



## Persian Medicine Recommendations in Reducing Mental Health Disorders due to Natural Disasters

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### Abstract

Throughout history, human has experienced accident and natural disasters such as earthquakes and floods. One of the problems that people encounter after natural disasters is the spiritual and mental complications such as sadness and grief that are inevitable in accidents and disasters and inappropriate treatment leads to physical problems for individuals. The purpose of this study was to evaluate the role of Persian medicine in reducing the spiritual and mortal complications arising from natural disasters.

The Persian medicine considers six essential principles (*seteyeh zarooriyeh*) for keeping health including climate (*Ab va Hava*), eating and drinking (*Khordan va Ashamidan*), sleep and wakefulness (*Khab va Bidari*), body movement and immobility (*Harkat va Sokon*), retention and excretion of materials (*Ehtebas va Estefragh*), spiritual and mental moods (*Aaraze nafsan*). Persian medicine has a special focus on spiritual and mental moods; because they can have a very quick and profound effect on the health of individuals. In the other words, sadness, fear and depression lead to reduction of the body strength and slowness of the refreshing process after natural disaster; while moderate happiness boosts the strengths and increase the life expectancy as well; and makes the work progress faster. Persian medicine scholars have suggested the medical treatments and non-pharmaceutical measures. Medical recommendations include the use of refreshing exhilarating (*mofarrehat*). One of the non-pharmaceutical measures for the survivors of critical accident to have an active spirit for resuming the life is using influence of the words power of the individuals trusted by the people. The views of Persian medicine scholars can be considered as a good way to improve the spiritual -mental states of injured people from natural disasters and to reduce their therapeutic costs. Conducting clinical studies is recommended in this regard.

**Keywords:** Spiritual and mental Moods, moods, Natural disasters, Crisis management, Persian medicine, Aaraze nafsan.

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## Introduction

The Man during his/her social and individual life is always experiencing, directly and indirectly, numerous and different events. Natural disasters are crises varying from movement of the earth layers in forms of earthquake and volcanoes to the climate events such as tornadoes and droughts [1]. About 225 million people in the world suffer from natural disasters each year, i.e. people in the world [2]. Meanwhile, Iran is among the top 10 countries with high-risk disaster; and one of the first five countries with high risk of earthquake in the world. Furthermore, among 40 types of known natural disasters, 31 of them occur in Iran [3]. One of the undesirable consequences of the crisis is the prevalence of mental disorders among survivors. Proper knowledge and organization in coping with the disasters and incident reduce the prevalence of mental disorders.

One of the symptoms that are considered in the studies related to crises is post-traumatic stress disorder (PTSD) [4-8]. According to studies in the world, up to 13.5 million people (3–6% of 225 million) suffer from (PTSD) in the first or second year after the disaster [9]. They experience a lot of mental pressure, and they make several reactions from themselves that include aggression, behavioral disorders, sleep disorders, lack of motivation, reduction of self-confidence, grief, depression, anxiety, denial, suicide, anger, irritability, boredom and fatigue [2,10]. These behaviors may be sustained in some people who treat with behavioral treatment at first and then treat with medications. Cognitive-behavioral therapies include coping

with fear, anxiety management, relaxation training, diaphragmatic breathing, social skills training and distraction techniques. On the other hand, holding religious and prayers ceremonies (crying) causes the emotional evacuation of the injured; and creates conditions of hope and overcoming disaster. Strengthening self-esteem and self-mastery control of him/her lead to more preparedness and making appropriate reaction against disasters and accidents [5,6].

It is an irrefutable fact that people after dangerous accident for a long time suffer from the aftermaths of that. Occurrence of unexpected incidents causes people to face the danger of destruction. The factors that in a few seconds can change the mental image of human beings and confront them with crises such as separation, loss or death of loved ones and relatives, deprivation, stress-induced loss, property loss, displacement and migration. As a result, with timely education, it can be effective in treatment of the damages caused by the disasters. Epidemiological studies show that one third of people after 6 years or more after occurrence of natural disasters continue to suffer from PTSD symptoms [11].

In order to prevent the occurrence and/or reduction of the natural disasters effects, we face with the crisis management and planning how to deal with crisis caused by natural disaster. If problems and probable issues arising from the crisis not to be expected, it takes remarkable cost to repair and restore the damages of the crisis; and the crisis arising from the natural disasters will have a significant impact on society.

