



# Ilaj-bi'l-Tadbeer; A Traditional Healing to the Pain related Ailments

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## Abstract

Since ancient times, The Traditional system of medicine has been participating in the health care system. Usually, four modes of treatment viz. Regimenal therapy, Diet therapy, Pharmacotherapy, and Surgery are applied for the treatment of diseases. Regimenal therapy is an important mode in which the morbid matter present in the body is either dispersed/excreted or its unnecessary production is blocked or its flow is restricted and by virtue of this, there are various diseases specifically pain-related ailments like arthritis of multiple joints and muscular pains are cured by the natural healer of the body, consequently, bringing back the humoral stability. Diseases or ailments are considered to derange the normal temperament and homeostasis of the humors in the body. So regimenal therapy or (Ilaj-bi'l-Tadabeer) pharmacotherapy (Ilaj-bil-Dawa) has been utilized since ancient times as per the sole concept to bring back the homeostasis of the humors and correcting the abnormal temperament involved. There are various regimens have been mentioned in classical Unani literature. Common regimental procedures such as *Fasd* (venesection/phlebotomy), *Hijama* (Wetcupping), *Taleeq* (hirudotherapy/leechtherapy), *Tareeq* (diaphoresis), *Riyazat* (exercise), *Dalk* (masage), *Hammam* (bathing), *Natool* (irrigation), *Inkebab* (steam/vapourapplication), *Takmeed* (fomentation), etc are usually applied for the management of various pain-related ailments. These regimenal procedures are completely based on the holistic approach but need to be explored scientifically. This review is done for outlining the therapeutic applications of various regimens of Ilaj bi'l tadbeer and the fundamentals used in traditional medicine for various ailments specifically pain-related ailments.

**Keywords:** Ilaj-bi'l-Tadbeer; istifragh; morbid humours; regimenal therapy; Unani medicine.

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## Introduction

The Unani System of medicine is one of the oldest traditional systems of medicine which has strived through the ages in the prevention and treatment of various medical conditions. The history of Unani Medicine basically pioneered in Greece and later been established in Rome, Arabs, Spain, Iran, and the Indian subcontinent. This system is based on the wisdom of Hippocrates (460–370 BC), chiefly on his doctrine of four humors such as *dam* (sanguineous), *balgham* (phlegm), *safra* (yellow bile/bilious) and *sauda* (black bile/melancholic) along with their qualities in terms of temperament such as hot-moist, cold-moist, hot-dry, and cold-dry, respectively. Moreover, the body of a human being has consisted of seven indispensable materials like *arkan* (elements), *mizaj* (temperament), *akhlat* (humours), *azaa*(organs), *arwah*(pneu-ma),*quwa* (faculties), and *afal* (functions). An absence of any of the components threatens the survival and derangement of the constituents resulting in disease. Hence, the core aim is to restore the balance primarily by aiding bodily faculties' viz. *tabiyat mudabbir-e-badan* (medicatrix- naturae) [1]. Each individual's constitution has a self-regulating capacity or power, called *tabiyat* (*mudabbira-e-badan*) which is translated as 'Immunity' to keep the seven components in equilibrium. Hippocrates propounded the doctrine of humours and temperament which is the principle doctrine of composition and physiology of the- body. In Unani medicine, the concept of temperament is the most complicated one. Qualities [hot, cold (active), dry, moist/ Wet (passive)] are the four temperaments. One of the active qualities interacts with passive quality to denote a particular temperament of humour. For example, *dam* (blood): Hot Wet, *balgham* (phlegm): Cold Wet, *safra* (yellow bile): Hot Dry, and *sauda* (black bile): Cold Dry [2]. Each person is considered to have a specific humoral makeup, determined by the predominance of humor suitable for him/ her. Disturbance in the quality and quantity of the humors is considered to produce pathological changes due to morbid humor leading to the development of an ailment. Once, deranged humor is identified, correction through Regimenal therapy or Pharmacotherapy will help in maintaining back homeostasis of- the humors viz. health [3]. Six essential prerequisites (*asbab-i-sitta zaruria*) include *hawa-e-muheet* (atmospheric air), *makoolat wa mashroobat* (food and drink), *harakat-o-sukun badni* (physical activity and repose), *harkat-o-sukun nafsani* (mental activity and repose), *nawm-o-yaqza* (sleep and wakefulness) and *ehtibas-o-istifragh*(retention and elimination) are important for the survival [4]. This theory is indirectly having partial similarity with the accepted definition of health as a state of physical, mental, and social wellness. Understanding the doctrine of balancing the 4 humors and disturbance in the six essential factors to find the cause is the key to treatment. Hence, practical science is based on the fundamental principles rooted in the oldest classical texts of Unani medicine [2,5]. Various environmental, geographical, and socioeconomic factors are considered secondary essential factors (*asbab-e-ghair-zaruria*) for life and indirectly influence the human body. Therefore, both primary and secondary prerequisites should be strictly considered while treating diseases [6]. The cause of diseases are basically classified into three categories viz. (i) *sue-mizaj* (dys temperament), (ii) *sue-tarkeeb* (abnormal composition), and (iii) *tafarruq-e-ittisal* (derangement). *Sue-mizaj* refers presence of disease due to impairment in the temperament of an organ, system, or whole body. *Sue-mizaj* is further classified into two types viz. (i) *sue-mizaj sada* (dys temperament not associated with morbid humours), (ii) *sue-mizaj maddi* (abnormal substantial temperament) [7]. In Unani medicine, the management of diseases is based on a holistic approach with an aim to treat the body, mind, and soul.

