

ORIGINAL ARTICLE

An Exploration of Unani Concept of Pain with Conventional Medicine

Abstract

The intention of medicine is to retain and restore health and relieve suffering. Understanding pain is essential to achieving any one of these goals. It is irrefutable that every individual experiences pain in their life and is one of the commonest manifestations a physician encounters in their career. Pain makes sufferers and physicians aware of the presence of some disorders. This is the primary steps for the physician to protect the body from diseases and restore health. In addition, there is a close relationship between pain and psychological state. Pain can arise either as a consequence of physical problem or because of a psychological process. Aristotle, who associated pain with sensation, observed that where there is a sensation, there is pleasure and pain too. In addition, apparently, he regarded pain as a qualifying sensation. Relevant literary material for this paper was collected from classical Unani literature as well as modern medicine. Then, available literary material was analysed and organized systematically. This review article aims to provide a breeding ground for reflection on the concept of pain according to the Unani system of medicine and to encourage the identification of a meaningful aspect of this complex condition.

Key words: Pain, Unani system of medicine, *Waja*, *Alam*, Avicenna, Sensation, Physicians

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Introduction

Pain teaches humankind the value of life, NO PAIN, NO GAIN. Persistent pain can affect the quality of life by damaging general physical function, but once it is overcome, this blessed life can lead to a wonderful life. The attempt to understand pain represents one of the oldest challenges in the history of medicine. Everyone has experienced a kind of pain throughout their life. However, the recognition of pain as a pathologic entity has remained debatable to date. Although pain is the most common symptom of any disorder in the body, the perception of pain is quite complex and varies from individual to individual. It is considered not only an emotion, a feeling, but also a sense without which an individual's emotional and social life cannot be imagined.

1- Historical Background of Pain

Since time immemorial, humans have been struggling to understand the aetiology and mechanism of pain. However, it has always been believed that the expression 'painful' can be used to describe an emotion as well as a conscious experience associated with bodily injury or disease. In the earliest theories, the origin of pain was considered to be caused by demonic possession or invasion of the human body by magic fluids, evil spirits, or the like. Therefore, the treatment of pain consisted of warding off or frightening away by extracting these invading entities/evil spirits through amulets and some magic rituals, which were mainly performed by shamans and sorcerers (Sabatowski, et al., 2004, pp. 701-716). In ancient cultures, people believed that religious influences of their Gods or spirits of death caused pain, other than injury-related one. Given that, it is mentioned in the papyri that in some parts of Egypt, vomiting, sneezing, and urinating were considered the routes of departure for these evil spirits and demons. Even craniotomy was used for trepanation to permit the escape of evil air (July, et al., 2009, pp. 621-625).

In the subsequent few centuries, researchers started considering pain as a sensation or feeling. Hence, they tried to explain whether the brain or heart is the center of sensation/feeling. In view of this, Aristotle (384-322 BC) considered the heart to be the seat of feelings/sensation; whereas, Alcmaion of Crotona, a disciple of Pythagoras (566-497BC) believed that the brain was the center of sensation. (Sabatowski, et al., 2004, pp. 701-716). Centuries later, Galen (AD 130-201), a great physician of Alexandria, considered the brain as the organ of feeling/sensation. Likewise, Avicenna (AD 980-1037) considered the brain as a center of sensation. On the other hand, he has clearly associated emotions with the heart. He also noted that, in disease, pain could dissociate from touch or temperature recognition and proposed pain to be an independent sensation. (Dallenbach, 1939, pp.331-347; Keele, 1957, p. 808-809; Gruner, 1984, pp. 515-602).