In this article, Persian medicine recommendations

are expressed regarding coping with mental problems in crisis and natural disasters; so help individuals to increase resistance against natural disasters and subsequently, they suffer less from inevitable complications of accidents.

## Methods

We reviewed several sources of Persian Medicine from different centuries including The Canon of Medicine (*Avicenna, 980-1037 AD*); Zakhireh Kharazmshahi (*Treasure of the Khwarazm Shah*) and Al-aghrazol Tabieh (*medical objectives*) (*written by Hussain ibn Muhammad ibn Mahmoud ibn Ahmad Hussaini Jirjani, 1042-1137 AD*); Tohfah ol Moemenin and Makhzan-ol-advieh (*Storehouse of Medicaments: Aghili Alavai Khorasani Shirazi*). At the first step, we searched the viewpoints of PM scientists about “*Aaraze nafsan*” and treatment of its complications. We also searched through PubMed and Google Scholar databases with the keywords: “spiritual and mental moods”, “cognitive-behavior therapy”, “natural disasters”, “moods AND mental health disorder”, and “crisis management”. On the next step, the retrieved studies were classified and the gathered information was presented.

## Results

Based on the Persian medicine it is necessary to pay attention to six essential principles for achieving complete human health. These six principles titled “essential principles” (*Seteyeh zarooriyeh*) in the Persian medicine resources, include air, eating and drinking, sleep and wakefulness, body movement and immobility,

retention and excretion of the useful or harmful substances, and moods (mental states). In Persian medicine mental states such as happiness, hope, anger, sadness and disappointment are called “*Aaraze nafsan*”. From the viewpoint of Persian medicine scholars, mental states are able to play a very quick and profound role in the performance and physical health of a person [12, 13]. It is notable when European countries did not pay much attention to the prevention and treatment of mental illnesses, *Hakim Abu Zayd-e-Balkhi* early ninth and tenth centuries, *Hakim Zakariya Razi* (Rhazes) around ninth and tenth centuries, *Avicenna* early eleventh century, and *Hakim Aghili Khorasani* in the eighteenth suggested recommendation for prevention and treatment of mental disorders in their works. In addition to medication, they have been using psychotherapy in the treatment of these disorders. In situations of natural disasters such as flood, earthquake and storm, traumatized persons face with mental conditions such as sadness and frustration [14]. This situation is significant, especially in those who suffer from physical injury, death of family members, or severe financial damage, and dealing with these mental conditions are as the predisposing factors for PTSD and post-crisis depression [5, 6]. In times of crisis, due to the limitations of appropriate welfare, sanitation and nutrition for those affected, the probability of an outbreak is higher than the usual. On the other hand, based on the teachings of Persian medicine, the addition of conditions such as sorrow, fear and disappointment also adds to the risk of physical illness.

There are various methods in Persian medicine textbooks to treat and manage the spiritual and mental moods. Persian scholars have discussed under the topic of “*Aaraze nafساني*” about mental moods in their books, that are include: “grief” and “joy”, “hope” and “frustration”, “anger,” “the intellectual and practical measures for doing the important and valuable works” can be helpful for reduction of mental complications arising due to natural disasters. Since the Persian scholars mentioned the “intellectual and practical measures for doing important and valuable works” in this section (*Aaraze nafساني*), and on the other hand, it is one of the most useful techniques in crisis management; as a result, it is discussed in this article.

In Persian medicine, there is a key concept in terms of temperament. We have infinite temperament for all the living and lifeless creatures. There is a temperament (*Mizaj*) for each human being, seasons, occupations, geographic areas, diseases, and mental states. The moods such as joy, attempt and paying attention to important tasks, hope and anger lead to warmth of the body temperament. While, fear, sadness, frustration and grief cause coldness of the body temperament [15-18]. As a result; it is desirable in crises, treatment to be based on the *Mizaj* of mental status. It should be noted that in Persian medicine, treatment is in counter. It means that coldness of temperament is treated by heater measures; and the warmth of temperament is treated by the cooler measures. Therefore, if the mental state of an individual is cold, the measures, foods and medicines with hot temperament are used and vice versa.