## Modes of Traditional treatment

Four core modes of treatment are usually employed in Unani medicine such as *ilaj-bi'l-tadbeer* (regimenal-therapy), *ilaj-bil-ghiza* (diet therapy), *ilaj bi'l-dawa* (pharmacotherapy) and *ilaj bi'l-yad* (surgery) [4] The regimenal therapy is one of the imperative sorts of Unani treatment by which the morbid substances are dispersed within the body or excreted from the body through natural orifices and the humoral equilibrium is restored by the *tabiyat* (physis) [8].

## The basic principle of treatment (Usool-e-Ilaj)

According to the Unani Medicine, the pathological changes in an organ are caused mainly by derangement in the temperament and quantity of humors which leads to the accumulation of *mawad-e-fasida* (morbid material). So therapeutic measures aim at, restoring the equilibrium of various elements by counteracting

the effect of pathological temperament existing at the time of disease with medicines and diet, supported with *Ilaj bi'l- tadbeer* (regimenal therapy) and then expulsion of *raddi akhlat* (morbid humours) by *istafragh* (evacuation) from the body. This helps in restoring the normal homeostasis of humors viz. body. [3]

### Aim of treatment

According to the Avicenna, while treating diseases, at first the *tabeeb* (physician) must know the normal temperament of that patient. Afterward, the physician should assess the pathological temperament based on signs and symptoms, mentioned for the respective type of *sue-mizaj* and then accordingly use his skill to counteract the effect of pathological temperament (*tadeel-e-mizaj*) existing at the time of the disease.[9,10] but this counteraction must not be pushed extensively.

### Ilaj bi'l Tadbeer (regimenal therapy)

*Ilaj bi'l-Tadbeer* has consisted of two words in the Arabic language i.e. '*ilaj*' which refers to the treatment and '*tadbeer*' means 'regimen'. Regimenal therapy is a unique mode of treatment in Unani medicine, which is being carried out through modification and moderation in *Asbab-e-Sitta-e-Zurooria* (six essential factors)[11]. In the Unani system of medicine, several regimenal procedures mostly drug-less therapy and some regimens with the incorporation of drugs are- preferred for the management of various body ailments[12]. Initially, one of the suitable regimen from *Ilaj-Bil-Tadbeer* wa ghiza (Regimenal therapy and diet therapy) to normalize and balance the external factors (e.g., air, water, and food) involved in ailments and diseases are adopted and utilized[5,11]. Several classical Unani works of literature viz. *Kamil al-Sana* also known as *Kitab al-Maliki* (The Complete Book of the Medical Art) [13] written by '*Ali Ibn al-Abbas al-Majusi*' popularly known as Haly Abbas (10th Century AD) [14,15,16] *Al-Qanun fi'l Tib* (The Canon of Medicine) compiled by Ibn Sina famous by the name Avicenna (980 – 1037 AD) in the West [17], *Firdaus al-Hikmah* (Paradise of Wisdom) written by *Abu al- Hasan Ali ibn Sahl Rabban al-Tabri* (838 – 870 AD) [18], *Kitab al-Mukhtarat fi'l Tib* compiled by *Ibn Hubal* (1121– 1213 AD) [19], *Kitab al-Umda fi'l Jarahat* written by *Ibn al-Qaff* (1233 – 1286 AD) [20], *Kitab al-Tasreef* authored by *Abu al-Qasim Khalaf ibn al-Abbas al-Zahrawi* (936 – 1013 AD) also known as Abulcasis in West [21], *Kitab al-Kulliyat* compiled by *Ibn Rushd* also called as Averroes in Europe (1126 – 1198 AD) [22], *Zakheera Khawarizam Shahi* authored by *Ahmad al-Hasan Jurjani* [23], '*Ilaj al-Amraz*' written by *Hakim Muhammad Shareef Khan* (1722 – 1807 AD) [24], *Al-Qarabadeen* written by Kabeeruddin, etc. have described various regimenal procedures[25].

