

Research Article

Physiopathology of Headache in Traditional Persian Medicine Versus Current Medicine

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ABSTRACT

Introduction: Headache is one of the most common neurologic complaints in society. Headache complaint has a history as long as medicine history and in every historical period including Traditional Persian Medicine period, specific methods for headache relief have been suggested. Therefore, we aimed to compare definition and causes of headache in Traditional Persian Medicine with modern medicine.

Method: In this library study, Traditional Persian Medicine texts of different centuries such as Canon of Medicine by Avicenna, Tibb-e Akbari, Exir-e Azam and Sharh-Ol Asbab Va Alamat, Almujaaz Fi Tibb, Zahir-e Kharazmshahi and valid Western Neurology texts were reviewed and medical databases were searched with related keywords for finding the definition of headache in these two medical schools.

Results: In Traditional Persian Medicine texts, the term “sodaa” has been used for headache in the “Canon of Medicine” and other books, sodaa has been defined as pain (alam) in head and different types have been mentioned for it. Each type has been discussed under one of the general causes of headache.

Conclusions: According to the present study General cause of headache in these two medicine schools is the same and it is stimulation of structures in the head that are sensitive to pain. Because of long history of Traditional Persian Medicine in prevention and treatment of headache, attention to the recommendations of this school can have significant effect on decreasing the prevalence and complications of this disease.

Keywords: Headache, Persian, Traditional, Medicine, Physiopathology, Dystemperment.

INTRODUCTION

Headache is one of the most common neurologic complaints in society. According to the statistics, the prevalence of headache is 47% throughout the world and it is higher in females compared to men(1).

Headache occurs in all age groups and accounted for 1-2% of evaluations in the emergency wards and 4% of outpatient visits in private offices(2). It highly affects professional and social life of people and according to WHO, it is one of the ten disabling factors in individuals in terms of its prevalence(3). Headache history dates back to the creation of human beings and it can also be a sign of other diseases[1].

Iranian traditional healers in middle ages had found that headache can be related to environmental or biologic events. They had identified several food substances causing single or recurrent headache. They had also recognized headaches related to delivery and abortion in women. Also, they were well aware of headaches related to systemic diseases such as tetanus, arthritis, gout and those related to neurologic disorders like stroke or infectious diseases such as visceral abscesses and tuberculosis of cervical lymphoid glands. Iranian traditional healers of middle ages believed that these disorders affect the brain either directly or indirectly through affecting substances in the body that are essential for brain activity(4).

According to WHO, complementary medicine has a long history in maintaining health and prevention and treatment of diseases, especially chronic diseases. On the other hand, health care systems, all around the world, face increasing rate of chronic diseases and health care expenditures. Patients and health care providers want to vivify health care services that are more individual-based and this requires developing traditional and complementary health service (5). Therefore, discussing headache from the perspective of complementary medicines like Traditional Persian Medicine that has had one of the richest old

medicine schools might provide a better understanding of this disease.

Matching diseases in traditional and modern medicines might provide a better strategy for prevention, treatment and decrease of resulted complications in future. Treatment failure of current medicine and desire for a healthy life have been led to the positive perspective of WHO in relation to using complementary and traditional medicine. Therefore, we aimed to put a step, even very small, for increasing confidence and scientific knowledge on traditional medicine, through clarifying its rich and hidden aspects on definition and causes of headache and comparing them with definition and causes of headache in modern medicine.

Method

In this library study, Traditional Persian Medicine texts of different centuries and valid Western Neurology texts were reviewed and medical databases including PubMed and Scopus, as well as some Iranian databases like SID, were searched with related keywords for finding the definition of headache in these two medical schools. Then, causes of headache that Iranian traditional healers knew as cause of headache were extracted to be compared with causes mentioned in modern medicine texts.

In order to find the definition and causes of headache in traditional medicine books, *soda* discussion under chapter of head diseases in *Moalejat* books was reviewed.

The following *Moalejat* books were reviewed in the present study:

1. Canon of Medicine (Avicenna, 10th&11th centuries)
2. *Exir-e-Azam* (Hakim Mohammad Azam Khan Cheshti, 18th&19th centuries)
3. *Al-mojez fi Teb* (Hakim ebn-e Nafis Ghorshi, 13th centuries)
4. *Zakhirey-e Kharazmshahi, Aaraz-ol tabibeh, Almabahas-ol Aalaniyeh* (Hakim Seyyed Ismaeil Jorjani, 11th&12nd centuries)

5. *Sharh-ol Asbabva Alamat* (Hakim Nafis-Ebne Evaz-e Kermani, 15th centuries)
6. *Teb-e Akbari*(Hakim Mohammad Akbar Arzani, 11th& 12nd centuries)

Then, causes of headache from the perspectives of traditional medicine and modern medicine were compared.

