



**REVIEW AND EXPLANATION OF NEUROLOGICAL AND PSYCHIATRIC
DISORDER BASED ON TRADITIONAL PERSIAN MEDICINE**

**AZADEH MASHAYEKHI¹, MEHRDAD KARIMI², HOSSEIN REZAEIZADEH³,
LEILA SHIRBEIGI⁴, ALIREZA GHAYOUMI^{*5}**

1: Department of psychiatry, Kerman University of Medical Sciences, Kerman, Iran

2, 3: Persian Medicine and Pharmacy Research Center, Tehran University of Medical
Sciences, Tehran, Iran

4, 5: Department of Traditional Medicine, Tehran University of Medical Sciences, Tehran,
Iran

***Corresponding author: Dr. Alireza Ghayoumi; Department of Traditional Medicine, West Taleqani St.
Shahid Sarpasht St, Tehran, Iran; Email: dralgh94214@gmail.com; Tell: +98 9133273943**

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ABSTRACT

Introduction: Neurological and psychiatric diseases are among the most prevalent and high-risk human diseases considered by physicians since long times. In this article we attempted to explain and review these disorders based on traditional Persian medicine and its conformity with modern medicine.

Methods: In this article, it was attempted to investigate the Iranian scientists' theories about neurological and psychiatric diseases through traditional medicine resources in form of a descriptive analysis. In order to evaluate the text, we used electronic search in information banks and non-electronic searches in traditional medicine books and resources such as *Avicenna's canun*, *Zakhireye Khwarazmshahi*, and *Exir Azam* and etc.

Results: Based on resources and texts, neurological and psychiatric diseases in traditional Persian medicine based on Avicenna are divided into 36 disorders in five general diseases classifications. These classifications include *Soda'e* (Headaches), *Tafaroghe ettesal* (physical damages), *O'oram Ra'as* (swelling of the head), *Hess and Siasat* diseases, *Harakat* (motor) diseases and *A'asab* diseases. Other physicians of traditional medicine provided partial differences in their classifications.

Discussion: Based on results obtained, classification and explanation of the neurological and psychiatric diseases in traditional and modern medicine resources differ highly due to different approaches of these two medical areas; because in traditional medicine the diseases classification is based on four humors, while in modern medicine this classification is based on the neurotransmitter changes or anatomic changes and other physio-pathological changes.

Keywords: Traditional Persian Medicine, Headache, Neurology, Psychiatry, Avicenna, Zakhireye Khwarazmshahi, *Exir Azam*

INTRODUCTION

Years ago, when the science was not developed in west oriental valuable physicians explained and classified different diseases and until recent centuries, this science matured and used in different diseases treatment [1]. Neurological and psychiatric diseases are among the mostly incident diseases worldwide and includes an extensive spectrum of the patients referring to the clinics and emergency wards. Considering the aging of the population in Iran, neurological and psychiatric diseases such as stroke, Alzheimer and Parkinson are more observed in society than recent decades. In term of the stroke, Iran is among the countries with medium incidence in world. The figures indicate that in a city like Tehran with about 12 million population, 150-200 strokes occur daily and unfortunately, less than 15% of them refer to physicians at suitable time [2]. About incident of the psychiatric disorders, the general director of the mental health in ministry of health announced 23.6% as the

last incidence of the psychiatric disorders in our country. This figure is related to the 15-64 years old population of Iran [3]. Neurological and psychiatric disorders not only are considered to be physiological performance disorders in human body, but are also a complicated crisis in life whose highly mental stress would be imposed to other family members; since having neurological and psychiatric diseases causes loss of the individual's performance seriously in individual, family, occupational and social life with high burdens for not only the individual, but also the family and society [4]. Thus, investigating into these diseases in traditional Persian medicine and diagnostic and therapeutic approached based on the traditional medicine therapeutic strategies can be helpful for a large group of the patients and finally, for society; particularly, many of these Neurological and psychiatric patients are among the degenerative diseases such as Alzheimer and Parkinson disease and are not decisively treated in modern medicine

[5] and prevention and therapeutic principles of the traditional medicine can be helpful in this regard. Also chemical medications often lead to the many side-effects in patients for which the traditional medicine has also solutions. In this article, it is attempted to investigate the classification and explanation of the Neurological and psychiatric diseases in traditional Persian medicine and overview each classes so that we can introduce the physicians and therapists to the traditional Persian medicine terminology regarding these classes of disease and help more patients to be improved and recover from these complication using diagnostic and therapeutic principles of the traditional medicine.