### Various regimenal procedures in Ilaj bit Tadbeer [15-25, 28-32]

S. No.	Regimen	S. No.	Regimen	S. No.	Regimen	S. No.	Regimen
1.	Istifragh(Evacuation of morbid matter)	9.	Imala(Diversion of morbid humour)	17.	Inkibab(Steam- bath)	25.	Nafukh(Insufflation)
2.	Fasd(venesection)	10.	Riyazat(Exercise)	18.	Pashoya(Foot- bath)	26.	Lakhlakha(Inhalation)
3.	Hijama(Wet Cupping)	11.	Dalk(Massage)	19.	Aabzan(Sitz- bath)	27.	Humul(Pessary)
4.	Taleeq(Hirudotherapy)	12.	Hammam(Bathing)	20.	Ubtan(Skin-cleansing)	28.	Qairuti(Poultice)
5.	Qay(Emesis)	13.	Tadhin(Oiling)	21.	Dimad(Paste)	29.	Kaiyy(Cauterization)
6.	Ishal(Purgation)	14.	Takmid(Fomentation)	22.	Tila(Liniment)	30.	Ilam(Pain induction)
7.	Idrar-i-Bawl(Diuresis)	15.	Natul(Irrigation)	23.	Huqna(Enema)		
8.	Tareeq(Diaphoresis)	16.	Sakub(Douching or - spraying)	24.	Dhuni(Fumigation)		

Nowadays, *Hijama* (Wet cupping) is gaining popularity due to its rapid and conspicuous efficacy in the maintenance of health, prevention, and management of diseases. In Unani medicine, the regimes of *ilaj il tadbeer* are actually meant for the *Istifraagh-e-akhlaat-e-radiya* (evacuation of morbid humors) or *tadeel-e-mizaj* (restoration of normal temperament) of the body. These morbid humors are the actual root of the onset of disease. As soon as these morbid humors are evacuated from the body by applying some regimens, normal health gets restored.[5,10,11,26,28]

### Istifragh (Evacuation of morbid humors)

The diseases are caused by either ‘Sue mizaj’ (dystemperament) with or without the involvement of morbid humors. The morbid matters are evacuated through various regimenal procedures such as *Fasd* (venesection), *Hijama* (cupping), *Taleeq al-‘alaq* (hirudotherapy), *Hammam* (bathing), etc. *Ibn Sina* has made 10 rules for evacuation of morbid matters from the body. These rules must be followed while performing *istifragh*. The amount of morbid matter to be evacuated is judged by the number of morbid humors already evacuated, the strength of the patient, and clinical features of the disease. It is also mentioned that the morbid humors should readily be evacuated when they are present in the vessels other than joints and tissues.

### Rules of Istifragh [17]

Conditions	Indications/contraindications
Plethora	It should be done when morbid humours are present in the body.
Vitality	It should be avoided when any of the three vital faculties of the body are weakened.
Temperament	Contraindicated in case of hot and dry temperament of the body.
Symptoms	Contraindicated in case of diarrhoea or cramps.
Physique	Contraindicated in case of excessive leanness or fatty body.
Age of the patient	It is avoided in children and old age.
Weather condition	Avoided during extreme hot or cold weather.
Geographical position	Contraindicated in hot tempered areas.
Habit	It should be avoided when habit of the patient is to have evacuation frequently.
Occupation	Contraindicated in washer men and labourers

### Hijama (Wet Cupping):

It is an ancient, holistic method for the treatment of a variety of diseases. It is one of the oldest traditional procedures in holistic folk therapy around the world [33,34]. Although the beginning of cupping therapy is shrouded in controversies, the practice has assisted in curing medical and surgical ailments and was an important component of the effective therapeutic methods of ancient times. Traditional cupping therapy methodologies have been passed from generation to generation, by its practitioners [35,36]. *Hijama* is performed by applying cups to the selected- skin points and creating a sub-atmospheric pressure, either by



heat or by suction [37]. Recently interest in Hijama(Wet cupping) has Re-emerged and subsequently, several studies have begun to investigate the mechanism underpinning the cupping therapy.

