ibn Sina and Abu Al-Faraj (b: 1226 A.D., Melitene, Armenia—d: 1286 A.D., Maragheh, Iran) were probably the first to use electricity to treat neurologic diseases such as epilepsy and psychological disorders such as melancholia. It was reported that the electrical shock that resulted when a live electric fish, called a torpedo or crampfish, was applied to the forehead (frontotemporal area) could cure a patient suffering from melancholia (especially when depressive symptoms were prominent).¹⁵

Diet Therapy

Persian practitioners believed that "most illnesses arise solely from long-continued errors of diet and regimen." They placed special emphasis on food and diet in their therapeutic management of psychological disorders. Patients with melancholia were ordered never to take a meal until the previous meal was digested. Whatever was lacking nutritionally in the previous meal should be compensated for in the next meal. Practitioners recommended abstinence from sour, salty, or gas-producing foods, fresh concentrated wine, old cheese, vinegar, dried meat, lentil (*Lens* spp.), fig (*Ficus carica* L.), and lettuce (*Lactuca* spp.). Oily and sweet foods were believed to be beneficial. A small quantity of white wine mixed with water might be useful for its sedative effect, especially in patients with melancholia. Foods that were thought to help cure melancholia included beef, fat chicken, fresh fish, dried whey, celery (*Apium graveolens*), honey, root of horseradish (*Armoracia rusticana*), spinach (*Spinacia oleracea*), beetroot (*Beta vulgaris craca*), and rue (*Ruta graveolens*). Pomegranate (*Punica granatum*), grape (*Vitis* spp.), *ma-o-sha'ir* (beer without alcohol), and cereals were believed to be useful in mania.^{5,7,9}

Psychotherapy

Persian doctors analyzed the essence of the human soul, mind, psychic streams, intellect, dreams and prophecy, man's desires, etc., in detail. Psychological disorders were sicknesses involving the soul and the mind. In those times, patients with such difficulties were treated by indoctrination and with verbal communication. They defined a scale, on the one side of which was wisdom and on the other side harmful acts, arising from unethical behavior. Doctors struck a balance by distinguishing evil and by de-emphasizing its role in the life of the individual. The individual was made to understand that calamity, whimsical existence, selfishness, opportunism, pride, greed, anger, and the like arise from the *nafs* (self or ego) and naturally, being harmful, lead to destruction. They treated the individual by providing psychological advice based on a long life of experience. This practice made the patient understand that good words, deeds, and thoughts influence health as much as drugs. Râzi described in his book,

Figure 1. *Ashegh-e-zar* (deplorable lover) by Houssain Behzad^a



^aReprinted with the permission of the SaadAbad Cultural Complex, Tehran, Iran. "Passionate love disease," depicted in this painting, was described by many poets and painters in Persian art.

al-Tibb al-Ruhani (Spiritual Medicine), in detail the moral diseases and discussed with acute perception how these affect human behavior.^{8,6}

Physicians combined psychological methods and physiological explanations, and used psychotherapy in a dynamic fashion. Physicians practiced various forms of psychotherapy such as shock, shame, or pulse therapy in the treatment of psychological disorders, and these treatments were original.^{5,7,9}

Râzi was once called in to treat a caliph who had severe arthritis. He advised a hot bath, and while the caliph was bathing, Râzi threatened him with a knife, proclaiming he was going to kill him. This deliberate provocation increased the natural heat, which thus gained sufficient strength to dissolve the already softened humors; as a result the caliph got up from his knees in the bath and ran after Râzi.⁵ One woman who had such severe cramps in her joints that she was unable to stand was cured by a physician who lifted her skirt, thus putting her to shame. "A flush of heat was produced within her that dissolved the rheumatic humor."⁵ Râzi also reported the disappearing

of melancholia after a shock such as being trapped in fire or a demolished building.⁵

