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An Insight Into Dreams W.S.R. To *Swapna*

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ABSTRACT

Dreams have long fascinated humans, with their mysterious and often illogical narratives leaving us wondering about their purpose and meaning. We initially thought that we were exploring a parallel reality in our dreams. Recent advances in neuroscience and sleep research have shed light on the physiological processes that regulate dreaming. Ayurvedic concept of *Swapna* and psychological theories of dreams are having many similarities. In this article an attempt is made to analyse the physiological, psychological and Ayurvedic concept of dreams.

Key words: Dreams, *Swapna*

INTRODUCTION

Dreams are a natural part of the sleep cycle, offering a window into our subconscious thoughts and emotions. They can be pleasant and surreal or disturbing and confusing. While the meaning of dreams has been debated for centuries, modern research suggests that dreams play a role in processing emotions, memories, and stress[1].

Sleep is a natural periodic state of rest for mind and body with closed eyes characterized by partial or complete loss of consciousness leads to decreased response to external stimuli and decreased body movements. There are two types of sleep Rapid eye movement sleep or REM sleep and non-rapid eye movement sleep, NREM sleep or non-REM sleep. Also, our sleep cycle is having four stages[2]:

1. Stage of Drowsiness
2. Stage of Light Sleep
3. Stage of Medium Sleep
4. Stage of Deep Sleep

Even though dreams are mostly seen during the stage of deep sleep, it can be seen in both NREM as well as REM sleep[3]. Everyone is thought to dream between 3 to 6 times per night. Around 95% of dreams are forgotten by the time a person gets out of bed.

THEORIES RELATED TO DREAMS

1. WISHFULFILMENT THEORY[4]

Sigmund Freud, who is regarded as the founding father of psychotherapy, put out this psychodynamic hypothesis. Freud claimed that dream analysis was "the royal road to the unconscious." According to Freud, dreams serve as hidden symbols of our inner conflicts and desires. It lost its initial appeal since there was insufficient scientific evidence to support it.

2. ACTIVATION-SYNTHESIS THEORY[5]

It is a Neurobiological theory proposed by John Allan Hobson and Robert Mc Carley. According to this theory, dreams do not have a specific meaning or symbolism but rather reflect the brains attempt to make sense of random neural activity. During sleep, the brain's neurons fire randomly, creating a chaotic pattern of activity. The brain synthesizes this activated information into a coherent narrative, resulting in dreams.

3.THREAT SIMULATION THEORY[6]

It is a hypothesis put out by Antti Revonsuo. According to him, dreams are a defence mechanism that humans have acquired over time. According to this theory, we practice dangerous scenarios in our dreams to make ourselves more capable of handling risk when it arises in the real world.

4. DEFENCE ACTIVATION THEORY[7]

Don A. Vaughn and David M. Eagleman are the authors of this idea. According to this theory, dreams are only visual hallucinations that protect the brain by preventing excessive neuroplasticity. They believe that dreams serve only to confirm the activity of our visual cortex. To stop the brain from invading the visual system with neuroplastic changes, the occipital cortex stays active during the night. This idea suggests that the function of REM sleep is to keep the visual cortex from being taken over by neighbouring cortical areas.

5.MEMORY CONSOLIDATION THEORY[8]

Sleep helps to improve memories since it allows the memories to be replayed through dreams. Studies have often connected PGO (Ponto-geniculate-occipital) waves during REM sleep in rodents to memory consolidation. The memory process is directly correlated with the density of PGO wave activity.

TYPES OF DREAMS

LUCID DREAMS

Although Frederik Willem Van Eeden is credited with coining the term "lucid dreaming,". Tibetan Buddhists, Sufism, and Indian yoga have also employed it. It is a type of dream in which dreamer becomes aware that they are dreaming[9]. A new kind of psychotherapy called Lucid Dreaming Therapy (LDT) is used to alleviate nightmares. It will improve creativity, ease anxiety, lessen symptoms of post-traumatic stress disorder, and so forth. However, it also lowers the quality of sleep and may cause confusion between reality and dreams.

