

Ibn Sina's Outlook of Characteristics of *Nabd* (Pulse)- A Review

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ABSTRACT

Pulsology is not a recent study but started in late BC or early AD century and is being still used in some traditional medicine systems like Unani, Ayurveda and Chinese medicine etc. In tenth century AD, Ibn Sina was the most popular philosopher and physician who explained cardiology. He explained the pulse and its related all aspects like physiology, anatomy and alterations in pulse according to pathology. He had also explicated the knowledge about the characteristics of pulse in different views. At the present time some pulse characters have been studied; but regrettably many of the pulse related facts have not yet been observed.

In this review paper, it was tried to collect the knowledge of Ibn Sina about pulse and its characteristics. This paper will be helpful to generalize the concept of pulse to better understanding.

Key words: pulse; unani medicine; characteristics; power.

INTRODUCTION

In Unani system of medicine the human pulse or *Nabd* is a movement of the heart and arteries which takes the form of alternate expansion and contraction, the breath becomes subjected to the manipulation of the inspired air. Each pulse consists of two movements and two pauses. Because each beat is composed of one expansion and one contraction then it is necessary that after expansion, pause must be there same as after contraction another pause must be occurred. [1-5] Why the feeling of pulse at the wrist is recommended? Because (i) it is voluntarily available due to little flesh over wrist (ii) the patient is not troubled by exposing this part. In Unani system of medicine, this concept of pulse is used as a tool to know the body conditions and disease pattern. [5]

Ibn Sina (980-1037) was the prince of physicians in the Western world. His most famed book *Al-Qanun fi'l tibb* was the

final medical knowledge in Europe for several centuries. [6,7]

He has compiled the scattered material about pulse and its characteristics. *Ibn Sina* has described characteristics of pulse according to sex, age, situations, seasons, diseases etc.

THE PULSE ACCORDING TO AGE AND SEX

The man is having larger and much stronger pulse because their *Quwa* (power) and requirement are obviously more, that is why their need is accomplished by the largeness, but their pulse is mostly slower and more infrequent than that of women. Because large pulse supplies nutriment to the organs properly so there is no need to pulse becomes fast. [5,8]

CHARACTERISTICS OF PULSE OF CHILDREN

The pulse in children is softer, weaker and more frequent because of

moisture. It is because in children heat is strong but the vital power is weak for growth has not yet become in complete condition. In consideration of the size of their bodies, children have however, a large pulse. This is because their arteries are very soft and their need is more and their power, in relation to the size of their bodies, is not weak, as their bodies are small in size. But child pulse is not large in comparison with that of the adults. In children the pulse is faster and moves frequently because of the need. [5,8,9]

PULSE IN ADULTS

In mature person the pulse is large but not very speedy; rather it is very deficient in swiftness and frequency and is tending towards irregularity. Pulse is large during the starting of youth age, and stronger in the middle of youth. The main factor which makes the pulse large is *Quwwat-e-haiwaniyah* (vital power); the need gives it the direction and the artery is a contributory factor.

The pulse of the elderly person is smaller due to weakness and due to reduced need; it is slower. In advanced years of life, the pulse becomes smaller, irregular and slower.

PULSE OF DIFFERENT MIZAJ (TEMPERAMENT)

Person of hot temperament is having greater need of pulsation. If the power and *Shiryan* (artery) are favourable, the pulse is large. But if any one of these is adverse, it works in the manner already described. If the heat is not the result of disturbance in temperament, but is natural, the temperament is powerful and healthy and the vital power is very strong. In a cold temperament the pulse shows a tendency towards deficiency, for example it becomes smaller, slower and irregular particularly more marked. In moist temperament person the pulse is wavy and wide but in dry temperament the pulse is narrow and hard. [5,8]

PULSE ACCORDING TO SEASON

In summer season, the pulse will be quick and frequent due to more need. Since the high atmospheric heat disperses the power through the dispersal of *Ruh* (pneuma), the pulse becomes small and weak. But in winter, the pulse becomes more infrequent, slower and weak. At the same time it is also small because power is lessened. During spring season the pulse is equable in all features except that it is more powerful. In autumn season, the pulse becomes unequal and inclined to weakness. The inequality is as a result of sudden change in weather, sometime manifesting hot and some time cold. [5,8,9]

PULSE IN DIFFERENT GEOGRAPHICAL AREAS

Different countries are having their own temperament or weather like some are hot, cold, and some are dry and autumnal so their pulses will be according to weather of country.

PULSE ACCORDING TO FOODS AND DRINKS TAKEN

Foods and drinks change the characteristics of pulse according to their quality and quantity. Their action by their quality means when they have excessive heating or cooling property, they alter the pulse accordingly. Their action by their quantity means that if they are moderate in quantity, the pulse become larger, quicker and more frequent due to increase in power and heat. This effect persists for a considerable length of time. If the aliment is in great quantity the pulse become unequal and irregular because the burden of food overcomes the power.