Ibn Sina recognized physiologic psychology in treating illnesses involving emotions such as passionate love disease. He comprehensively covers the subject of the pulse and records the effects of a variety of conditions on the pulse, such as the environment, food, drink, age, exercise, pregnancy, sleep and waking, pain, temperament, and various emotional states such as anger, pleasure, joy, grief, and fear.¹⁶ From the clinical perspective, Ibn Sina devised a technique for associating emotions and feelings with changes in the pulse rate. He treated a terribly ill patient suffering from passionate love disease by checking the patient's pulse while reciting the names of provinces, districts, towns, streets, and people aloud to the patient. By observing how the patient's pulse sped up when certain names were mentioned, Ibn Sina inferred that the patient was in love with a girl and was able to locate her home with this pulse-checking method. The man followed Ibn Sina's advice, wed the girl, and recovered from his disease.⁷

Phlebotomy

Bloodletting was recommended as an effective method for eliminating melancholia and mania, especially for those cases that originated from problems with blood humor or cardiovascular diseases. Bloodletting from the pulsating hemorrhoidal and saphenous veins was thought beneficial. Overwhelming phlebotomy cured some patients with severe mania.^{5,7,9}

Music Therapy

Music was a very important part of treatment of mental illnesses in ancient times as well as in the medieval period. The earliest Persian text that dealt with health and sickness was the *Avesta*, a collection of Zoroastrian holy writings that was probably compiled during the sixth century B.C. It stated, "When the human soul was greatly disturbed, the best cure was to recite the holy book [the 'Gathas' of the *Avesta*], read poetry, or listen to music."¹⁷

Medieval practitioners assigned qualities to the relations of vibrations, tones, colors, and emotions. Ibn Sina noted the close relationship between emotions and the physical condition and felt that music had a definite physical and psychological effect on patients. He wrote, "One of the most effective and best paths of curing is to increase the mental and spiritual strengths of the patient. To cope better with the illness, the patient should be encouraged, should listen to good music, and should come together with people whom he loves."⁸

Harmony in the technical sense was not properly recognized until the 19th century, but the roots of the idea of harmony may be traced as far back as Ibn Sina. The earliest form of harmony was simply 2 sounds being played or sung simultaneously in such way as to please

Figure 2. *Sorrow and Joy* by Mahmoud Farshchian^a



^aReprinted with the permission of the SaadAbad Cultural Complex, Tehran, Iran. The influence of music on mood, emotion, and feeling was conveyed in the work of several Persian artists.

the ear. Discussions on the phenomenon of sound, the dissonant and the consonant, lute fretting, and references to melodic modes by specific names are also found in Ibn Sina’s writings. Consonances and diatonic pitches were utilized almost exclusively, indicating harmony, concord, and proportion. All of these characteristics work together to provide a vivid musical portrayal of health, balance, and concord^{7,8} (Figure 2).

Various aspects of healing have been linked to the use of music because of its innate ability to bring about a mental, emotional, and physical calmness. Ibn Sina researched the scientific aspects of music. He stated that the various notes that combine to produce harmony have a specific pitch, and the degree of harmony depends on the frequency of notes.⁸ Further, he provided a method for the determination of pitch. Different musical notes, their relationship with emotions and colors, and their roles in the treatment of psychological disorders were described in detail by Ibn Sina (Table 1). He also mentioned

Table 1. Therapeutic Roles of Colors and Music on Psychological Symptoms and Disorders Presented by Medieval Persian Physicians

Music Notes	Colors	Symptoms and Disorders
C (Do)	Blue	Insomnia and sleep disturbances
G (Sol)	Red	Fatigue, depression, melancholia
D (Re)	Pink	Memory difficulties, forgetfulness
A (La)	Green	Curiosity impairment

that some notes could induce emotional distresses such as sadness.^{5,7-9}

Color Therapy

Medieval Persian physicians found in their common experience and practice that color influences mood and feeling. They made clear the vital importance of color in both diagnosis and treatment of different diseases. Ibn Sina, noting that color was an observable symptom of disease, developed a chart that related color to temperament and the physical condition of the body. Using color to treat, he believed that red moved blood, white and blue cooled it, and yellow reduced pain and inflammation. He prescribed red flowers for ingesting, bathing, and smelling (inhalation therapy) to cure blood disorders and yellow ones and sunlight to reduce pain and inflammation. The practitioners also noted the possible dangers of color in treatment or elicitation of disorders.⁷