Moreover, afferent pathways for somatic senses were explained in the nineteenth century. In addition, how different information from the body transmitted to and from the spinal cord and brain was also elucidated (Bell, 2014, p. 315). Also Schiff proposed pain to be a specific sense in 1858 and Erb put forward an intensive theory of pain in 1874 (Schiff, 1859, p. 420; Erb, Eulenburg and Kussmaul, 1874, pp. 267-275). Subsequently, in 1878, Gowers reported dissociation of pain from touch after a spinal cord lesion in a person (Gowers, 1877, pp. 24-32). In 1906, Sherrington defined pain-causing stimuli as tissue-damaging (noxious) (Sherrington, 1906, p. 253). Following this, Spiller and Martin used ventrolateral spinal chordotomy in 1912 to relieve pain in humans (Edinger,



1889, pp. 150-153). In 2003, Craig proposed pain as a homeostatic emotion (Craig, 2003, pp.1-30).

2- Definition

The term “pain” comes from the Latin word “POENA”, which means penance / punishment from God (Internet Medicine Net, 2021). The Unani system of medicine (USM) is based on the teachings of Greco-Arab philosophers and physicians like Hippocrates, Galen, Razes and Avicenna. In the Hippocratic collection, three different words were used to denote pain: “*algos*”, “*ponos*” and “*odyne*”. Correspondingly, many derivatives of these three words, like *algebra*, *alredon*, *odynema*, *odyneros*, were used for various painful expressions, too (Liddell and Scott, 1940, p. 250).

Later the Unani-physicians of Arabic period addressed pain as *waja* and *alam*. *Waja* means pain, ache, agony, and suffering (Avicenna, 1993, pp.176-182, 379-382). In addition, *Alam*, in USM is a broader term, which means unpleasant sensation arising from any sense/ all senses (Baghdadi, 2004, pp. 75-76).

In the USM, Pain is defined as an abnormal perception felt by an individual, which denotes the morbid condition of the body whereas pleasure is the perception felt by an individual. Briefly, an unpleasant perception/feeling is known as pain whereas a pleasant perception/feeling is known as pleasure or joy. In modern medicine, Sherrington defined pain as “the physical adjunct of an imperative, protective reflex” and the description of its neurophysiological aspects (July, et al., 2009, pp. 621–625). Added to this, the international association for the study of pain (IASP), which was founded in 1973, defines pain as “unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.” (Sembulingum and Sembulingum, 2013, p. 838-843).

3- Understanding *Waja* and *Alam* (pain) in Unani System Medicine

According to the USM, to comprehend suffering, one must be familiar with the concept of *Tabiat* (lit. nature/physis) as well as *Quwwat-e-Nafsaniyah* (psychic/ mental faculty). *Tabiat* is an administrative faculty that controls the human body involuntarily and unconsciously (Jilani, 1998, pp. 528, 530-31). It is also where all motions and rests originate (Sembulingum and Sembulingum, 2013, p. 838-843). For administrative governance *tabiat* operates through various faculties (*Quwwat-e- ṭabī‘iyya* /vegetative faculty, *Quwwat-e-haiwāniyya* /vital faculty and *quwwat-i-, quwwat-i-, and quwwat-i- Quwwat-e- nafsāniyya* /mental faculty) (Baghdadi, 2004, pp. 75-76). *Quwwat-i- ṭabī‘iyya* is concerned with nutrition, growth, reproduction and waste elimination. It helps in the preservation of individuals as well as species. *Quwwat-i-haiwāniyya* (vital faculty) is responsible for *tadābīr of rūḥ*, which brings life to the part it supplies. *Qalb* is the source organ of this faculty (Avicenna, 1993, pp.176-182, 379-382).

Quwwat-e-Nafsaniya performs sensory, motor, and intellectual functions in the body. It is the faculty that comprises perception and locomotion. The brain, spinal cord, nerves, and *alat-e-hawas* (external sensory organs) are called *aaza-e-nafsaniya* (organs of the nervous system) as they pertain to these divisions. The center of *quwwat-e-Nafsaniya* is the brain. Additionally, *quwwat-e-Nafsaniya* consists of two groups of faculties: *Quwwāt Mudrika* (perceptive faculty) and *Quwwā Muḥarrika* (motive/ locomotive faculty). The



perceptive faculty is concerned with sensation, whereas motor faculty is the one that contracts and relaxes the tendons, through which the muscles, organs, and joints prolong and contract (Chandpuri, 1998, p. 15).

