



## Introduction to the Concept of Crisis in Diseases

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### Abstract

Crisis is one of the sophisticated yet important and practical concepts of Persian medicine that have been discussed and pointed out throughout traditional medical literature starting from Hippocrates, Galen, Avicenna and others or discussed independently in their related treatises. Being so important, it was used to classify the days of illnesses according to days devoted to it (critical days) or the days forecasting it (warning days) and the days in between. Crisis was known to be an important change in the process of disease through which afterwards the destiny of the patient was predicted. It was categorized by its completeness/incompleteness and its good/bad prognosis, timing and direction of the pathogenic substance displacement or excretion. Many factors have been known to affect the onset and type of crisis including type of illness, the temperament of the patient, the season of disease occurrence, and even the effect of heavenly bodies, especially the tidal force of the moon and the sun. Therefore, many branches of science like chronobiology, physics, nanomechanics, astrophysics and rheology are needed to understand and demystify the narrated information derived from centuries of clinical observation. This understanding may lead to the decoding of unknown causes of exacerbation and remission of chronic diseases like multiple sclerosis and so on. As mentioned in previous articles, we have also designed a set of treatments named Safe inclusive nozj of alizadeh therapy (SINA therapy) to simulate good crisis artificially in order to hasten the coction period and facilitate the curing of the daily increasing material diseases.

**Keywords:** Avicenna; Crisis; Crises; Persian medicine; Safe inclusive nozj of alizadeh therapy (SINA therapy)

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## Introduction

Some of the terms and concepts of Persian medicine are even less familiar to professionals in the field. One of these concepts is “crisis”, which, despite being little known to modern-day professionals, has historically been of great importance to the past sages.

The importance of the concept of crisis is so great that it can be found in a variety of forms in written sources of Persian medicine. In many great and famous medical books, such as the “*Canon of Medicine*” of *Avicenna*, “*Kamil al-Sina'a*” of *Haly Abbas*, “*Al-Havi*” of *Rhazes*, “*Zakhire Kharazmshahi*” of *Jorjani* [1-4], there is a chapter devoted to crisis. Some writers have also written separate books and treatises on crisis. Among them are the books of “*Rokne-Azam*” of *Muhammad Azam Khan* and “*Tahgigh-ol-Bohran*” of *Ahmadullah Khan Dehlawi* [5,6]. One may also encounter the implications of crisis in various books and treatises under different disease titles and their treatments. This article, which is derived from the primary results of a PhD thesis (in Tehran University of Medical Sciences), entitled “Explaining the Concept of “Bohran” (Crisis) in Traditional Persian Medicine”, attempts to give a brief introduction to the subject.

## Historical background

It seems that for the first time in the history of medicine, Greek physicians like Hippocrates defined and explained the concept of crisis in disease [7]. Galen then addressed this concept in his treatises entitled “*Crisis*” and “*Critical days*” [8]. These treatises were translated into Arabic in the Islamic Golden Age by Hunayn ibn Ishaq and thus introduced to the physicians of the Islamic world [9]. It was then commented and completed by the Muslim scholars, especially Persians, to a considerable extent [10].

## Definition of crisis

In the traditional medical context, the term crisis means an important change in the patient’s body toward getting better or worse. This change appears at the end point of a fight between the body’s governing force and the illness, leading to recovery (*Good crises* بجران جيد) or exacerbation and probably even death (*Bad crises* بجران رویء). Therefore, considering crisis, a physician may be able to determine the prognosis and decide for the future treatment.

Some medical texts have used the following two analogies to clarify the concept of crisis:

1. The body is like a city, and the disease is like an enemy that seeks to invade and conquer the city. Nature [11] or the governing force is like the king of the city who is in charge of defending the city. The day of crisis is the day that the outcome of the battle between the King’s army and the enemy’s army is determined.
2. The body and the disease are like two people arguing in a court to solve their problem. The verdict that the judge ultimately gives in favor of one party that leads to his victory and to the defeat of the other is likened to crisis.