FALSE AWAKENINGS

A false awakening occurs when a person thinks they have woken up from a dream but is still dreaming. It is a hybrid state that overlaps with wakefulness and sleep[10].

PREMONITION DREAMS

These are the dreams that appear to foretell events. Another name for it is clairvoyant dreams[11]. Premonition dreams are not shown to be real or capable of foretelling the future by science.

NIGHTMARES

A nightmare is a distressing dream related to unpleasant sentiments. Practically all children have nightmares at some stage; almost all outgrow it. The peak incidence occurs between 3-6 years of age. Nightmares occur exclusively during REM sleep. They are especially common during the preschool and early school ages. In children it occurs mainly due to familial predisposition or psychological stress. Even though it is not common in adults, it can occur as a result of stress, post-traumatic stress disorder, anxiety etc. Sporadic nightmares require reassurance only, while frequent nightmares indicate a comprehensive psychological evaluation[12].

RECURRING DREAMS[13]

It is a dream which is experienced repeatedly over a long period. It could be an indication of worry, tension, etc. Addressing these underlying concerns through therapy or self-reflection can help to minimize the frequency of such dreams.

PRODROMAL DREAMS[14]

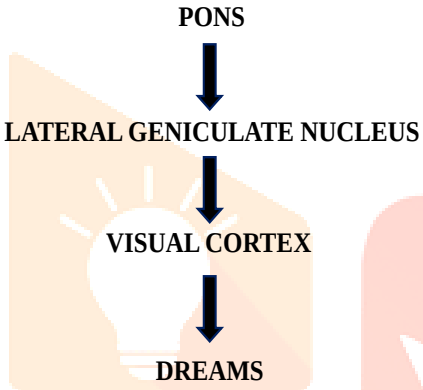
These dreams serve as early warning signs of an illness before any symptoms show up. Dr. Bernie Siegel, a renowned surgeon and author, has extensively explored the connection between the mind and body, particularly the role of imagery, dreams, and consciousness in healing. In his work, Siegel highlights the concept of prodromal dreams, which he describes as dreams that can predict or signal the onset of illness before clinical symptoms manifest. He advocates for the interpretation of dreams as part of a holistic approach to health and wellness. He emphasizes the symbolic nature of dreams, where recurring themes or vivid images may point to specific health concerns.

NEURAL MECHANISM IN DREAMING[15]

Human brain is similar to a cat's brain. Neuroscientist Michel Jouvet sliced through cat's brain deeper and deeper to find out at what point the cat stop displaying REM sleep. When he made cut at the level of pons, the REM sleep stopped. Later Hobson et.al assumed that whatever happening during dreams is happening at the level of pons.

A. ACTIVATION-SYTHESIS MECHANISM

Activation and synthesis are the two phases of the dream process. The lateral geniculate nucleus and visual cortex in particular are stimulated by neuronal activity in the pons during REM sleep, which produces information in the brain.



Without external stimuli, internally generated inputs randomly trigger sensorimotor information, and dreams are the resultant passive synthesis of this information. PGO waves are inputs that are generated internally.

B. PONTO-GENICULATE-OCCIPITAL WAVES

Pons (P) is the starting point of PGO waves, which then go to the occipital cortex (O) and geniculate nucleus (G). It occurs right before the start of REM sleep and last the whole time. Dreams may result from the brain interpreting the PGO waves dedicated visual route as visual information. PGO waves can also be detected in the limbic system, which includes the hippocampus and amygdala, as well as the thalamus and other areas of the cerebral cortex.

C. DOPAMINERGIC MECHANISM

This forebrain system can be activated by a various factor, including the brainstem, which regulates REM sleep. Dream creation involves the mesocortical-mesolimbic-dopamine pathway. Studies shows that patients stopped dreaming after undergoing prefrontal lobotomy, a procedure used to treat psychosis and manage delusions and hallucinations. It appeared unsuccessful if the patient continued to dream following the procedure. Dreams are absent because of the disruption of the dopaminergic pathway. A pharmacological manipulation of this route will result in a higher frequency of emotional dreams for the individual.

