

# Physiological Impacts of Sleep on the Body by Avicenna: A Review

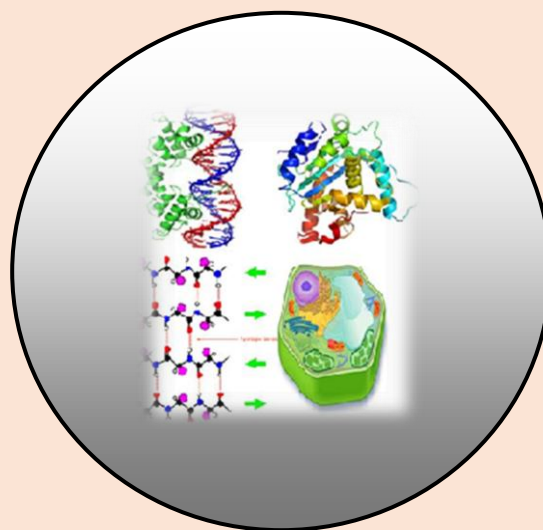
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REVIEW PAPER

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## **Physiological Impacts of Sleep on the Body by Avicenna: A Review Saba Zaidi**

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### **ABSTRACT**

*Sleep is necessary for everyone, although its biological function is unknown. Without sleep, our lives would be incomplete. We spend about a third of our life working on it. Getting the right kind and amount of sleep at the right time is just as crucial to survival as food and drink. Without sleep, it is impossible to create or maintain the neuronal pathways in the brain that support learning and memory development, which makes work harder, to be alert and prompt in action. The Unani medicine states that Asbab e sittah zarooriyah are the six essentials of life. Any divergence in Asbab e sittah zarooriyah from the usual or a disorder in regulating these components could cause diseases. The fifth and most important of these six factors are Naum wa yaqza (Sleep and wakefulness). Ancient Unani scholars, primarily Avicenna exhaustively discussed the relationship between sleep and numerous physical and mental health elements and the body's metabolism, digestion, immunity, and general well-being. There is also historical Unani literature outlining the advantages of getting enough sleep and the traits of sound sleep. Nearly every type of human tissue and function, including the brain, heart, and lungs, as well as the metabolism, immune system, mood, and disease resistance, are impacted by sleep.*

**Keywords:** Sleep, Asbab e sittah zarooriyah, Naum wa yaqza and Unani Medicine.

### **INTRODUCTION**

Sleep is necessary for maintaining pneuma and vitality and replacing wear and tear (Badal ma Yatahallal), whereas wakefulness is vital for voluntary functions. Higher sleeplessness leads to more heat and dryness, whereas more sleep enhances coolness and moisture. Sleep aids digestion in the same way as being awake aids voluntary processes, namely cerebral functions. Therefore, rest is crucial for the digestion of hot food.

Ancient Unani Scholars described very elaborately the sleep with various aspects like:

- ☐ Its effects on general, physical and mental health.
- ☐ Effect of improper sleep on body metabolism.
- ☐ Its role in human well-being
- ☐ Characteristics of normal sleep (Fatima and Anjum, 2020).

One of the most outstanding names in Arabic medical annals is that of Ibn Sina (980-1037), Avicenna, called by the Arabs Al-Shaykh al-Ra'is (The Main Sheykh) and Al-Mu'allim al-Thani (The Second Teacher, after Aristotle). Abu Ali Al-Husayn Ibn Abd Allah Ibn Sina was the son of an Isma'ili named Abdullah. Born near Bukhara, he spent his life in the eastern part of the Muslim world and was buried in Hamadan, where his grave is still shown and very visited (Arvide Cambra).

According to Avicenna Repose always has

- (a) A cooling effect because (i) the enervating life-giving heat passes away, and (n) the innate heat is confined.
- (b) A choking and moistening effect because of the lack of dispersal of waste matters.

### **Physiological effects of sleep**

The effect of sleep is very similar to that produced by repose.

Sleep **(1)** strengthens all natural junctions (digestion of the food and elaborating the digestive products into good blood) by aggregating the interior heat and relaxing the sensitive faculties. (These are in abeyance, in sleep). It does so because it renders the channels of the (mind-) breath moist and relaxed.

