

The Role of Phlebotomy (*Fasd*) and Wet Cupping (*Hijamat*) to Manage Dizziness and Vertigo From the Viewpoint of Persian Medicine

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Abstract

Dizziness and vertigo are the most common complaints of patients that has a high economic burden on the health system. In modern medicine, treatment for dizziness and vertigo consists of chemical pharmacological therapy. Although these drugs are useful in controlling the disease, their side effects and inefficiency in full control of the disease require the use of complementary medicine in this field. Persian medicine consists of valuable experiences of Persian medicine scholars based on the theory of humors and temperaments. In Persian medicine, 2 types of disease are presented: dizziness (*sadar*) and vertigo (*dovar*). Persian medicine physicians expressed a different mechanism of action than modern medicine for these diseases. They believed that accumulation of abnormal humors, *reeh* (normal bloating) or causative pathologic substances, is the basic cause of *sadar* and *dovar* and that the most important treatment is cleansing the body, particularly the head from accumulated substances by bloodletting methods.

Keywords

Persian medicine, phlebotomy, wet cupping, dizziness, vertigo

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Dizziness and vertigo are the most common complaints of patients referred to medical centers, particularly clinics of neurology, and places a high economic burden on the health system and a significant decline in the quality of life of patients.¹ In vertigo, patients feel different senses of turning such as disorientation in space accompanied by or with hallucination of motion related to oneself or to one's surroundings, while in dizziness the patient complains of black eye, light-headedness, and is afraid of falling. The prevalence of vertigo is about 5%,² and its annual incidence is 1%, while the prevalence of dizziness is 30% to 20%.³ There are a number of etiologies associated with vertigo. Accordingly, the main causes of this condition are correlated to origins in the peripheral or central nervous system. More frequently, peripheral etiologies of vertigo, such as benign paroxysmal positional vertigo, generally arise from disorders of the internal ear that involve the labyrinthine structures or the vestibular nerve. The most common cause of dizziness is anxiety and depression.⁴ Internal diseases like anemia, arrhythmias,

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Table 1. The List of Persian Manuscripts Used in This Article.

Persian Name	Latin or English Name	Writer	Date of Writing
<i>Hedayat al Moteallemin fi al-Tibb</i>	<i>The Students' Handbook of Medicine</i>	Abubakr Akhawayni Bukhāri	10th AD
<i>Qanoon fi al-Teb</i>	<i>Canon of Medicine</i>	Avicenna	11th AD
<i>Zakhireye Kharazmshahi</i>	<i>Treasure of the Khwarazm Shah</i>	Ismaiel Jorjani	11th AD
<i>Al-Aghraz al-Tebbieh va al-Mabahas al-Alayieh</i>	<i>Medical Pursuits</i>	Ismaiel Jorjani	11th AD
<i>Teb e Akbari</i>	—	Akbar Arzani	17-18th AD
<i>Moalejat e Aghili</i>	—	Mohammad Hossein Aghili Khorasani	18th AD
<i>Exir Azam</i>	<i>Great Elixir</i>	Mohammad Azam Khan Chasti	18th AD

hypoglycemia, frequent cough, or other pulmonary disorders and orthostatic hypotension also cause dizziness.^{5,6} Treatment for dizziness and vertigo in modern medicine consists of chemical pharmacological therapy, such as vestibular suppressants, antiemetics, and benzodiazepines. Although these drugs are useful in controlling the disease, their side effects and inefficiency in full control of the disease require the use of complementary medicine in this field.⁷ Persian medicine, which is sometimes called as Iranian traditional medicine, consists of the sum total of all the knowledge and practices used in diagnosis, prevention, and elimination of diseases based on humoral theory in Persia from ancient times to present.⁸ Diagnosis and treatment in Persian medicine take place on the basis of changes in 4 humors (blood, phlegm, black bile, and yellow bile).⁹ It seems that 2 types of diseases are explained in Persian medicine in the names of *sadar* and *dovar*, which are similar to dizziness and vertigo, respectively. Persian scholars explained the difference between them and their etiologies and treatment, which we aimed to discuss in this article.

On the other hand, therapeutic bloodletting has a long history in medicine, including Persian medicine.¹⁰ Phlebotomy (*fasd*) and wet cupping (*hijamat*) are the most common methods of therapeutic bloodletting in Persian medicine. *Fasd* is a particular way of bloodletting in which the blood vessel is cut and some blood is removed from the body. In *hijamat*, vacuum is created under a cup by a suction machine or a flame of fire. After that the surface of the skin is scratched by a scalpel and blood is removed by sucking.¹¹ *Fasd* and *hijamat* have a special place in the treatment of disease, particularly *sadar* and *dovar*, in Persian medicine. The aim of this study was to express the viewpoints of scholars of Persian medicine about dizziness and vertigo and importance of *fasd* and *hijamat* as one of the therapeutic strategies for dizziness and vertigo.