Quwwat-e-Mudrika (perceptive/cognitive faculties):

As it is the faculty of perception or sensation, it, hence, collects all kinds of sensory stimuli from different sensory receptors (*mudrikat*) and then conveys them to their relevant centers in the brain (Azmi, 1991, pp. 15-30; Chugmini, 2004, pp. 19-20, 23). *Quwwat-e-Mudrika* is of two types, viz. *Quwae mudarikah zahira* (the external perceptive faculty) and *Quwae mudarikah batina* (the internal perceptive faculty). Both of these faculties are further divided into five subtypes as mentioned in the table below (Avicenna, 1993, pp.176-182, 379-382; Baghdadi, 2004, pp. 75-76; Chandpuri, 1998, p. 15; Azmi, 1991, pp. 15-30; Chugmini, 2004, pp. 19-20, 23; Ahmed, 2009, pp. 20-45). (Table 1)

Pain is an unpleasant sensory or emotional experience, which is the polar opposite of happiness or pleasure. Moreover, human conduct is indeed driven by one of two fundamental motivations: avoiding pain or pursuing pleasure. *Lazzat* (pleasure) is an abrupt/sudden feeling that is favourable to *tabiat* (physis/nature). On the contrary, *waja* (pain) is an abrupt/sudden sensation or feeling that is unfavourable to *tabiat* (Jurjani, 2010, pp. 36-54). The 'condition' of suddenness is mandatory in the feeling of pain and pleasure because the body does not notice any gradual change in the body. In other words, the body becomes habitual to the changes occurring slowly (Avicenna, 1993, pp.176-182, 379-382), (Baghdadi, 2004, pp. 75-76).

Table 1: *Quwwat-e-Mudrika* (perceptive/cognitive faculties)

S. No.	Subtypes of <i>Quwwat-e-Mudrikah</i> (perceptive/cognitive faculties)	
	Quwā Mudrika zahira (external perceptive faculty)	Quwā Mudrika batina (internal perceptive faculty)
1.	<i>Q Bāṣira</i> (faculty of vision)	<i>Ḥiss Mushtarak</i> (integrative sense)
2.	<i>Q Sāmi'a</i> (faculty of hearing)	<i>Q Mutakhayyala</i> (faculty of imagination)
3.	<i>Q Shāmma</i> (faculty of smell)	<i>Q Mutaṣarrifa</i> (faculty of justification)
4.	<i>Q Dhā'iqa</i> (faculty of taste)	<i>Q Wāhima</i> (faculty of apprehension)
5.	<i>Q Lāmisā</i> (faculty of touch)	<i>Q Ḥafīza</i> (faculty of memory)

4- *Waja* and *Alam*

The terms, "*waja*" and "*alam*" are used for pain in the Unani system of medicine, but their usage is different. Given the application of these words, *Alam* is a broader term as it applies to unfavourable/unpleasant sensations related to any one of the five external sensations except touch e.g. hearing something that is unpleasant to the ear causes *alam* in *quwwat-e-samia*, seeing something that is not pleasant to eyes causes *alam* in *quwwat-e-basira*, etc. However, the term *waja* is strictly applied to unpleasant sensations related to touch only (Avicenna, 1993, pp.176-182, 379-382).

5- Causes of pain

In the USM, there are two causes of pain: "*sue mizaj mukhtalif*" and "*tafarruq e ittisal*".

(a) *Tafarruq-e-ittisal*: In *tafarruq-e-ittisal*, continuity of the organ is disturbed; as a



result, the structure of the organ gets disrupted (Majoosi, 2010, pp. 46-68; Chandpuri, 1998, p. 15)

(b) *Sue mizaj mukhtalif*: It is an abnormal temperament that occurs unawares. It is distinct from the normal temperament of organs that dominates the actual temperament, resulting in (Ahsas e manfi) unpleasant perception, i.e. pain (Chandpuri, 1998, p. 15).