### Several Unani Scholars have defined Cupping (*Hijama Bi'l Shart*) as :

“**Razi**” [38] stated that cupping was a process in which toxic blood from superficial small vessels located in the muscles is released.

“**Sheikh**” [39] described the process of making an incision, known as *Pachhna* (prick or puncture) in *Hijama*.

“**Jurjani**” [40] clarified that Cupping was a process by which superficial bleeding was initiated from the smaller vessels or their branches, situated within the muscle to decrease congestion. Furthermore, “Jurjani”[9] believed that this process did not produce weakness in the vital organs.

“**Baghdadi**” [41] defined cupping as a process that helped in blood removal from the small vessels of the skin and muscles, reducing congestion in the area where cups applied.

“**Kabiruddin**” [42] added that cupping at the lower extremities, especially at the ankle joints, was similar to venesection as he believed that normal blood and noxious matter move downwards.

According to “**Ibne Sina**” [43] cupping was the process of making an incision used to release toxic matter accumulated close to the skin.

### Sites of Hijama(Wet cupping) and Indications [17]

Point of application	Indications
Nape of neck	Heaviness of eyelids, headache, itching of eyes, foul smell of mouth, etc
Between the shoulders	Pain in upper arms and throat, congestion in the lower oesophageal junction, etc
Over the two posterior neck veins	Tremor of head; diseases of head, face, teeth, ear, eye and nose, etc
Legs(Calf Muscles)	Cessation of menstrual blood
Under the chin	Diseases of head, teeth, throat and jaw, etc
Over the loins	Inflammatory masses in upper part of thigh, gout, piles, elephantiasis, diseases of uterus and bladder, renal congestion, etc
In front of thigh	Orchitis, leg ulcers
Behind hips	Inflammatory conditions and ulcers of buttocks
In popliteal fossa	Aneurysm, long standing abscess or ulcers in leg & foot
Over malleoli	Cessation of menses, sciatica, gout
Over the buttocks towards the anus	Draws morbid humours from whole body, diseases of intestine

### Classification of Hijama:

Early classification of cupping therapy categorized it broadly into Dry and Wet cupping [44]. Another classification of cupping therapy was developed in 2013, Categorizing cupping into 5- Categories. The classification was updated in 2016. The updated classification categorized cupping therapy into five categories. The first category i.e “Technical types”, includes Dry, Wet, Massage, and flash cupping. The second category is “power of suction”, which includes light, medium, and strong cupping.

The third category is “Method of Suction”, which includes fire, manual vacuum, and electrical vacuum cupping. The fourth category is the “material inside cups”, which includes herbal, water, ozone, moxa, needle, and magnetic cupping. The fifth category is “Area treated”, which includes facial, abdominal, Female, Male, and orthopedic cupping. The sixth category is “Other cupping types”, which includes Sports, Cosmetic, and Aquatic Cupping[45].

### Certain Guidelines for Hijama

*Ibn al-Qaf Al-Maseehi* has described certain guidelines for this procedure viz.

(i) For prophylactic purposes, it should be performed in the mid lunar month because the humors are agitated in this period, (ii) evening time should be preferred, (iii) hot weather should be preferred because the humors are not viscid in this season and evacuate easily, (iv) it should not be performed in those patients whose blood is viscid, (v) before performing this procedure, stomachic should be given to the patient, (vi) it is contraindicated in obese patients, (vii) it should not be performed before the age of 2 and after 60 years, (viii) it should be avoided just after a bath, coitus and physical exertion. [20]

### Fasd (Venesection/Phlebotomy)

*Fasd* is a general mode of removal of excessive quantity of morbid humors presents mainly in the blood vessels. This procedure should be done when the blood is so super-abundant (called ‘Imtela’ in Unani medicine) and the disease is about to develop. Phlebotomy should not be performed before the age of 14 or after 70 years and in those young who are emaciated. Ibn Sina has suggested that phlebotomy is to be done on different veins according to the indications.