METHOD

Present study is a review article in order to investigate into the text regarding explanation and classification of the neurological and psychiatric diseases in traditional Persian medicine and compare them to the modern medicine. In order to investigate the texts, key words such as neurology, psychiatry, psychiatric, headache, depression, psychosis, epilepsy, *Avicenna's canon*, *Zakhireye Khwarazmshahi*, *Exir E Azam* and traditional medicine were used alone or in combined form in information banks. English resources were investigated in

PubMed, Google Scholar and other information banks such as MedLine and the equivalent Persian keywords were used. For searching the Persian electronic banks including resources of ministry of health, the SID scientific information database, Iranian medical science articles information bank, Iran scientific information and documents research center and Iranian publication information bank were used. Also, non-electronic searches was conducted by refereeing to the library magazines archive and investigating into the Persian available resources regarding the Islamic scholars books in line with neurological and psychiatric diseases as well as published articles in journals, medical ethics journal and national and international conferences of medical history. In this research the credible books of Islamic scientists such as *Avicenna's canon*, *Zakhireye Khwarazmshahi* of *Hakim Esmail Jorjani* and *Mohammad Azam Khan's Exir E Azam* were studied. Due to differences in versions, sometimes we referred to several versions of a book.

RESULTS

Neurological and psychiatric diseases are classified by *Avicenna* to 36 diseases in form of five classifications as follows [6]:

1. Headaches: Including six *Soda'e*, *Bayze*, *Shaquiqe*, *Asabe*, *'Hess'* and *Seqle Ra'as*.

1-1: Soda'e: It means in general the headache whose reasons are different bad tempered or dialysis (physical damages) or both. Generally, 16 types of the headaches are defined eight of which are due to singular simple or combined reasons and eight are material single or combined reasons.

1-2: Bayze: The other name for this is *Khude* and means a headache with ache around the head in the hypothetical location of the hat on head. This disease has complications such as photophobia, phonophobia or fear of movement and its ache is not improved by tightening of head.

1-3: Shaquiqe: It is a type of headache in one side of the head and repeats periodically and sometimes is along with ache in back of the eye, continually. Sometimes, in this headache, the patient complains of the pain and sensitivity in temporal muscles to the extent at which, it is not tolerable to touch the temporal section. This headache often is beating and improved by tightening of head.

1-4: Asabe: It is a pain in forehead which can be uni-or bilateral. These patients also have photophobia and often complain of the tension in forehead highly.

1-5: Hess`: In this disorder, patient doesn't have certainly headache but feels scratching in head which is with stress on head and

beating the head to a rigid object or pouring warm water on head can improve the pain.

1.6: Seqle Ra'as: This disease is as heaviness in head which can be with or without headache.

2. O'oram Ra'as (swelling of the head), *Tafaroghe ettesal* (physical damages): including five diseases such as *Sarsam*, *Atash*, *O'oram kharej Ra'as* (Head external swellings), *Tajamoe ab dar Ra'as* (head water accumulation), *Sobat Sahari*.

2-1: Sarsam: Means inflammation and swelling of the head including real and non-real type.

2-1-1: The real one includes:

- *2-1-1-1: Gharanites:* Warm inflammation of the brain tissues and membranes.
- *2-1-1-2: Felghmoni:* Infectious inflammation in brain tissue.
- *2-1-1-3: Hamre:* Bilious inflammation in brain tissues without infectious reasons.
- *2-1-1-4: Jamre: Melancholic sodavi* inflammation in brain tissues without infectious reasons.
- *2-1-1-5: Ghangharaya or Seqhaqhlus:* inflammation in brain ventricular sections due to blood infection.
- *2-1-1-6: Lisarghas:* Cold ventricular inflammation of brain and brain tissues due to phlegm (Balgham).

2-1-2: Non-real 'sarsam': In this disease, symptoms like brain inflammation occur but there is no swelling in brain tissues and membranes. Its causes are often severe fevers and brain external parts disorders such as stomach and diaphragm and chest, bladder and uterus.

2-2: 'Atash or Teshnak': Mild and warm inflammation in children's brain with thirst every time.

2-3: O'oram kharej Ra'as: Include head swelling or external part of the skull with warm or cold swelling in which the head skin color changed and head skin inflammation occurs with pain and irritation.

Masher (Canker disease): Swelling due to face and forehead blood.

2-4: *Tajamoe ab dar Ra'as*: It is accumulation of the liquid between skull and internal brain's membrane and skull and external membranes.

2-5: *Sobat Sahari or Ghuma*: It is a type of warm or cold inflammation in part of the brain due to body fullness ('Emtela') which is due to overeating or overdrinking.

3. *Hess and Siasat* diseases including eight disorders:

Sobat, Sahar, Nesyan, Sarsam, Raounat and Homgh, Malikhulia, Jonun and Eshgh.