Unlike *sue mizaj mukhtalif*, *sue mizaj mustavi* (the abnormal temperament which is regular and persistent) does not cause pain because it gets so integrated into the tissues that it becomes natural to the person. A condition that is thus of an integral nature is not felt as pain unless it departs from the pre-existing condition (Avicenna, 1993, pp.176-182, 379-382).

Avicenna postulated that any sudden change in the temperament (*Sue mizaj mukhtalif*) or/and breach in continuity (*tafarruq-e-ittehal*) affects the physical condition of any organ, leading to pain. The Majority of the ancient Unani physicians testifies to his view. However, according to Galenic theory, the chief cause of pain is a breach in continuity only, which interferes with the nature of organs (Avicenna, 1993, pp.176-182, 379-382; Nafis, 1954, pp. 23-45; Rushd, 1987, pp. 56-64).

According to the philosophy of Unani System of Medicine, there are four basic qualities (kaifiyat arba) which are named: hararat (hotness), burudat (coldness), rutubat (moistness) and yabusat (dryness) (Avicenna, 2006, p. 99). Imbalances of hotness and coldness are direct stimuli of pain, whereas dryness acts indirectly, moistness never acts directly. The reason is that the former qualities (hotness and coldness) are active while the latter (dryness and moistness) are passive. Abnormal hararat (hotness) results in tafreeque (differentiation/dispersion) in the structures of an organ. Alongside, hotness produces congestion and causes tension that increases the pain, as well. Abnormal burudat (coldness), however, results in constriction in the organ or part of the organ at the site of burudat and causes differentiation in surrounding structures (Baghdadi, 2004, pp. 75-76). Therefore, the coldness produces pain not only over the part to which it is applied but also in the adjoining area that becomes shrunken and retracted. In other words, pain is felt everywhere but the loss of continuity occurred only in the area near the one to which the coldness had been actually applied. Dryness produces pain indirectly by causing loss of continuity by constricting thus being unable to influence other objects except by making them more or less responsive (Baghdadi, 2004, pp. 75-76).

Briefly, according to Galen (Jalinus), *tafarruq-e-ittehal*, i.e. breach in the continuity of tissues or organs is the dogmatic cause of pain, whereas according to Avicenna (Ibn Sina), pain is caused by *sue mizaj mukhtalif* and *tafarruq-e-ittehal* both (Avicenna, 1993, pp.176-182, 379-382).

6- Effects of pain

Any unnatural situation or injury can be a cause of pain. Initially, hotness or warmth begins to happen in the affected organ due to an increase in the supply of blood and *rooh/ pneuma*. Congestion can also occur. However, because of the pain, the organ gradually turns cold due to the dissolution of the *rooh* and *hararat gharīzyya*. Pain, by any cause and in any part of the body, results in *tahleel-e-quwa* (weakness of faculty) and the dissolution of *tahleel jauhar-e-rooh* (essence of pneuma). Then, organs fail to perform their functions, and the body gets disturbed. Therefore, they fail to work normally (Avicenna,



1993, pp.176-182, 379-382; Baghdadi, 2004, pp. 75-76; Nafis, 1954, pp. 23-45).

7- Types of pains

Types of pain can be diagnosed by its onset, location, severity, aggravating and relieving factors, transformation, tenderness, and guarding, and its classification depends on nature, site, duration, progress, aggravating and relieving factors. Ibn Sin has found 15 types of pain. (Avicenna, 1993, pp.176-182, 379-382; Baghdadi, 2004, p. 75-76). He elaborated on previously described types of pain by Galenus (Baghdadi, 2004, p. 75-76; Avicenna, 2006, p. 99). Some of these terms are remarkably similar to those used in McGill Questionnaire (Avicenna, 1993, pp.176-182, 379-382; Tashani, and Johnson, 2010, pp. 1-4). Different types of pain according to the USM, their conventional terms, causes, and diseases in which these types of pain can be seen, as illustrated in Table 2 below:

Table 2: Types of pain

S. No	Type of pain (Acc. to Galen and Avicenna)	Equivalent Conventional/modern term (Acc. to McGill Questionnaire)	Causes according to Unani	Characteristics	Diseases/Condition
1	<i>Waja' Hakkak</i>	Pruritic pain	Salty and pungent humour	Pain with itchy sensation	Skin diseases
2	<i>Waja' Nakhis</i>	Pricking pain	The morbid matter that is capable of producing distension and hardness in the organs.	Pain with pricking sensation	Inflamed membranes (Pleurisy)
3	<i>Waja' Khadri</i>	Neuropathic pain	Obstruction in the pathway of nerves due to coldness and congestion leads to heaviness.	Pain with paraesthesia	Compression of nerves
4	<i>Waja' Misalli</i>	Stabbing pain	Accumulation of morbid matter within the parenchyma of the organ.	A type of piercing colicky pain, typically felt that site is being pierced by gimlet	Diseases of colon
5	<i>Waja' Saquib</i>	Perforation pain	Stretching of layers of the organs is caused by the accumulation of viscous humour or pneuma.	a type of piercing visceral/colicky pain, typically felt that the gimlet has been pierced at the site	Diseases of colon
6	<i>Waja' Mu-maddid</i>	Distension pain	Collection of Morbid matter or riyah/pneuma in the hollow organ.	Pain accompanied with feeling of distension. Distension pain due to morbid matter is associated with heaviness whereas pain due to pneuma is associated with lightness	Stomach flatus
7	<i>Waja' Zarbani</i>	Throbbing pain	Due to the pulsation of an artery present next to the inflamed organ.	A pain with the feeling of pulsation	Acute inflammation of sensitive organ, Migraine
8	<i>Waja' Laazeh</i>	Irritant pain	Morbid matter of irritant nature.	A type of pain with irritation	Heart burn



9	<i>Waja' Zaghit</i>	Compression pain	The pressure exerted by accumulated humour or pneuma.	Pain with feeling of pressure or compression on organ	cardiac pain
10	<i>Waja' Khashin</i>	Rough / Coarse pain	Viscid humour	A coarse type of pain	Psoriasis
11	<i>Waja' Rakhu</i>	Dull ache	Accumulation of humour in the muscular part	A type of low intensity pain which occurs only in muscles	Pain in soft tissue of muscle
12	<i>Waja' Ayayi</i>	Fatigue pain	Exertion or stretching by morbid matter or riyah	Pain caused by fatigue with perception of absurdity in the body	Generalized Body ache
13	<i>Waja' Saqeel</i>	Heavy pain	Inflammation in insensitive organ	A type of heavy pain pertaining to less sensitive /viscera	Visceral pain e.g. Hepatic and splenic pain
14	<i>Waja' Mufas-sikh</i>	Incisive pain	Morbid matter which creates disruption and differentiation in components of muscle fibers making them distended.	A type of excruciating Muscular pain caused by the accumulation of humours in the muscle fibres making them distended produces the feeling of incisive pain.	Muscular pain
15	<i>Waja' Mukas-sir</i>	Bony pain	Accumulated gaseous /morbid matter between bone and periosteum	A type of breaking or smashing bony pain	Fractures

8- Characteristics of pain (Socrates)

The types of pain described by Unani physicians show the site, character, and nature of pain. Similarly, various characteristics of pain, like Site, Onset, Character, Radiation, Associated symptoms, Timing (duration, course, and pattern), Exacerbating and relieving factors, and Severity (SOCRATES) are described in modern medicine. They play an important role in the identification of pain. The speed of onset and any associated circumstances also gives an important clue. The character of pain is described by adjectives like sharp/dull, burning/tingling, boring/stabbing, and crushing/tugging. It is recognised ideally using the patient's own description. Pain sometimes radiates through local extension and at times referred by a shared neuronal pathway to a distant unaffected site, e.g. diaphragmatic pain at the shoulder tip via the phrenic nerve (C3, C4). Symptoms, such as visual aura, numbness, and a burning sensation, are repeatedly associated with pain. Visual aura accompanies migraine with aura, numbness in the leg with back pain suggesting nerve root irritation. Depending on the duration or pattern, pain can be either temporary or continuous. Exacerbating and relieving factors influence the intensity of pain. Eating aggravates the pain of gastric ulcers, but relieves the pain of duodenal ulcers. The severity of pain sometimes helps to compare different types of common pains (Kasper, et al., 2015, pp. 450-460).