Crisis was so important to the sages that they even classified the days of illnesses into 3 types in relation with crisis [12]:

1. *Warning days*: The days in which signs and symptoms may appear forecasting the upcoming nearby crisis. As an example, if in such days, signs of coction, for instance whitish clouds appear in the urine, it will be the sign of a good crisis in the future days. On the contrary, if there are no signs of coction in the urine, stool or sputum in the warning days, for example the presence of a clear dilute urine, it will strengthen the probability of a forthcoming bad crisis in the following critical day.
2. *Critical days*: The days in which special signs and symptoms may appear implying the occurrence of a crisis.
3. *Intermediate days*: Days that are neither pre-

defined warning days nor predefined critical days, but a crisis may show up in it under different circumstances.

Further explanations and arguments about the number of warning and critical days will not be covered in this article.

Crisis does not occur in all diseases but only in certain types of diseases where the presence of a matter is considerable. Since during a good crisis, it is necessarily for the pathogenic substance to be transmitted partially or excreted thoroughly from the body, the substance also needs to be rheologically prepared in order to be able to be moved from its place. Therefore coction or *Nozj*, which is a “rheological preparation”, is a prerequisite of all good crises [13]. There are three different scenarios by which the body gets rid of the pathogenic substance [14]:

1. *Sudden expulsion* (استفراغ): Mostly in acute illnesses, the pathogenic substance is excreted via one of the body’s exit pathways. Examples of this type of elimination are epistaxis, nasal discharge, tears, ear discharge, vomiting, diarrhea, bleeding hemorrhoid, uterine discharge, uterine bleeding, sweating and etc.

2. *Assimilation and dissolution* (تحلیل): In some chronic diseases, the pathogenic substance is gradually assimilated and thus eliminated by body’s governing force and digestion power.

3. *Transmission and Displacement* (انتقال): The pathogenic substance, although not able to be excreted from the body, yet is displaced and moved from the vital organs to the less important ones.

### Types of crises

Based on the above three mechanisms, Persian medicine resources have discussed different categories of crises that can generally be summarized into the seven types below [14]:

1. *The Complete good crisis*: In this type, the governing nature strengthens, and removes the pathogenic substance at once, not only from the

chief vital organs but also from the whole body. This type mostly occurs in acute illnesses that last less than two weeks.

2. *The Complete bad crisis*: In this type, which also may occur in acute illnesses (lasting less than two weeks), the disease completely overcomes nature and causes death at once.

In a full-blown crisis, regardless of its goodness or badness, the course of the disease is rapid and the overcoming of one side - nature or disease - will be complete.

3. *The Incomplete good crisis*: In such crises, occurring in moderate diseases (which last from 14 to 40 days), the body partially overcomes the disease and needs more fights for complete elimination of the disease and thus gradual remission.

4. *The Incomplete bad crisis*: In this type, which also occurs in moderate diseases that last from 14 to 40 days, the illness partially overcomes nature but requires more struggle to overcome nature completely, thus gradually leading to death.

5. *The Dissolution-form crisis*: Named as “*Tah-lili*” (تحلیلی), it is the gradual strengthening of nature over a long period of time without the appearance of enormous change where the gradual excretion of the disease substance leads to the complete recovery of chronic (lasting more than 40 days) diseases.

6. *The Emaciation-form crisis*: Named as “*Zob-uli*” (ذبولی), it is the gradual weakening of nature over the long term without the appearance of a great change and the gradual overcoming of disease leading to death in chronic diseases.

7. *The Transferring crisis*: Entitled “*Enteghali*” (انتقالی), when nature is not strong enough to remove the disease completely, leastwise it transfers the pathogenic substance from the chief vital organs to the less important organs.

Various factors have been considered effective in creating crisis or defining its type and form which include: the type of illness, the tempera-

ment of the patient, the season of disease occurrence, and the effect of heavenly bodies, especially the moon and so on. Although the moon phases and moonlight have been correlated to acute crises in the literature, it seems to be related to the synergistic effect of the gravitational forces of the sun and moon when aligned with the earth in particular days of the lunar calendar. Although lunar or solar tidal effect is not the complete and only cause of crises, it is believed to help the displacement and also disintegration of the stuck waste pathogenic matter.