Materials and Methods

The employed research method of this article is based on the analysis of main remaining manuscripts of medieval Persia from 10th to 18th century AD including *Hedayat al Moteallemin fi al-Tibb* (*The Students' Handbook of Medicine*) of Abubakr Akhawayni Bukhāri (10th AD); *Qanoon fi al-Teb* (*Canon of Medicine*) of Avicenna (980-1037 AD); *Zakhireye Kharazmshahi* (*Treasure of the Khwarazm Shah*) and *Al-Aghraz al-Tebbieh va al-Mabahas al-Alayieh* (*Medical Pursuits*) of Ismaiel Jorjani (1041-1136 AD); *Teb e Akbari* of Akbar Arzani (17-18th AD); *Moalejat e Aghili* of Mohammad Hossein Aghili Khorasani (18th

AD) and *Exir Azam* (*Great Elixir*) of Mohammad Azam Khan Chasti (18th AD; Table 1). The chapters containing information about *sadar* and *dovar* were studied and the data was collected, categorized, and analyzed. Then, the obtained information was expressed in the form of definition, symptoms, and general treatment of *sadar* and *dovar*. In the part of treatment, *fasd* and *hijamat* are mentioned in more detail.

Results

Definition of Sadar in Persian Medicine

According to Persian medicine documents, *sadar* means the eyes go dark when the patient stands up feeling that vapors climb up in his/her body to his/her head. The patient is afraid to fall but this did not occur. *Sadar* is usually associated with heaviness in the head and hearing sound in the ears.¹²⁻¹⁶

Etiology of Sadar in Persian Medicine

The main cause of *sadar* is that the brain temperament becomes cold and it cannot perform its perfect function. The cold temperament of brain may happen due to 3 reasons¹²:

1. Accumulation of concentrated and cold tempered abnormal humors in the vessels and pores of brain^{12,13,16}
2. Head injuries^{12,13,16}
3. Weakness of the brain caused by headaches^{13,16}

Definition of Dovar in Persian Medicine

A condition in which the patient feels all the objects rotate around him/her. In this case, if the patient is standing and even sitting he/she cannot remain constant and falls.¹²⁻¹⁷

Etiology of Dovar in Persian Medicine

1. Deep accumulation of low-density and cold or hot tempered abnormal humors or causative pathologic substances in brain ventricles and vessels. Persian medicine scholars believed that if the accumulated humors move in the brain for any reason, *dovar* may occur. This kind of *dovar* can be divided into 4 types based on the temperament of abnormally accumulated humor:
 - Bloody *dovar* (or *dovar-e-Damavi* in Persian): The accumulated humor is blood.

Table 2. Different Areas of *Fasd* and *Hijamat* According to Various Causes of *Sadar* and *Dovar*.

Cause of Disease	<i>Hijamat</i>	<i>Fasd</i>	Other Methods of Treatment
<i>Sadar</i> caused by head trauma	Between 2 scapular areas	Leg veins	Leech therapy excretion of causative pathologic substances from the head for pain relief
<i>Dovar</i> caused by head trauma	Between 2 scapular areas	Leg veins	Leech therapy excretion of causative pathologic substances from the head for pain relief
<i>Dovar e demaghi</i> (general)	Head and <i>noqreh</i> area	The vein behind the ears The vein behind the neck	—
<i>Dovar e damavi</i>	Legs Occiput <i>Noqreh</i> area	Cephalic vein The vein behind the ears The vein behind the neck Saphenous vein	Laxing bowels after <i>fasd</i>
<i>Dovar e safravi</i>	<i>Noqreh</i> area Occiput	Cephalic vein The vein behind the ears	Cooling the head before doing <i>fasd</i>
<i>Dovar e sodavi</i>	<i>Noqreh</i> area Occiput	—	Laxing bowels after <i>fasd</i>
<i>Dovar e reehi</i>	—	Cephalic vein	—
<i>Dovar e sherki</i> (involvement of jugular vein, heart, liver, or spleen)	Occiput Leg	Jugular vein <i>Osaylem</i> venule Saphenous vein (in case of uterus disease)	Excrete causative pathologic substances from head after <i>fasd</i>
<i>Dovar e sherki</i> (involvement of uterus, kidneys, and lower extremities)	Between 2 scapular areas	Veins of involved organ	Excrete causative pathologic substances from head after <i>fasd</i>