Methodology

Classical Unani literature was thoroughly sought out for the role of pain (*alam / waja*) in the determination of different personality traits. In this regard, books like *Al-Qānūn fi'l Tibb*, *Zakhira Khwarizam Shahi*, *Kamil-us-Sana*, and many others were of immense help. Standard modern books were also considered to understand the basis of the mechanism of pain. Online search was also carried out under the relevant theme to add on to the data



with particular emphasis on the work conducted from the ancient to the modern era.

Discussion and Conclusion

The endeavour to apprehend pain has been one of the oldest challenges in the history of medicine. It is well known that pain, as a symptom, plays a valuable role in medicine. Therefore, pain acts as a valuable and significant tool. An important concept regarding the identification of pain, Unani physicians, like Galen and Avicenna, give its causes, and its types. As far as the definition of pain is concerned, the recognition of pain as a disease remains debated. In addition, the pain can be described as an unpleasant sensory or emotional experience. It is the opposite of joy/ pleasure. Likewise, a key step forward in the scientific characterization of pain and the description of its neurophysiological aspects is taken with Sherrington's definition of the phenomenon. In modern medicine, causes and mechanism of pain is described by the centre for pain sensation, pathways of pain sensation, pain receptors, and stimulation that causes pain [may be mechanical, thermal (*tafarruq-e-ittehal*), and chemicals released in tissue injury e.g. Bradykinin, Serotonin, Histamine, Potassium ions, Acetylcholine and Proteolytic enzymes (morbid matter)]. Almost similar causes have been described in the USM, but the way of explanation is different. For instance, if in the USM, madda is involved in *sue mizaj maddi*, this madda may be a chemical mediator described above. As far as types of pain are concerned, a commonest term used is somatic pain. There are two types of somatic pain, one is superficial felt over the skin and another one is deep pain, which may arise from muscle, bone and ligament. *Waja` Hakak* (pruritic pain) is an example of superficial somatic pain while *Waja` Mufassikh* (muscular pain) and *Waja` Rakho* (dull pain) are of deep somatic pains. Moreover, some other terms are also defined as muscle ache and soft tissue pain in modern medicine. Muscle ache includes the pain of ligament, tendon and fascia and soft tissue pain comprises the pain of bursitis, tendinitis. (Dallenbach, 1939, pp.331-347; Drake and Hutchison, 2018, pp. 12-13; Guyton and Hall, 2005, pp. 558-559). In the classical Unani literature, *Waja` Mufassikh* and *Waja` Rakhu* both are related to muscular pain which are similar to the above-mentioned types of pain. Added to this, *Wajae Saqib* and *Wajae Missali* belong to modern types of the visceral pain which arises from viscera (Kasper, et al., 2015, pp. 450-460). Neuropathic pain corresponds to *Waja` Asabi* or *Khadri* (Cassar, 2004, pp. 62-63, 73-91; Colledge, Walker and Ralston, 2010, pp. 280-283). It is due to the disturbed pain perception system within the peripheral or central nervous system and associated with paraesthesia. However, based on the duration of pain, different types of pain are presently classified as chronic pain, and acute pain. Accordingly, different characteristics of pain are described as SOCRATES, viz. site, onset, character, radiation, associated symptoms, timing, exacerbating and relieving factors and severity. Similar description regarding characteristics of pain has been described in classical Unani literature as well (Kasper, et al., 2015, pp. 450-460).

This study provides an overview of the various conceptualizations of pain as a disease since its pioneering development, as well as Unani physicians, work to track the history of the ideas and their interpretation. Attempts have been made to create breeding grounds to reflect the concept of pain as a disease and to inspire the identification of a new meaningful definition for this complex condition.



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Conflict of Interest

None.

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