By learning how color influenced humans, physicians effectively used color therapy to give patients an extra boost of energy or pacify them when they needed it. Pink was believed to purify the thoughts and feelings and was recommended in the treatment of forgetfulness. Blue, because of its pacifying effect on the nervous system, was advised in insomnia treatment. The color red provided power, enthusiasm, and encouragement; thus it was used to treat fatigue and depression (depressive type of melancholia). Green balanced energy and was beneficial in the treatment of indifference and curiosity impairment (Table 1).^{5,7-9}

Pharmacotherapy

The medieval Persian physicians have provided long lists of drugs that they used to treat psychological disorders. The antipsychotic drug therapy plan was individualized, and patients were given different single and combined drug therapy with a dosing schedule for each of those. The medicaments listed in medieval Persian writings include plants, animal products, and minerals. The favored route of administration for many substances was oral. Drugs were also taken through the skin on the head or through nasal or rectal routes. The physicians developed many antipsychotic drugs with variable modes of action. There were different specific drugs for treatment of each major psychological disorder including melan-

Table 2. Natural Melancholia Remedies Used in Medieval Persia

Origin of Drug	Common Name	Latin Name	Administration	Origin of Drug	Common Name	Latin Name	Administration
Plant-derived drugs	Absinth wormwood	<i>Artemisia absinthium</i>	Oral, topical	Plant-derived drugs	Italian bugloss	<i>Anchusa italica</i>	
	Aloe	<i>Aloe</i>	Oral, nasal		Lavender, French	<i>Lavandula stoechas</i>	Oral
	Apricot tree	<i>Armeniaca vulgaris</i>	Oral		Lemon balm	<i>Melissa officinalis</i>	
	Arnut, earthnut	<i>Carum bulbocastanum</i>	Topical		Marsh trefoil	<i>Menyanthes trifoliata</i>	Oral
	Balsam apple	<i>Momordica balsamina</i>	Oral		Marshmallow	<i>Althaea officinalis</i>	Topical
	Bdellium de l'Inde	<i>Commiphora agallocha a.</i>	Oral		Mastic	<i>Pistacia lentiscus</i>	Topical
	Beetroot	<i>Beta vulgaris</i>	Oral		Meadow saffron	<i>Colchicum autumnale</i>	Oral
	Birthwort	<i>Aristolochia longa</i>			Melilot trefoil	<i>Melilotus officinalis</i>	Oral, topical
	Bishop's weed	<i>Trachyspermum copticum</i>	Topical		Mezereon	<i>Daphne mezereum</i>	Oral
	Black locust	<i>Robinia pseudoacacia</i>	Oral		Milk vetch	<i>Astragalus</i>	Oral
	Black myrobalan	<i>Terminalia chebula</i>	Oral		Monk's pepper tree	<i>Vitex agnus-castus</i>	Topical
	Black pepper plant	<i>Piper nigrum</i>	Oral		Mustard	<i>Sinapis alba</i>	Topical
	Borage	<i>Echium amoenum</i>			Opium poppy	<i>Papaver somniferum</i>	Topical