### Sites of Phlebotomy (Fasd) [17]

Site/vein	Indications
Frontal veins	Heaviness of the head and eyes and chronic headache
Supraoccipital veins	Heaviness of the head and eyes and chronic headache
Temporal veins	Tortuous Vein
Labial veins	Gum ulcers, gingivitis
Sublingual veins	Angina and tonsillar abscess
Jugular veins	Angina, dyspnoea, asthma, lung abscess
Postauricular vein	Glaucoma, ulcers of ear, neck and back of the head
Popliteal vein	Decrease menstrual flow, Painful Piles, Anal Pain
Vein over the inner toe	Sciatica, Uterine disease
Saphenous vein	Decrease menstrual flow, piles, Sciatica

### Ta‘liq al-‘Alaq (Hirudotherapy/Leech Therapy):

This regimen was in the practice 3,500 years back in Egypt and other ancient civilizations such as Greek, Mayan, Aztec, and Rome. In Greek, this therapy was first practiced by an eminent physician, scholar, and philosopher, Hippocrates (460–370 BC). Various species of leeches are found including *Hirudo medicinalis* and *Hirudo granulosa* which are considered to have medicinal properties. In this regimen, the morbid matter is evacuated from the body and- maintains the homeostasis. Scientific studies have revealed that there are various therapeutic substances found in the saliva of medicinal leeches such as anti-coagulant substances such as hirudin, calin, histamine, vasodilators, collagenase, hyaluronidase, etc. present in the saliva of leeches, responsible for various pharmacological actions [33]. This regimen procedure is very much beneficial in the treatment of especially, non-healing ulcer, varicose vein and is also recommended for the treatment of some other diseases such as arthritis, pharyngitis, lymphadenitis, sinusitis etc. Certain scientific reports have revealed that the leech therapy possesses significant effects in many diseases. For example, a clinical study conducted in Germany in which the leech therapy has showed significant effect in cases of knee osteoarthritis compare to that of local application of diclofenac. An experimental study in an animal model showed the significant thrombin inhibition effect of hirudin in antigen-induced arthritis as the intra-articular fibrin was decreased. [23,29,33]

## Dalk (Massage)

Massage is done by pressure, friction, or rubbing of the body with a hand or rough cloth [46]. The waste products from almost all the organs are excreted through the skin following body massage. Unani physicians have classified massage into various types [22]. Friction massage is done as preparatory for athletes. The aim is to disperse waste products formed in the muscles and not excreted through exercise [17]. Sometimes, massage is advised before commencing the exercise to prepare the body for undergoing different movement

during exercise. In this case gentle to vigorous massage should be carried out. This special type of massage is known as *dalk-i-istidid* (preparatory massage). In some cases, it is advised that gentle to moderate massage to be carried out after exercise which is known as *dalk-i-isterdad* (relaxing massage) [47]. Lone et al. 2011 has reported the significant effect of massage with different medicated oils in cases of musculoskeletal and nervous system disorders [48].

## Types of Dalk(Massage)

According to the quality and quantity of the massage, there are various types of massage have been described in the classical Unani text, which is as follows:

According to quality	According to quantity
Dalk-i-sulb (Vigorous Massage)	Dalk-i-kaseer (Prolonged Massage)
Dalk-i-Moa'tadil (Moderate Massage)	Dalk-i-Moa'tadil (Massage for the intermediate duration)
Dalk-i-laiyyan (Gentle Massage)	Dalk-i-Qaleel (Massage for brief period)

## Riyazat (Exercise)

Ibn Sina has described the benefits of exercise viz. (i) it provides the normal function to all the organs and gives strength to the body, (ii) digestion and absorption of the food are good, (iii) nutrition is improved due to increase innate heat of the body, (iv) it clears pores of the skin, (v) it removes different excreta from the body, etc. Unani physicians have recommended the best time for exercise is considered when the body is free from excreta so that there is no risk to disperse unhealthy chyme throughout the body. Sometimes, massage is recommended before exercise [16]

## Hamam (Bathing)

A traditional *hammam* (bathroom) should have four compartments with varied temperatures viz. first, second, third, and fourth rooms should be temperate, warm, hot, and cold, respectively. The air of *hammam* (bathroom) gives warm and the water gives moistening effects to the human body [16]. This regimen opens the skin pores [27], excretes waste products- through the skin, increases appetite, resolves morbid humors inside the body [21] and refresh the body [27].