- Phlegmatic *dovar* (or *dovar-e-Balgami* in Persian): The accumulated humor is phlegm.
 - Black biliary *dovar* (or *dovar-e-Sodavi* in Persian): The accumulated humor is black bile.
 - Yellow biliary *dovar* (or *dovar-e-Safravi* in Persian): The accumulated humor is yellow bile.
2. Accumulation of much dense *reeh* flowing in brain ventricles and vessels. This type of *dovar* is called *dovar-e-reehi* in Persian. According to Persian medicine, *reeh* is a current flow in the body, which acts like “wind” as its counterpart in the nature and plays expanding role in pelvic organs’ ducts to facilitate excretory functions, such as urination, defecation, and erection/ejaculation in physiologic condition.¹⁸
 3. Accumulation of concentrated and cold tempered abnormal humors in the vessels and pores of brain.¹²⁻¹⁶
 - *Dovar* caused by the aforementioned 3 etiologies is called *dovar-e-demaghi*. It means that the origin of *dovar* is the brain.
 4. According to Persian medicine, *reeh* and abnormal humors are not in the brain but accumulated in other organs such as stomach, uterus, kidney, and so on. Persian medicine scholars believed that abnormal humors produce some noxious vapors that may rise up to the brain and cause *dovar*. This is also true about *reeh*. This type of *dovar* is called *dovar-e-sherki*. *Dovar-e-sherki* is divided into 3 types based on the location of accumulated *reeh* or abnormal humors:
 - *Reeh* or abnormal humors are placed in the stomach.

- *Reeh* or abnormal humors are placed in temporal artery, arterioles of behind the ear, and jugular vein.
 - *Reeh* or abnormal humors are placed in the uterus, kidneys, bladder, or lower extremity.^{12,13,16}
5. Head trauma
 6. Simple dystemperament of brain caused by hot or cold weather (not by accumulation of hot or cold humors)
 7. Rotating, moving the head, spinning, dancing, and looking at things rotating quickly
 8. Weakness of the heart, usually seen in patients during the recovery period
 9. Hunger and weakness of stomach
 10. General weakness caused by various diseases¹²⁻¹⁷

Treatment of *Sadar* and *Dovar*

The first step in the treatment of *sadar* and *dovar* is cleansing the body, especially the head from causative pathologic substances (abnormal humors, *reeh*, etc). One of the methods of cleansing is bloodletting by *fasd* or *hijamat*.¹³⁻¹⁸ This treatment was rooted in the ancient time even in Greece and Rome. Galen (129-199 AD) said: “Treatment of *sadar* and *dovar* is *fasd* in the spring and it is better to perform it in lower extremity.” In Persian medicine viewpoint, *fasd* and *hijamat* should be done in different areas of body depending on the type of disease. This is also true in *sadar* and *dovar*.¹⁶

Different areas of *fasd* and *hijamat* according to various causes of *sadar* and *dovar* (Table 2):

- If *sadar* and *dovar* are caused by head trauma or injury, *hijamat* is recommended to be done between 2 scapular

area and *fasd* should be done in leg veins. Leech therapy, excretion of causative pathologic substances from the head by other methods, and pain relieving are other options of treatment.^{12,13,16}

- In *dovar-e-demaghi*, *hijamat* is recommended to be done on the head and *noqreh* area, which is placed at the second and third cervical vertebrae. In this kind of *dovar*, it is recommended to do *fasd* in the vein behind the ears or the vein behind the neck.^{16,17}
- In *dovar-e-Damavi*, *hijamat* is recommended to be done on the legs, occiput, and *Noqreh* area and *fasd* should be done in cephalic vein (was called *qifal* in Persian medicine references), the vein behind the ears, the vein behind the neck, or saphenous vein. After *fasd* it is recommended to lax bowels.^{12,13,15-17,19}
- In *dovar-e-Safravi*, it is recommended to do *hijamat* on *noqreh* and occiput and *fasd* in cephalic vein and the vein behind the ears. Persian medicine scholars recommended cooling the head before doing *fasd*.^{13,15,16}
- In *dovar-e-Sodavi*, it is recommended to do *hijamat* on *noqreh* and occiput.¹⁶
- In *dovar-e-Reehi*, *fasd* is recommended to be done in cephalic vein. After *fasd* it is recommended to lax bowels.^{12,13,16}
- In *dovar-e-Sherki*, originated from jugular vein, heart, liver, or spleen *hijamat* is recommended to be done on occiput and leg, while *fasd* is proposed to be done in jugular vein or *osaylem* venule—a venule on the posterior of hand between the fourth and fifth fingers. The latter is usually used in the case of spleen disease.^{12,13,15}
- In *dovar-e-sherki* originated from uterus, kidneys, and lower extremities, *hijamat* is recommended to be done between 2 scapular areas, while *fasd* is proposed to be done in the veins of the involved organ. *Fasd* of saphenous vein is also recommended in the case of uterus disease.^{12,13}
- In *dovar-e-skerki* it is recommended to excrete causative pathologic substances from the head after *fasd* by other methods of cleansing causative pathologic substances.^{12,13,16}