	Bryony	<i>Bryonia dioica</i>	Oral		Pennyroyal, European	<i>Mentha pulegium</i>	Oral
	Camphor tree	<i>Cinnamomum camphora</i>	Nasal		Purging cassia	<i>Cassia fistula</i>	Oral
	Carrot	<i>Daucus carota</i>	Oral		Quince	<i>Cydonia oblonga</i>	Oral
	Celery, wild	<i>Apium graveolens</i>	Oral, topical		Rose, French	<i>Rosa gallica</i>	Oral, topical
	Chinese cinnamon	<i>Cinnamomum cassia</i>	Oral		Rue	<i>Ruta graveolens</i>	Oral, topical
	Christmas rose	<i>Helleborus niger</i>	Oral		Safflower	<i>Carthamus tinctorius</i>	
	Cinnamon	<i>Cinnamomum zeylanicum</i>	Oral		Saffron	<i>Crocus sativus</i>	Nasal
	Cleavers	<i>Galium aparine</i>	Oral		Scammony, bindweed	<i>Convolvulus scammonia</i>	Oral
	Clove tree	<i>Eugenia caryophyllata</i>	Oral		Senna	<i>Cassia angustifolia</i>	Oral
	Clover dodder	<i>Cuscuta epithimum</i>	Oral		Southernwood	<i>Artemisia abrotanum</i>	
	Common polypody	<i>Polypodium vulgare</i>	Oral		Sowbread	<i>Cyclamen europaeum</i>	Topical
	Common purslane	<i>Portulaca oleracea</i>	Oral, topical		Spinach	<i>Spinacia oleracea</i>	Oral
	Cultivated radish	<i>Raphanus sativus</i>	Oral		Squill	<i>Urginea scilla</i>	
	Dill	<i>Anethum graveolens</i>	Topical		Styrax tree	<i>Styrax officinale</i>	Oral
	Emblic myrobalan	<i>Phyllanthus emblica</i>			Sweet acacia	<i>Acacia farnesiana</i>	Nasal
	Feverfew	<i>Chrysanthemum parthenium</i>	Oral, topical		Sweet bay, bay leaf	<i>Laurus nobilis</i>	
	Fine-leaved fumitory	<i>Fumaria parviflora</i>	Oral		Sweet violet	<i>Viola odorata</i>	Nasal, topical
	Foalfoot	<i>Asarum europaeum</i>	Topical		Terebinth tree	<i>Pistacia terebinthus</i>	Oral
	Fungus laricis	<i>Polyporus officinalis</i>	Oral		Turpeth	<i>Ipomoea turpethum</i>	Oral
	Garlic	<i>Allium sativum</i>	Oral		Valerian	<i>Valeriana officinalis</i>	
	Gas plant	<i>Dictamnus albus</i>	Topical		Wall germander	<i>Teucrium chamaedrys</i>	Oral
	Gentian, yellow	<i>Gentiana lutea</i>	Oral		Wartwort	<i>Euphorbia helioscopia</i>	
	Goat's beard	<i>Tragopogon pratensis</i>	Oral		White hellebore, European	<i>Veratrum album</i>	
	Grapevine	<i>Vitis vinifera</i>	Oral		White lily	<i>Lilium candidum</i>	Topical
	Ground pine, French	<i>Ajuga iva</i>			Wild chamomile, German	<i>Matricaria chamomilla</i>	Topical
	Guggul gum	<i>Commiphora mukul</i>			Wild morning glory	<i>Convolvulus sepium</i>	Nasal
	Gum arabic	<i>Acacia senegal</i>	Oral		Processed plant-derived drugs	Burnt sugar	Nasal
	Harmal	<i>Peganum harmala</i>	Oral		Mineral-derived drugs	Calium verum	Oral
	Hyacinth bean	<i>Dolichos lablab</i>	Oral		Animal-derived drugs	Honey	Oral
	Incense	<i>Boswellia carterii</i>	Nasal				
	Indian valerian	<i>Nardostachys jatamansi</i>	Oral				

cholia (Table 2), mania and *daol-kalb* (Table 3), and paranoia (Table 4).^{5,7,9}