PULSE DURING SLEEP AND WAKEFULNESS

Pulse during sleep varies according to the stages of sleep and the state of digestion. At the beginning of sleep, the pulse is small and weak because the *Hararat-e-ghariziyya* (innate heat) then shrinks and moves inwards instead of

expanding and moving to the surface. When digestion is complete during sleep, the pulse regains its strength. If the sleep continues the pulse again becomes weak because the innate heat is suppressed by extra fluids which are to be eliminated through different kinds of depletion only in waking state.

When a sleeping person awakes in his natural way, the pulse slowly becomes large and rapid and returns to its natural state. But, when someone suddenly wakes due to an unexpected event; the pulse stop for a while because the energy is overthrown by the accidental cause. The pulse becomes large, rapid, frequent and unequal tending to be unsteady. [5,8,9,10]

PULSE DURING EXERCISE

By the starting of *Riyazat* (exercise), as long as it is moderate, the pulse becomes large and strong. This is because the innate heat increases and makes the *Nabz* (pulse) strong. The pulse also becomes very quick and frequent due to extreme need necessitated by the movement. If the exercise is continued for a long times or it becomes very intense even for a short time the pulse loses the profit of strength and becomes weak and small due to dispersion of innate heat towards body surface. Finally if the exercise continues and strains, the pulse becomes ant like due to weakness and more frequency. [9,11]

EFFECTS OF BATH ON PULSE

Bathing with hot water has, in the beginning, the same effect as that of energy and requirement. When the bath has brought about a great dispersal of energy, the pulse becomes weak and according to Galen the pulse is small, slow and infrequent. Hot water bath affects the pulse in two ways one if the cod reaches the interior part of the body then the pulse becomes weak, small, infrequent and slow. Second if it does not do so but aggregates the innate heat, the power increases and thus the pulse become somewhat large but quickness and frequency are decreased.

PREGNANT WOMEN PULSE CHARACTERISTICS

In pregnant women the need of blood circulation becomes intense and more because the foetus in the uterus also shares in the inhaled air. The pulse in pregnant women is governed by the rule of the pulse in moderate energy and greater need therefore it becomes large, rapid and frequent. [5,8,11]

CHARACTERISTICS OF PULSE DURING PAIN

Alteration of pulse in pain depends upon intensity of pain, its occurrence and duration. At starting pain stimulates energy and thus activates it for defensive and expulsive action. It also alters the innate heat of the body. Hence the pulse becomes large, swift and very infrequent. If the pain increases more and more, it makes the pulse infrequent and finally leads to death.

PULSE IN DIFFERENT AWRAM (SWELLINGS)

If the swelling is hot that is *Waram har*, the pulse becomes serrated, jerky, tremulous, quick and frequent, provided there is no moistening factor to interfere otherwise the pulse would lose its serrate character and would become wavy while remaining constantly jerky, tremulous, quick and frequent. A soft swelling makes the pulse wavy, but if it is very cold, it makes the pulse slow and infrequent. A hard swelling makes the pulse more serrate. When abscess appears, serration is lost and pulse becomes wavy due to the moistening and the subsequent softening. [5,8,9,10]

EFFECTS OF INFALAT-E-NAFSANIYA (PSYCHIC REACTIONS) ON PULSE

During anger, the vital power becomes altered causes to pneuma to expand all of sudden in the body, which makes the pulse large, very high, speedy and frequent. But if it is mixed with fear in this case anger would overcome at one time and fear at another. In joy the pulse is large with softness and is inclined to become

somewhat slower and infrequent. In grief the innate heat is choked and diverted inwards, the vita power is weakened and the pulse becomes small, weak, infrequent and slow. If there is sudden fear it makes the pulse quick, jerky, unequal and irregular. If the fear is prolonged or it sets gradually, it alters the pulse in the same way as grief alters. [5,8]

Other than general characteristics of pulse, Ibn Sina described some specific pulses of specific diseases as follows-

Diseases	Characteristics of pulse	Reference
Pneumonia	Weak, swift, soft and wavy	[8-10]
Endocarditis	Small, fast, infrequent	[8,9]
<i>Haiza</i> (Cholera)	Weak, irregular	[8,9]
<i>Istisqa</i> (Ascitis)	Small, weak and regular	[8-10]
Urinary bladder inflammation	Weak	[8,9]
Sarsam haar	big, rapid, regular	[8,9]
<i>Falij</i> (Paralysis)	Infrequent, slow	[8,9]
Facial palsy	Hard	[8,9]
Typhoid	Fast, soft, full,	[8,9]
<i>Juzam</i> (Leprosy)	Small, weak and regular	[8-10]
<i>Bars</i> (Leukoderma)	Slow, soft and wider	[8,9]
Measles	Rapid	[8,9]
Anaemia	Fast and regular	[8]

CONCLUSION

With above review, anyone can reach to the conclusion that Ibn Sina has described exactly the characteristics of pulse according to situation, age, sex, diseases etc. He has gone through the every situation and characteristics of pulse to apply its benefits. Ibn Sina had thorough knowledge about pulse at that time then there was no instrument to check the characteristics of different pulses.

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