### *Sadness and how to deal with it from the perspective of Persian medicine*

Since the *mizaj* of the «sadness» is cold, it can lead to coldness of body and body strength reduces. As a result, it makes the individual susceptible to a variety of diseases. Accordingly, scholars recommend the warmth factors. In order to control the sadness and reduce its complications for health, there are several strategies in the school of Persian medicine [19]. The use of these methods is not exclusively for intense and significant cases; furthermore, it is not contingent on functional disorders; therefore, in the crisis and after that, they can be used. As mentioned, these treatments are classified into two oral and non-edible categories. Oral treatment generally includes foods and medicines that are pleasurable. The pleasurable things in the glossary of *Nazim al-Atebba* is defined as the things making individuals pleasures and removes the grief [20]; and in the glossary of *Aryanpour* has translated as a «refreshing and exhilarating» thing. In conditions of grief, the pleasurable with hot temperament are used. Avicenna in his book titled «*Kitab al-Adviyt-ol-Qalbiye*» (the book on drugs for cardiovascular diseases) mentioned these hot pleasurable such as lavender, lemon balm, cinnamon, saffron and peppermint [21].

In Persian medicine saffron is considered as a pleasurable and heart reinforcing herb. Recent studies have shown that this plant has anti-oxidant properties. In addition, it reinforces the function of the GPx enzyme, which has the function of preventing oxidative degradation of cellular and intracellular membranes; and has a

protective role for the heart [22]. Considering the mentioned benefits for saffron, in the pre-crisis conditions, it can be used as a preventive measure; and after that this plant can be used as a treatment in different forms. For example, saffron can be added to improve the taste of foods. Also, it is used as a beverage, as well. Other properties mentioned for saffron are its hypnagogic properties; and in the crisis conditions that the individuals may suffer from sleep disorder, it can be very beneficial.

Another pleasurable plant that is mentioned in Persian medicine resources is lavender that reinforces the heart. Based on the clinical study, the lavender has improved hemodynamic parameters of the patients [23], and in another study, the anti-depressant effects of this plant have been proven [24]. Due to the mentioned therapeutic properties for lavender, the aromatherapy can be used to treat the injured people. Apples, quince egg yolks are as the pleasurable foodstuff that are mentioned in Persian medicine and can easily be used in the sadness arising from the crises [17,18,21,25]. The non-edible and non-medicinal strategies suggested by the Persian scholars to control and reduce the severity of sadness mainly are as follows:

1. Listening to the music and enjoying songs.
2. Reading and listening to stories. Amongst the different types of stories reading and listening to legendary stories has been especially considered by scholars. It seems types of stories play a special role in reducing grief.
3. Participating in joyful gatherings and parties.
4. Becoming busy with something that one

enjoys them. In order to implement this method properly, it is emphasized in Persian medicine that the therapist ought to find pleasurable activities in accordance with the mood and position of each person and recommend it to him/her. To do so, they should consider characteristics such as age, culture and education conditions of the individuals [13, 18, 26]. From the perspective of the Persian Medicine School, joyfulness and balanced enjoyment lead to the warming up the temperament body and extinctions of wastes and diseases, it is why the intensity of sadness as well as its related complications is reduced in the body.

5. Persian medical scholars consider the positive effects of “moderate happiness” and “hope” in the body identically. Therefore, in the context of the crisis, it seems that with the help of the appropriate techniques of creating hope, activities can be designed to reduce the “sadness” of the stricken individuals. On the other hand, scholars believe that the disadvantages of the frustration for body are like disadvantages of the grief. It makes the body cool and reduces the strength and function of the individual [13,18,26].

“Thinking and attempting to do important things” is one of the spiritual and mental states that Persian medical scholars have paid especial attention to that. *Jorjani* is a famous physician in Iran says: “To be empty of thought” makes the mind slow down and weaken all the instinctive powers and make the person pale, and increase the illness; but to be busy and thinking about important works removes the pains and illnesses, so their disadvantages reduce.” According to

this Persian scientist the absence of a specific and important goal in human life causes coldness in the body temperament. As a result, the color of the face changes and increases the chance of being diseased. In contrast, “thinking and paying attention to doing important things”, causes warmth of the body and reduces chance of illness [13,19].

Paying attention to this point is so important because at the beginning of the natural disasters occurrence, due to abundant of damage at various levels, financial and human damages, and the high volume of left work, survivors become somehow confused. If this state not to be organized quickly, subsequent to confusion and uncertain aims, people will suffer from cold temperament; this result in increase of physical and mental illnesses.