In cases of melancholy, doctors recommended different prescriptions. Clover dodder (*Cuscuta epithimum*) was noted as one of the most effective substances. Other medicaments that were usually recommended for therapy of melancholia include absinth wormwood (*Artemisia absinthium*), common polypody (*Polypodium vulgare*), valerian (*Valeriana officinalis*), and lavender (*Lavandula stoechas*). Flowers of borage (*Echium amoenum*) and rose (*Rosa gallica*) were prescribed because of their anxiolytic

effects. In difficult-to-treat patients, cautious application of Christmas rose (*Helleborus niger*) was advised. Aloe was believed to be effective in treatment of melancholia accompanied by hallucination.^{5,7,9}

Avicenna wrote that administration of diuretics in mania should be avoided. Other common drugs applied for mania and *daol-kalb* were black myrobalan (*Terminalia chebula*), pomegranate (*Punica granatum*), and absinth wormwood (*Artemisia absinthium*). Topical or oral application of opium poppy seed (*Papaver somniferum*), water lily (*Nymphaea* spp.), and oils from squashes,

Table 3. Natural Mania and *Daol-Kalb* Remedies Used in Medieval Persia

Origin of Drug	Common Name	Latin Name	Administration	Origin of Drug	Common Name	Latin Name	Administration	
Plant-derived drugs	Absinth wormwood	<i>Artemisia absinthium</i>	Oral, topical	Plant-derived drugs	Garlic	<i>Allium sativum</i>	Oral	
	Aloe	<i>Aloe</i>	Oral		Gentian, yellow	<i>Gentiana lutea</i>	Oral	
	Balsam apple	<i>Momordica balsamina</i>	Oral		Goat's beard	<i>Tragopogon pratensis</i>	Oral	
	Birthwort	<i>Aristolochia rotunda</i> and			Oral	Gum arabic	<i>Acacia senegal</i>	Oral
		<i>Aristolochia longa</i>				Hare's ear	<i>Bupleurum falcatum</i>	Oral
	Bishop's weed	<i>Trachyspermum copticum</i>	Oral		Horehound	<i>Marrubium vulgare</i>	Oral	
	Black locust	<i>Robinia pseudoacacia</i>	Oral		Indian valerian	<i>Nardostachys jatamansi</i>	Oral	
	Black myrobalan	<i>Terminalia chebula</i>	Oral		Lavender, French	<i>Lavandula stoechas</i>	Oral	
	Black pepper plant	<i>Piper nigrum</i>	Oral		Liquorice	<i>Glycyrrhiza glabra</i>	Oral	
	Cardamom	<i>Elettaria cardamomum</i>	Oral		Pennyroyal, European	<i>Mentha pulegium</i>	Oral	
	Carrot	<i>Daucus carota</i>	Oral		Pomegranate	<i>Punica granatum</i>	Oral	
	Celery, wild	<i>Apium graveolens</i>	Oral		Rutabaga	<i>Brassica napus</i>	Oral	
	Chickpea	<i>Cicer arietinum</i>	Oral		Scammony, bindweed	<i>Convolvulus scammonia</i>	Oral	
	Chinese cinnamon	<i>Cinnamomum cassia</i>	Oral		Terebinth tree	<i>Pistacia terebinthus</i>	Oral	
	Cinnamon	<i>Cinnamomum zeylanicum</i>	Oral		Valerian	<i>Valeriana celtica</i>	Oral	
	Cleavers	<i>Galium aparine</i>	Oral		Wall Germander	<i>Teucrium chamaedrys</i>	Oral	
	Colocynth	<i>Citrullus colocynthis</i>	Oral		White lily	<i>Lilium candidum</i>	Oral	
	Damask rose	<i>Rosa damascena</i>	Oral		Mineral-derived drugs	Calium verum	Oral	
	Egyptian luffa	<i>Luffa aegyptiaca</i>	Oral		Animal-derived drugs	Butter	Topical	
	Fennel	<i>Foeniculum vulgare</i>	Oral			Honey	Oral	
Fine-leaved fumitory	<i>Fumaria parviflora</i>	Oral		Milk	Topical			