## Takmid (Fomentation)

In this regimen, powder drug is tied to a piece of cloth and used in the form of fomentation locally after heating. This therapy relieves pain and resolves inflammatory swelling of an organ [11]. Unani pharmacopeias have mentioned several formularies which are used in the form of hot fomentation for the treatment of many diseases. For instance, hot fomentation with *Papaver somniferum* seeds, aqueous rose water, and turpentine oil is beneficial in mastitis and other pain-related disorders [30].

**Dimad (Medicated Paste)**

A kind of medicated paste that is prepared with powder of crude drugs and oil [5, 24]. This is used as a local application to resolve inflammatory swelling and pain of various organs of the body [5]. Medicated paste prepared with pomegranate flower & peel, rose, *Inula racemosa*, *Swertia chiraita*, alum, and oil is very much useful for the treatment of headache [23, 24].

**Inkibab (Steam/vapor application)**

*Inkibab* therapy is a form of the steam application over the affected parts of the body. In this regimen, some herbal drugs are boiled into a vessel and the steam is applied to the body's surface [7, 31]. Unani pharmacopeias have described several formularies which are used as *inkibab* therapy for the treatment of many pain-related illnesses. Steam application with the decoction of *Origanum vulgare*, *Papaver somniferum* seeds, *Viola odorata*, *Coriandrum sativum*, and *Smilax china* is useful in the treatment of multiple aches of the body [23].

**Natul (Irrigation therapy)**

*Natul* is a regimen in which the medicated decoction or oil [48] is irrigated over the diseased part from a certain vertical height. Some amount of drug may penetrate through the skin [23, 24] and helps in dispersing the morbid matters [49]. Thereafter, the morbid matters may be detoxified either by the body itself or it may be excreted through a natural excretory route. Ibn Sina has stated that this regimenal therapy is very useful for the treatment of many ailments including diseases of the head [28]. Athar et al. 2018 have revealed the significant efficacy of combination therapy of *natul* and massage by *Roghan Kaddu* and internal use of medications such as *Itrifal Ustukhuddus*, *Itrifal Kishnizi* and *Jawarish Shahi* in a case of migraine without aura [50].

**Ilam (Pain induction)**

This is a regimen in which the sensory nerve endings are stimulated either by compression or tying of an organ [11]. Sometimes, the pain is induced by using stimulant or irritant drugs. After the application of such procedures, the blood vessels of the affected area are dilated and blood circulation is increased resulting in the stimulation of sensory nerve endings. This regimenal procedure may be useful for the treatment of certain diseases such as hypoesthesia, anesthesia, pain, swelling, etc. [51].

**Tashkhees 'Waja' (Diagnosis of Pain)**

A thorough history and clinical examination, lifestyle, profession, aggravating and relieving factors of pain help in the diagnosis of pain and ought to be inspired for a proper conclusion like power, site, character, span, related side effects, irritating and soothing elements of pain. [52]

**Based on Sue Mizaj (Altered temperament):**

Sue mizaj, which can be sada or maddi, can be used to perform the analysis. Sue mizaj sada may be considered if the onset of symptoms is continuous against a historical backdrop of openness to cold or warmth, whereas sue mizaj maddi may be considered if the humoral-power side effects are summed up and restricted. Sue mizaj maddi's and Rehi's torture can be distinguished by their intensity and softness of suffering. [53,54]

**Based on Tafarruqe Ittesal (breach of continuity)**

Internal and external tafarruqe-ittesal can also be used to make a diagnosis. External tafarruqe-ittesal is easy to identify since the reason is obvious, whereas internal tafarruqe-ittesal has a concealed cause that is difficult to diagnose.



### Pain receptors that connect to two types of nerve fibers:

**A-delta Fiber** – Large diameter, myelinated, NCV– 4-30m/sec, activated by mechanical & thermal stimulus, Pain characterized by Fast onset, Short duration, sharp, prickling & localized.

**C Fiber**–Small diameter, unmyelinated, NCV -0.5-2m/sec, activated by a chemical stimulus, Pain characterized by slow onset, diffuse, dull aching & throbbing in nature. The noxious stimuli activate 10-20% of the A-delta fibers and 50-80% of the C-fibers. An internal organ like the intestine and brain is immune to pain due to the absence of pain receptors but their covering membrane-like parietal peritoneum and meninges have pain receptors and are extremely sensitive to stretching, distension, compression, inflammation, rupture, hypoxia, direct action of chemical stimuli, bleeding and spastic contraction.