Discussion and Conclusion

As mentioned before, traditional Persian medicine scholars presented 2 types of disease: *sadar*, which is similar to dizziness according to definition, and *Dovar*, which is similar to vertigo. Persian medicine physicians expressed a different mechanism than modern medicine for these diseases. They believed that accumulation of abnormal humors, *reeh* or causative pathologic substances, is the basic cause of *sadar* and *dovar*, and the most important treatment is cleansing the body, particularly the head, from accumulated substances. *Fasd* and *hijamat* are of great importance among all methods of treatment.¹²⁻¹⁹ In the study of different types of *sadar* and *dovar*, it can be concluded that *fasd* and *hijamat* are recommended in the vast majority of different types of these 2 diseases, and even in some cases *fasd* is a primary and necessary component of treatment. Interestingly,

Persian medicine scholars recommended different areas of *fasd* and *hijamat* according to various causes of *sadar* and *dovar*. Because of accumulation of abnormal humors and causative pathologic substances in the head in *dovar-e-demaghi*, it is recommended to do *fasd* in cephalic vein first and then in other veins. For example, in *dovar-e-damavi*, doing *fasd* in the vein behind the ear should be done after the *fasd* of cephalic vein.^{12,13,15-17} The purpose of Persian medicine scholars to do *fasd* in “the vein behind the ear” may be one of the external jugular vein branches. Doing *fasd* on the vein of back neck and saphenous vein also were recommended in this type of *dovar*. Also, doing *fasd* on the vein behind the ear is the most appropriate and best treatment for all types of *dovar*. *Hijamat* of *noqreh* area and occiput are the most important *hijamat* in *dovar-e-demaghi* but *hijamat* of legs is preferred in *damavi* type.^{12,13,15-17}

As mentioned before, in *dovar-e-Sherki*, originated from jugular vein, *fasd* of this vein is beneficial but we must pay special attention to this issue that *fasd* of jugular vein is not without risk; therefore, some physicians do not recommend it. In this type of *dovar*, *hijamat* of legs or occiput can be performed instead of *fasd*.^{12,13}

Another important point, as mentioned in the results, is using other measures before and after bloodletting because bloodletting alone does not result in favorable treatment. These measures include pain relieving, bowel laxation, brain strengthening, and so on.¹⁶

Generally, it can be concluded that in Persian medicine references there is a different view of dizziness and vertigo and *fasd* and *hijamat* are of a special importance in their treatment. Of course, these treatment approaches are based on traditional resources and it needs current deep investigations to show their efficacy and safety for patients. Although definition of dizziness and vertigo in Persian medicine is to some extent different with current concepts of medicine, some current investigations show the probable effects of bloodletting and cupping therapy in various types of dizziness and vertigo based on the current concept of medicine. An old report in the 1970s shows its usage in the late 19th century for curing vertigo.²⁰ A current investigation shows that bloodletting therapy on occipital vein can be beneficial for cervical vertigo.²¹ Also, it is recommended in other traditional systems of medicine. Bloodletting on the face is recommended in Chinese medicine.²² Venesection (*fasd*) on median cubital vein (behind the ear)²³ and also wet cupping are applied for vertigo and dizziness in Unani medicine.²⁴ It seems that the effect of bloodletting on the blood flow and blood supply of the brain is one of the causes of its effect on vertigo and dizziness.²⁵

Of course, all types of bloodletting are invasive methods and attention to the ethical issues is important. It needs to be considered that a physician can use them in conditions where noninvasive methods cannot be beneficial in comparison with such methods.

Author Contributions

GK, HMK, and MM wrote the preliminary draft and contributed in data gathering and first idea of starting this project. AZ rewrote the draft and contributed in data gathering and writing the final version of

the article. The other coauthors contributed in the guidance, revision, and correction of the article.

Declaration of Conflicting Interests

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Ethical Approval

Ethical approval is not required for this study as no human or animal subjects were involved.

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