### Signs and symptoms of crisis [15]

While the appearance of symptoms such as anxiety, agitation, physical and mental restlessness may be the prodrome of a crisis, each of the above mentioned types of crises may have its own symptoms. In a good crisis, after the onset of such symptoms, the substance is excreted through one of the body's excretions, depending on factors such as: the type of disease, the organ involved, the concentration or consistency of the substance, the person's age and temperament, the season, and so on. The expulsion of matter from any path or direction also has its own specific symptoms.

For example, some of the symptoms showing the upward tendency and movement of matter are: headache, feeling heaviness in the head, dizziness, tinnitus, sudden deafness and shortness of breath. Upon symptoms of upward affinity, the matter may exit from one of the upper orifices of the body, which can be bleeding from the nose, vomiting, tears, nasal discharge or pus from the ear channel.

If the pathogenic material tends downward in the body, it will exit the inferior outlets via diarrhea, urination, menstruation, or bleeding hemorrhoids.

If the material heads towards the skin, it will probably be eliminated in one of the following ways: sweat, skin rashes, lesions such as vitili-

go, and eruptions such as acne or rash.

If the matter is transferred from one organ to another, it may cause swelling or eruptions in the target organ.

As mentioned previously, the paths nature chooses for the disposal of matter during times of crisis depend on different factors. For example, the dilute thin matter is excreted by sweat that shows the effect of the "concentration of matter" or its "rheology" on nature's choice of excretion.

On the other hand, the crisis of the cephalic or head related diseases may be nasal bleeding or ear pus discharge or other nearby means that demonstrates the priority of "the near outlet" for the deciding governing nature.

In general, the symptoms of a good crisis include: the prior appearance of the signs of coction or *Nozj* of the matter, the occurrence of crisis on the classical "good days of the crisis", appropriate quantity and route of expulsion, appearance of a proportional pulse depending on the type of crisis. Symptoms of a bad crisis are in contrast to good crisis, especially when a bad crisis occurs before the coction signs.

An important and noteworthy point is that psychological and mental reactions can also trigger crisis or change its direction. For example, "fear" may cause diarrhea, vomiting or urination crises. In "happiness and joy", the crisis will probably be by sweating.

### Managing Crisis

In the event of a crisis, the physician should not interfere with the course of the disease unless it is obvious from the symptoms that nature has prevailed. In this case, the practitioner is permitted to assist nature in completing the task and to accelerate nature's overcoming of the disease. For example, if nature wants to excrete the substance through gastrointestinal diarrhea, the doctor may prescribe laxatives.

Another permissible intervention that the phy-

sician can take is to control any uncontrolled excessive outflow of material during crisis that may put the patient at risk of weakening [16].

### Discussion: Using the concept of crisis in modern medical practice

As pointed out in our previous articles, we have designed a set of new therapeutic approaches to facilitate and control the process of coction (*Nozj*) named as the Safe inclusive *nozj* of alizadeh therapy “*SINA therapy*” series [13,17] which causes early artificial good crisis. In these set of treatments, the blood supply to the diseased organs or the whole body is improved which causes better provision of the “*intrinsic potentials*” [17] (حار غریزی) and therefore better actions of all kind in the tissues. These actions, besides including coction and digestion of waste matter and their expulsion from the organs, also include nourishment and fulfillment of the distant target tissues.

The concept of crisis as described in Persian Medicine resources has a great deal to do with branches of science, such as chronobiology, physics, nanomechanics, astrophysics and rheology. One must consider many issues and parameters to understand centuries of clinical observations narrated in traditional literature or to formulate the outputs of crises. Further multidimensional investigations are needed for better analysis of the past insight about crisis. We hope that by demystifying crisis, better understanding, forecasting and management of diseases would be possible. Particularly it may help to decode the unknown causes of exacerbations and remissions of chronic diseases such as multiple sclerosis, primary hypertension, inflammatory bowel diseases, rheumatism and etc.

### Conflict of interest

None.

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