### Physical and Pathological Components of Pain:

When cells are damaged, injured, diseased, or extremely stimulated, they produce inflammatory mediators like prostaglandin, Bradykinin, Leukotrienes, interleukins, etc. that causes inflammation and sensitize the nerve ending, which manifest as a pain signal in the form of electrical impulse, traveling to the brain through synapse and gelatinous substances of the spinal cord (substantia gelatinosa) help in the transmission of pain. On receiving the pain impulses substantia gelatinosa can either facilitate or inhibit the pain impulse to the brain (Thalamus & Cerebral cortex).

**Neurochemistry:** Cell injury produces the release of endogenous chemicals like Prostaglandins, Bradykinin, Histamine, Serotonin, Substance P, Leukotrienes & Potassium ions.

### Substances & Effects on Nociceptors (Pain Receptor):

Substances	Effects
Prostaglandins	Sensitization
Bradykinin	Activation & Sensitization
Substance-P	Sensitization
Leukotrienes	Sensitization
Potassium	Activation
Serotonin	Activation
Histamine	Activation

Bradykinin is the most potent pain-produced agent, powerful vasodilator and causes increased capillary permeability. Prostaglandin presence is necessary for the activation of Bradykinin action.

### Pain Gate Theory by Melzack and Wall (1965):

In 'substantia gelatinosa' there is a gate through which impulses travel towards the brain, by closing this gate can modify or block the impulse to reach the brain or to the organ from the brain. In the spinal cord, two chemicals are produced, Enkephalin (endogenous morphine) and Substance-P (neurotransmitter) which block and open the pain gate respectively. Thus we say that enkephalin (endorphin) produces an analgesic effect by increasing the pain threshold / blocking the pain gate while Substance-P decreases the pain threshold by opening the pain gate in the spinal cord.

### Pain Measurement: (VAS)

Visual Analogue Scales (VAS), Numerical rating score (intensity from 0 to 10), Verbal rating scale and Using words "severe", "moderate", "mild", "none". To rate the aggravation, specialists and doctors use subjective aggravation evaluating measures. One of them is the visual basic scale.[55]

### ILAJ (Management) –

Unani physicians treated pain in diverse ways viz., [55,56,57]

- 1)Izala-e-sabab (Removal of the cause)
- 2)Imala-e-mawad (Diversion of morbid matter)
- 3)Tanqiya-e-mawad (Evacuation of morbid matter)

4) Musakkin (Analgesics), Muhallil (Resolvents), Mukhaddir (Anaesthetics), Munawwim (Hypnotics), etc are usefull.

5) Adopting of Ilaj bi'l zid (Heteropathic regimen)

6) Ilaj-e-nafsani (Psychotherapy) especially diversion of patient mind.

Ibn Rushd (1126-1198 AD) in his book "Kitabul Kulliyat" and Ibn Qaf al Maseehi (13th century AD) in "Kitabul Umda fil Jarahat" Masihi categorized the treatment of pain into two broad types. [58,59,60]

## Conclusion

The structural discontinuity (Tafarruke ittesal) is responsible for cell injury which leads to the production of inflammatory mediators that results in the disturbance of homeostasis which ultimately leads to impaired temperament (Sue Mizaj). Therefore the management of pain is achieved by removing the causative factors which are responsible for Tafarruke Ittesal and Sue Mizaj. Regimenal therapy is one of the important modes of Unani treatment which plays a pivotal role in the health care system. Several regimens such as *Fasd* (venesection/phlebotomy), *Hijama* (cupping), *Taleeq* (hirudotherapy), *Idrar-i-bawl* (diuresis), *Ta'reeq* (diaphoresis), *Riyazat* (exercise), *Dalk* (massage), *Hammam* (bathing), *Tadhin* (oiling), *Natul* (irrigation), *Inkibab* (steam/vapor application), *Takmid* (fomentation), *Aabzan* (sitz bath), *Zimad* (medicated paste), *Ilam* (pain induction), etc. have been recommended by Unani physicians for the treatment of various bodily ailments, including pain-related ailments. But, in the present scenario, only a few scientific studies on certain Unani regimens have been carried out to validate them. Detailed studies regarding the mechanism of action and well-designed standard operating procedures of regimenal procedures, supported by scientific studies in order to open new therapeutic avenues, and worldwide acceptance would help in the safe and efficient application of these regimens.

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