RESULTS

Summary of Traditional Persian Medicine interpretation of headache

The definition of headache (*sodaa*)

Headache complaint has a history as long as medicine history and in every historical period including Traditional Persian Medicine period, specific methods for headache relief have been suggested. Traditional medicine has suggested significant diagnostic, differential diagnostic and treatment approaches for headache(6). In Traditional Persian Medicinetexts, the term “*sodaa*” has been used for headache and in the “Canon of Medicine” and other books, *sodaa* has been defined as pain (*alam*) in head and different types have been mentioned for it. Each type has been discussed under one of the general causes of headache(7-12).

Causes of headache in the perspective of Iranian traditional medicine

Based on the related texts, general cause of headache is either dystemperament or *tafarogh-e-ettesal*(loss of continuity) or both in the sensitive parts of head. All parts of head have sense, except the brain and its bones[12]. Therefore, each of head parts such as hair, head skin, cerebrum membrane, brain membranes and brain veins and nerves might be involved in headache[7].

In fact, every internal or external factor can cause headache through affecting either the temperament or *tafarogh-e-ettesal*(loss of continuity) or both.The other worth mentioning point is that although each part of head can be the site of pain, it might not be necessarily the origin of pain in all cases; that is, sometimes, headache occurs through coordination of brain with other parts of body [11].The concept ofcoordination in

old medicine means the presence of structural or functional relationships among different organs of body in a way that disorder in one organ leads to some symptoms in the coordinated organ[7].

Dystemperament (*Su-E-Mizaj*)

Dystemperament is a general topic in Iranian traditional medicine. Temperament is used for describing the natural biochemical balance of cells, tissues, organs and body. Any change in this balance is called *Su-E-Mizaj* or dystemperament(13). According to Boghrat, knowing patient’s type of dystemperament is more important than knowing his type of disease [2]. In Eastern medicine, treatment is based on the idea that body is composed of for humors (humor is a liquid substance resulting from change of foods in digestive system in order to be used by body), while this issue is completely ignored in Western medicine. Four humors are blood (warm and wet), *belgem* (cold and wet), bile (warm and dry) and *soda* (cold and dry).Any problem in body should be treated according to the body wetness and temperature. Based on the prominent humor in body, there are four types of temperament: *Damavi*, *Safravi*, *Balghami* and *Saudawi*. Any change in temperament leads to change of health status. Therefore, in different conditions of life, keeping the body temperament in a balanced status is essential for maintaining health and preventing disease. The difference of Western medicine with Greek, Romans and Iranian medicine is this belief that deviation in health spectrum from positive health to sickness status and death, in a great extent, is depended on the balance and ratio of these four humors(14).

According to Traditional Persian Medicine and from the perspective of dystemperament, the cause of *sodaa* could be the predominance of cold and wetness or cold and dryness in brain or warm and wetness or warm and dryness in the brain[7-12].

Tafarogh-e ettesal(loss of continuity)

This means loss of normal continuity in organs like bone fracture or finger cut. There are several

tafrogh-e ettesal diseases and they have specific names in each organ(15).

These diseases occur due to either internal factors such as corrosive, burning, biting or cutting substances that causes continuity or external factors like injury, extraction and burning with fire(16).

Combination of dystemperament and *tafarogh-e ettesal* (edema)

It is a disease occurred due to the presence of a waste material in the organ. This material causes dystemperament in the organ and its extension and deformity; so that, the organ's parts are separated from each other[15].

The definition of headache from the perspective of modern medicine

Headache is the most common pain clinical syndrome and it is estimated that more than half of patients visited by physicians are complaining of headache(17). Among patients with headache complaint, those patients whose treatment is difficult are considered as a serious challenge(18).

Causes of headache from the perspective of modern medicine

General cause of headache from the perspective of modern medicine is involvement of those structures and areas in head and neck that are sensitive to pain. Some of these structures are bone periosteum, large veins, dura, arachnoid, cranial nerves II, III, V, VII, IX and X, venous sinuses and tooth. These structures can be affected under tension, movement, inflammation, vascular spasm and malignant infiltration and are consequently resulted in headache[2,(19, 20)]. For example, in arterial aneurysm, local dilation of cerebral arteries wall and tension imposed on receptors and infected meningitis, inflammatory reactions cause stimulation of pain receptors in these structures and pain is resulted[20].