Table 4. Natural Paranoia Remedies Used in Medieval Persia

Origin of Drug	Common Name	Latin Name	Administration	Origin of Drug	Common Name	Latin Name	Administration	
Plant-derived drugs	Absinth wormwood	<i>Artemisia absinthium</i>	Oral, topical	Plant-derived drugs	Myrtle	<i>Myrtus communis</i>	Topical	
	Almond	<i>Amygdalus communis</i>	Nasal, topical, oral		Opium	<i>Papaver somniferum</i>	Topical	
	Bishop's weed	<i>Trachyspermum copticum</i>			Topical	Plum	<i>Prunus domestica</i>	Oral
		<i>Trachyspermum copticum</i>				Pomegranate	<i>Punica granatum</i>	Oral
	Black myrobalan	<i>Terminalia chebula</i>	Oral		Pumpkin	<i>Cucurbita pepo</i>	Nasal, topical	
	Black nightshade	<i>Solanum nigrum</i>	Topical		Purging cassia	<i>Cassia fistula</i>	Oral	
	Chamomile, German	<i>Matricaria chamomilla</i>			Topical	Rose, red	<i>Rosa gallica</i>	Oral, topical
		<i>Matricaria chamomilla</i>				Scammony, bindweed	<i>Convolvulus scammonia</i>	Oral
	Christmas rose	<i>Helleborus niger</i>	Oral		Sweet violet	<i>Viola odorata</i>	Nasal, topical	
	Clary	<i>Salvia sclarea</i>			Turpeth	<i>Ipomoea turpethum</i>	Oral	
	Clover dodder	<i>Cuscuta epithimum</i>	Oral		Water lily	<i>Nymphaea</i> spp.		
	Colocynth	<i>Citrullus colocynthis</i>	Oral		White willow	<i>Salix alba</i>	Topical	
	Common polypody	<i>Polypodium vulgare</i>	Oral		Wild morning glory	<i>Convolvulus sepium</i>	Nasal	
	Fennel	<i>Foeniculum vulgare</i>	Oral		Processed/fermented plant-derived drugs	Beer		Oral
	Hyacinth bean	<i>Dolichos lablab</i>	Oral			Burnt sugar		Oral
	Lavender, French	<i>Lavandula stoechas</i>	Oral		Mineral-derived drugs	Calium verum		Oral
	Lettuce	<i>Lactuca sativa</i>			Animal-derived drugs	Butter		Topical
	Mandrake, European	<i>Mandragora officinarum</i>				Milk		Topical
	Marshmallow	<i>Althaea officinalis</i>	Topical					
	Mastic	<i>Pistacia lentiscus</i>	Topical					

because of their sedative effects, were reported to be very useful in paranoia. Application of clary (*Salvia sclarea*) was reported to tranquilize and cure some patients with paranoia.^{5,7,9}

CONCLUSION

This review presents the clinical approaches that physicians in medieval Persia used to deal with psychological disorders. The efficacy of some traditional Persian treatments, such as the anxiolytic effect of *Echium*

amoenum,¹⁸ anxiolytic and anticonflict effects of rose¹⁹ and *Melissa officinalis*,^{20,21} sedative property and behavioral effect of absinth,^{22,23} sedative and sleep-enhancing properties of valerian,²⁴ central nervous system depressant and β-adrenoceptor agonistic activities of common polypody,²⁵ and antidepressant effects of clove and cinnamon,²⁶ as well as the different psychopharmacologic effects of clover dodder,²⁷ has been proved by modern medicine; however, most of the traditional treatments remain largely unexamined. Furthermore, music therapy^{28,29} and color therapy³⁰ have been used with increasing

frequency in the treatment of psychiatric disorders in recent years. Electroconvulsive therapy is an effective short-term treatment for depression and many other psychiatric disorders.^{31,32} The information presented here provides comprehensive data on clinical remedies based on centuries of experience in the field of psychology, and thus might help inform further testing of the probable benefits of these remedies for the treatment of psychological disorders. The data presented here also provide an overview of the knowledge of psychological sciences during medieval times.

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