3-1: *Sobat*: Means long-term sleep in which patient difficultly wakes up due to coldness or humidity domination on brain.

3-2: *Sahar*: Means long-term awakening and lack of ability to sleep due to brain dryness and can be with coldness and warmth.

3-3: *Nesyan*: Means loss of memory

3-4: *Sarsam*: Intellectual tension and disturbance and distortion to the madness extent, i.e. prate.

3-5: *Raounat and Homgh*: *Raounat* means grandiosity and *Homgh* means childish behavior without thinking and along with wisdom loss in invaluable issues.

3-6: *Malikhulia*: Means thinking disorder in form of pessimism with fear and incorrect actions. Its reasons often are domination of the *Melancholic (soda)* resulted mild burning of humors.

3-7: *Jonun*: It means madness.

3-8: *Eshgh* (love disease): It is like *Malikhulia* in which the patients attention is concentrated on the beloved and even doesn't pay attention to her/his deficits and have hope of reaching him/her in his/her mind.

4. *Harakat* (motor) disorders including seven disorders such as *Sadar, Dovar, Fayahzaj, Kaboos, Sare'e, Sakte and Jomoud.*

4-1: *Sadar*: Means when the patient feels dizziness when standing up and feels the risk of falling.

4-2: *Dovar*: Means illness based on the feeling that objects are rotating around the head and patient feels vertigo.

4-3: *Fayahzaj*: Its other name is Levy. This state is like tiredness in which patient frequently demarcates and yawns and his eye is red and its reason is body fullness from material and steams due to overeating and overdrinking and lack of doing sport in patient and this state occurs after the sleep.

4-4: *Kaboos* (sleep paralysis): The other name of this disease is *Khaneq* and is the state when patient lies on back and imagines that there is a heavy object on his chest and presses and make him difficult to breath and patient cannot say anything or move.

4-5: *Sare'e* (Epilepsy): In this disease, the patient suddenly passes out and falls and his mouth and hand and feet deviates and shakes and scum gets out of his mouth. The other name of this disorder is *Sebyani* or *Omol Sebyan* disease; because it occurs most often in children and in this disease patient feels incorrect movement and sensation.

4-6: *Sakte* (Stroke): An acute disease in which patient falls or in being sitting, keeps that sate and patients movement and sensation power are lost which can be in part or whole body and may lead to paralysis.

4-7: *Jomoud*: The other names for this disorder are *Shokhus* or *Akhze* or *Modrake* in which patient suddenly losses his sensation and movement power and keeps his state even if being in standing state, but he doesn't have convulsion or scum in mouth and patient cannot speak and answer.

5. A 'asab disorders include 10 diseases: '*Esterkha*', '*Falej*', '*Laghve*', '*Tashanoj*', '*Kozaz*', '*Tamadod*', and '*Rashe*', '*Erte'ad*', '*Khader*' and '*Ekhtelaj*'.

5-1: '*Esterkha*': Means laxity and weakness in a part of body with weakened sensation and movement of the part of body or loss of this power.

5-2: '*Falej*': Means being paralyzed in a part or whole body without involvement of the head and face.

Note: If the paralysis occurred in both sides of the face and head, it is called stroke.

5-3: '*Laghve*' (Bell's palsy): Means bending of a part of face which sometimes can be in whole face.

5-4: '*Tashanoj*' (convulsion): It means stretch of the part of body and then return; i.e. moving inside-out which, of course, in some cases is not with laxation of the part and it is contracted. Its reason can be material or non-material such as heat, dryness or due to damaging material to the body.

Note: Convulsion in fact is lack of ability to expand the body part.

5-5: `Kozaz`: It means continual tension of the neuron in both sides due to which the part is in direct or deviated state and it is painful.

5-6: `Tamadod`: It means solidity and rigidity of the muscles which inhibits the part from being contracted.

5-7: `Rashe`: It means shaking of the part due to three factors: weakness of moving power, fear or mental factors such as sadness, grief or embarrassment.

5-8: `Erte'ad`: Means jerk of the parts suddenly when sleeping or awakening due to increase of the humidity in brain or drinking wine.

5-9: `Khader`: Means reduction or loss of the tactile sensation. If the `Khader` is not completed, emerges with shaking; but if it was completed, there would be `Estarkha` occurred in the part.

5-10: `Ekhtelaj`: Means jerk of the body organs in part of body like eyelid, heart, stomach and spleen.