According to past experiences, most relieving efforts have been carried out by the survivors themselves in the affected areas, arrangements had to be made to organize the forces and facilities available at the site, in the shortest possible time. Furthermore, with a coherent program of relief operations, rescue and providing service to the survivors had to be done in the best way [27]. After the initial relief and passing the acute crisis process, in the following, by a coherent planning, percentage of damage, existed facilities in the affected area, the presence of forces and specialists people in the various fields had to be assessed, and according to a pre-program with precise schedule, the construction work had to be made. In general, it should be noted that there are two general models for dealing with unpleasant mental states in Persian medicine; and all the solutions that have been

presented so far, are included in the first model. In this model, at first the temperament and moods characteristics of the individual are considered. Then the appropriate action is taken based on the Persian medicine basis; and the temperament medicine is used to modify and control the created excitement and mental state. For example, they say that the sorrow had cold temperament; so, special warmth measures are taken to control it. As noted, these measures may be in form of edible (beverage, food or medicine) or non-edible. Persian medicine physicians have introduced the second model for mood management. *Jorjani* says in this regard: “And there is another way to cure the moods called “*spiritual way*”. Based on that, people are liberal and look at happiness, joy, sorrow, and fear and so on with contempt and the importance of the events is insignificant for them [14, 15]. In other words, Persian medicine scholars recommend that people see their ability to be able to overcome existing problems [13, 15].

## Discussion

Iran is among the most vulnerable countries in the world against natural disasters. The occurrence of disasters creates special conditions in society; and new needs are felt, the conventional patterns of life are disrupted and humans are subjected to specific spiritual and mental conditions [28]. Proper awareness and organization in dealing with incidents and natural disasters reduce the prevalence of spiritual and mental disorders [4]. From the perspective of Persian medicine, the moods and, consequently, behavioral features such as sadness, joy, pleasure, hope, anger, thinking, and engagement in important

activities requiring considerable amount of energy, can greatly affect the body's physical function. They lead to reduction or increase of body susceptibility to physical illness.

According to the current medicine, there is a two-way relationship between the brain and the immune system which effects on behavior and at the same time is impacted by behavior. Therefore, spiritual- mental factors can change the way of immune system functions, and vice versa, some part of the events of the immune response can change the behavior pattern of the individual as well. Due to this complex communication, an interdisciplinary science called psycho-neuropsychology was created at the intersection of three fields of psychology, neurology and immunology, to assess these interactions more precisely [29-31].

The Persian medicine scholars have suggested various ways for controlling their spiritual and mental states in their works, which can be helpful in crisis and natural disasters. Persian Scientists, of course, did not directly mention to the natural disaster, but the authors achieved these results by studying Persian medical texts under the topic of "*Aaraze nafsanî*". Application of these methods is not limited to patients and can be used by the stricken general public. These actions can be classified into two categories including edible and non-edible measures. Oral measures include a variety of foods, beverages and medicines [32-34]. It should be noted that oral treatments are not just for the injured. It can also be used by rescuers. As helpers may suffer from fatigue at the beginning of the crisis due to work pressure and reduced relaxation time; and

their work efficiency may reduce. Accordingly, they may have inappropriate behavior with injured, it is better that refreshing exhilarating (*mofarrehat*) to be used in their schedule as well. Non-edible measures include a set of behaviors and emotions that the physician prescribes them for the individual. Some of these actions, such as the recommendation to do fun and enjoyable activities like listening to music and reading the story, are used in psychotherapy today as well. Storytelling can be one of the appropriate measures to reduce the grief of all the injured, especially children. Children are vulnerable group in the disasters who should be given special attention. Putting the toys at the disposal of the children for their entertainment, or according to the Persian medicine scholars' belief, to make them busy with enjoyable thing; can be considered as another useful remedy for the vitality and warmth of their temperament. It is recommended that in disasters, in addition to the provision of essential materials such as food and clothing, the Fun essentials to be considered as well [35,36].

One of the measures that are necessary in a crisis is the increase of life expectancy in survivors. To increase the level of hope, the non-medical measures, or based on the Persian medicine scholars "*spiritual medicine*", the power of words of the officials and government officials can be used.

According to the surveys on the Bam (Kerman province, Iran) earthquake, 73% of the people wished the president to visit the area. It indicates the need for the sense of security that is created by the presence of senior government officials

in the region. In this regard, given the religious beliefs of the Iranian people, the visit of the spiritual authorities, especially the Supreme Leader and his representatives from the injured areas, would have effective role in strengthening the spirit of hope and resuming the survivors' life [28].

## Conflict of interest

None.

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