Classification of headache from the perspective of modern medicine

Headaches are divided into the two major groups of primary and secondary headaches. Secondary headaches occur due to factors such as space occupying lesions, inflammation of structures that

are sensitive to pain, intracranial hemorrhage, vascular injuries, sinuses problems and neck lesions. These types of headaches require complementary studies for finding their cause.

Headaches in the absence of the mentioned causes are called primary headaches. Migraine and tension-type headache are among primary headaches [19](table 1).

Causes of headache in modern versus Iranian traditional medicine

Comparison of general causes of *sodaa* in modern and Traditional Persian Medicine has been presented in [table 2].

Conclusion

Headache has a simple and clear definition in both modern medicine and Iranian traditional medicine. Pain in head has been called *sodaa* in Traditional Persian Medicine and headache in modern medicine[2,7-12,19,20].

According to the present study, general cause of headache in these two medicine schools is the same and it is stimulation of structures in the head that are sensitive to pain. In Iranian traditional medicine, this stimulation, itself, has causes that are seen in a holistic view and based on considering the general causes of diseases (dystemperament or *tafarogh-e- ettesal*), because traditional medicine view toward health and disease is a holistic and practical view. Modern medicine, too, has mentioned general causes for this stimulation (inflammation, spasm, tension, movement and edema). All these factors are adjustable to the causing factors of disease in Iranian traditional medicine. But, since modern medicine has an atomistic and sensuality approach toward human being, health and disease, in naming causes of headache, it is looking for sensible disorders. After mentioning the general cause of headache, modern medicine provides a detailed classification of different types of headache[2,7-12,19,20]. Therefore, causes of headache in modern medicine and Traditional Persian Medicine could be generally adjusted and a number of headaches in modern medicine are

grouped under one of the Physiopathology in Iranian traditional medicine.

In whole, this comparative study showed similarity between headaches that are called in modern medicine as primary headaches and headaches that are due to dystemperament in Iranian traditional medicine. On the other hand, secondary headaches in modern medicine can be adjusted to those headaches in traditional medicine that are due to dystemperament or loss of continuity (*tafarogh-e ettesal*) or both.

A point worthy of mentioning is that those structures in the head that are sensitive to pain have been called exactly as head sensitive structures in *Teb-e Akbari* book and these structures are adjustable to the mentioned structures in modern medicine[12]. In the Neurology texts of modern medicine, it has been said that head bone, a large part of arachnoid mater, a great part of meninges, choroid plexus, medulla spinalis brain tissue and cerebellum do not have pain receptors[20]. This issue has been mentioned in Traditional Persian Medicine exactly as follows:

“The cause of headache is dystemperament or loss of continuity (*tafarogh-e- ettesal*) in the sensitive parts of head and all head structures, except substance of brain (*johare demagh*) and its bones, have sense[11,12].”

The present study was an attempt in showing the necessity of attention to Traditional Persian Medicine because of its specific approach toward diseases including neurologic diseases. Since, there are herbal medicines and useful recommendations in Traditional Persian Medicine sources for increasing the health level of patients with headache and improving their quality of life, encouraging researches to do more studies in this respect is suggested. Because of long history of Traditional Persian Medicine in prevention and treatment of headache, attention to the recommendations of this school can have significant effect on decreasing the prevalence and complications of this disease.

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Authors' Contribution

Study concept: Mohadese Kamali; design of the study, data collection: Mohadese Kamali, Rostam Seifadini, Hale Tajadini, Hoda Kamali; reviewing the manuscript and editing: Mitra Mehrabani, Yunes Jahani.

Disclosure of conflicts of interest

The authors declare no financial or other conflicts of interest.

Table 1. Classification of headaches

Major Classification	Types
Primary headache	1.Migraine 2.Cluster 3.Other autonomic cephalgia 4.Trigeminal neuralgia
Secondary headache	1.Trauma to head or neck 2.Intracranial or cervical vessels injury 3.Non-vascular 4.Non-infectious 5.Resulted from a substance or its deprivation 6.Resulted from infection 7.Resulted from hemostatic disorder like hypertension 8.Related to disorders of cranium, neck, eyes, ears, sinuses, teeth, mouth or other facial structures 9.Cranial neuralgia or central problems in face

Table 2. Causes of headache in Traditional Persian Medicine versus modern medicine

General causes of headache in modern medicine	General causes of headache in Iranian traditional medicine
Inflammation and vascular spasm in pain-sensitive structures in head, neck or cerebrum	Dystemperament: 1.Warm and wet 2.Warm and dry 3.Cold and wet 4.Cold and dry
Tension or movement of pain-sensitive structures in head, neck or cerebrum	Tafarogh-e ettesal
Edema in pain-sensitive structures in head or neck	Both of them

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