**(2)** It makes the substance of the breath turbid and prevents the exit of the vital breath (so that the essential heat accumulates in the interior parts).

**(3)** Sleep removes all types of lassitude and –restrains intense evacuations. If followed by appropriate exercise (gymnastics), the power of running increases unless (effete) matters accumulate, which only the skin can remove.

**(4)** Sleep sometimes helps to expel these effete matters, in that it imprisons the interior heat and procures the dissemination of the nutrients throughout the body, and the expulsion of the degenerate issues which are under the skin, as well as of those which are deep in the interior parts of the body. These innermost matters push on those in front of them in successive waves until they finally reach the subcutaneous tissues and are discharged from the skin. The same action achieves wakefulness to a greater degree, but in this case, the decayed matter is removed by dissipation, whereas sleep removes it by inducing sweating.

**(5)** Sleep induces sweating. It does this by overcoming the effete matter, not by continuous dispersal of attenuated matter. When a person sweats heavily during sleep, without an apparent cause, nutrients accumulate more than the physical requirements. When sleep encounters matter adapted for digestion and maturation, it turns it into the nature of blood and warms it, and in consequence, innate heat is engendered, and travels through and warms the whole body.

**(6)** If there is hot bilious humour, and the period of sleep is prolonged, the body grows warm by extraneous heat.

(7) If the stomach is empty at the time of sleep, it will exert a cooling effect in dispersing the heat. If humour is not amenable to the digestive power at the time of rest, sleep will exert a cooling influence because that to which this humour gives rise.

(8) Among the sound effects of sleep are forgetfulness of mental sufferings, rectifying the distracting powers of reason, and relaxation of contracted tissues.

Factors associated during the time of Sleep	Effect on the body
Profuse sweating. Gastric contents are digestible.  Hot bilious humour. Empty stomach (fasting) Indigestible humour.	Accumulation of nutrients. Completion of digestion, blood formation and formation of innate heat. Formation of extraneous heat. Cooled; heat disperses. Cooled; expansion of heat.

On the other hand, an excessive degree of sleep exerts an opposite effect, for it dulls the powers of the mind and induces heaviness of the head and a cold dystemperament.

### Best time for sleep

The best time for sleep is after a meal; it should end when the food digests (shown by percussion over the stomach), after which the bowels should be empty. The best time for sleep during the 24 hours is the night because the humidity and drowsy stillness of night contribute to perfect digestion.

The worst time is the daytime because, in that case, one does not sleep long enough to enable the digestion of the food to be completed. The result is acidity, flatulence, and gurgling in the bowels.

### Physiological effects of the waking state

The waking state acts in a contrary way in all these respects of sleep.

- (1) disperses the matter and so increases the appetite and sense of hunger;
- (2) disperses the digestive power and so impairs digestion.
- (3) During the waking state, the body becomes hot exteriorly, cold and dry interiorly (Joannitius).

Suppose wakening occurs to an excessive degree, the temperament of the brain changes to a certain dryness, with weakening and confusion of the reasoning power. In that case, oxidative changes in the humour and acute illnesses result.<sup>3</sup>

According to Avicenna Yaqza (Sahar), the state of wakefulness which occur in every animal of higher mental ability occurs due to the movement of *roo'he nafsani'ya'h* towards the *hissi and hirki a'aza* (organ of sensation and organ of motor functions) and make them able to function. He further added that the meaning of *Sahar* is an increase in quantity and quality of awakening and it is caused by *rutubate boroqi* which is the primary cause, for example,

occur in aged person but this condition also occurs in young person caused by stress, pain, illumination, indigestion which create *imte'lae me'da*(stomach heaviness), use of flatulent diet which produces *laze'h* in the brain which creates pain and nightmare (Ibn Sina and Al Qanoon fit Tib).

Insomnia is a state between watchfulness and sleep and is terrible for all bodily states. Undue somnolence entails imprisonment of the innate heat and makes the body cold exteriorly. That is why many blankets are needed to keep the limbs warm during sleep, which is not required in the waking state. The indications furnished by sleepiness, and its various aspects, and forms, will be fully dealt with in subsequent volumes (O. Cameron Gruner, 1929).

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