Galen, as one of the researchers in psychiatric and neurological diseases classified these diseases to five classes as follows [7]:

1. Diseases due to swelling or dialysis such as *Gharanites*, *Lisarghas* and *Sobat Sahari*.
2. Diseases due to accumulation of unfitting *Melancholia (Soda)* or steams in brain such as *Malikhulia*

and *Mania* and *Ghotrob*, *Nesyran* and *Homgh* and *Sobat*.

3. Diseases due to accumulation of unfitting *Phlegm (Balgham)* in brain ventricle such as *Kaboos*, epilepsy and stroke.
4. Disease due to accumulation of additional fitting humidity in sensory-motor neurons such as *Falej*, *Laghve*, *Tashanoj*, *Kozaz*, *Rashe*, *Khader* and *Ekhtelaj*.
5. *Soda'e* (Headaches).

DISCUSSION

Neurological and psychiatric diseases are among the most incident and high-risk human diseases which are long considered by physicians. About classification of the each disease and allocating a name to them, there is a consensus between traditional Persian medicine physicians; but there are little differences in classification and names for each disease. Considering that Avicenna's view about neurological and psychiatric diseases is one of the most comprehensive ideas in traditional Persian medicine, in this article it was attempted to investigate the classification and names of the disorders based on Avicenna's ideas and views. Avicenna classified neurological and psychiatric diseases to 36 disorders which are included in five classes: Headaches, Dialysis, Head swelling, Sensory diseases, Motor diseases and

Neurological diseases .In this section, Avicenna's classification for hair and bone fracture in head and face and skin wound are not included [6].

Based on the *galen's* classification, it seems that he mostly considered the reasons and causes of the diseases, but Avicenna mostly considered the complications and the place of the disease effects in brain and classified on this basis. Of course, there is a little differences in *Avicenna's* school classifications and *Hakim Gilani* as one of the followers of the Avicenna, explains the reason for epilepsy as child's body humidity; but Avicenna considers this humidity due to mother's indigestion [8]. *Hakim Ilaghi*, another follower's of Avicenna's school, classified the insanity to four *Mania*, *Darol Kalb*, *Sabara* and *Ghotrob* which are not clearly mentioned in the resources attributed to *Avicenna*; because there are some overlapping and similar symptoms between classifications.

Mania: It means insanity and hazardous actions with probability to damage others

Darol Kalb: Means animalism insanity with Animal behaviors and rapacity

Sabara: Means radical insanity with bilious 'Sarsam'.

Ghotrob: It is a type of insanity whose reason is colder than *Mania* with more concentration and therefore, this disease tends to be chronic [9].

Generally Avicenna's classification is the most reliable classifications of the neurological and psychiatric disorders which are agreed on by physicians. Also, the classification addressed in this article helps us to be able to find relevant treatments for the diseases for which the modern medicine cannot provide any therapeutic procedure based on discussions and classifications addressed in modern medicine by exploring and comparing them. For example, as it is inferred from texts, probably *Laghve* is the equivalent disorder with Bell's palsy or 7th neuron palsy in brain [10] or epilepsy is the convulsion in modern medicine which is used in modern medicine terminology, too [11] and *Kozaz* can be the muscles spasm in modern medicine. The term *Sadar* is equivalent to dizziness and *Dovar* is the true vertigo in modern medicine. *Rashe* is the Tremor disorder in neurology. *Ekhtelaj* and *Erte'ad* are muscle jerk or *Khader* is the numbness of the body organs or can be to some extent, the symptom of some diseases such as Multiple Sclerosis [12]. Also *Sarsam* is the equivalent of infectious and non-infectious encephalitis [13]. Also, *Nesyan* can be equivalent to different dementia disorder in modern medicine. *Hazyan* is also the delusion in modern psychiatry which is along with psychosis disorders. *Raounat* is the grandiosity or

megalomania in modern psychiatry. *Jomoud* also is the Catatonia in modern medicine which occurs in a large spectrum of the psychiatry disorders such as depression, schizophrenia and other types of psychosis with medical causes such as electrolyte disorders, brain trauma, tumors and so forth [4, 14].

It is considerable that today some diseases are named with the terms which are used for other diseases in traditional Persian medicine. For example the term *Tashanoj* is used for convulsion; but in traditional Persian medicine, it is used for muscles spasm [15]. Also, today the term *Kabous* means bad dreams or nightmare which was used in traditional medicine for particular diseases with lack of speaking ability and moving when waking up and feeling heaviness on chest and this is what is called sleep paralysis in modern medicine [4, 16, 17].

Therefore, classification of the neurological and psychiatric diseases in traditional medicine can be helpful for modern and traditional medicine physicians to better identify the diseases and compare them with modern types in order to better therapeutic and diagnostic procedures performance.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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