Antipsychotics that disrupt this route cause dreams to be shorter and less intense. Thus, this might be the dream-generating circuit.

PARTS OF BRAIN ACTIVE DURING DREAMING[16]

Table No. 1: Showing the parts of brain active/inactive during dreaming

ACTIVE	INACTIVE/LESS ACTIVE
• Midbrain & Pons	• Dorsolateral prefrontal cortex
• Thalamus	• Posterior cingulate
• Hypothalamus	• Precuneus
• Amygdala	• Motor cortex
• Hippocampus	• Somatosensory cortex
• Insula	• Parietal cortex
• Anterior Cingulate	• Primary visual cortex
• Basal Ganglia	
• Medial Prefrontal Cortex	
• Orbitofrontal Ventral- Medial Caudal	
• Septal Nuclei	
• Visual Association Cortex	
• Tempo -Parietal and TP Junction	
• Right Inferior Parietal Cortex	
• Cerebellum	
• Temporal: Rt Pole & Superior sulcus	

DISCUSSION

- **CONCEPT OF *SWAPNA***

Swapna is one among the various concepts explained in Indian classics. From *Vedas*, *Darshanas*, *Puranas* to our Ayurvedic literatures explanation of *Swapna* is abundantly available. In *Ayurveda*, *Acharyas* have explained both its physiological and pathological effects. When all the *Doshas* or one *Dosha* gets obstructed in *Manovaha Srotas*, there will be loss of *Indriya Artha Sannikarsha* that in turn cause *Swapna*[17]. It was mainly used as a parameter for assessing the prognosis of the disease in the form of *Arista Lakshanas.*

According to *Mandukya Upanishad*, *Swapna* is one of the four states of consciousness, representing the dream state where the mind creates its own reality based on impressions from the waking state.

- **SIMILARITIES BETWEEN FREUDIAN THEORY AND THE CONCEPT OF *SWAPNA***

Both the Freudian theory of dreams and the Ayurvedic concept of *Swapna* share a psychological and symbolic approach to understanding the connection between the mind, body, and subconscious. In *Ayurveda* based on the source and content, dreams are classified into seven types viz. *Drishta*, *Shruta, Anubhuta*, *Prarthita*, *Kalpita*, *Bhavika*, *Doshaja*[18]. This classification suggests that the content of the dream is influenced by our experiences, memories, thoughts etc. In *Darshanas* also it has been mentioned that wishes in the mind of a person is expressed as *Swapna*.

Sigmund Freud believed that we dream what we desire. He emphasized that dreams use symbolic language to mask the true content of the unconscious mind. Symbols in dreams require interpretation to uncover hidden meanings. In Ayurvedic concept also dreams are often symbolic and metaphorical, representing the state of ones physical, emotional and spiritual health. For instance, if a person dreams about drinking wine in the company of ghosts or gets dragged by dogs in dream, it is interpreted that he gets afflicted with serious type of fever leading to his death[19].

Freud used dreams as a tool for psychoanalysis, helping to understand a person's unconscious motives, fears, and conflicts. Dreams are considered diagnostic as well as prognostic tool in *Ayurveda*, revealing imbalances in *Doshas* or early signs of illness. Certain recurring dreams may signal the onset of disease or emotional distress.

- **PRODROMAL DREAMS AND *ARISTA LAKSHANAS***

Dr. Bernie Siegel suggests that prodromal dreams reflect the body's intuitive awareness of disease, often surfacing before conscious recognition. The subconscious mind communicates subtle changes in the body through dreams, allowing individuals to address health issues proactively. For instance, a person might dream of a dark cloud over their chest, which could indicate an impending lung condition. He believes that understanding and acting on the messages within dreams can aid in early diagnosis and emotional healing, complementing medical treatments[20].

Acharya Charaka has explained in the chapter *Poorvaroopiyam Indriyam* about the *Poorvaroopas* that manifests through the *Swapna*. For example, if a person in his dreams wears red garlands and apparel with his entire body looking red, laughs frequently and is dragged by a woman, he falls a victim to *Raktapitta* leading to his death[21], if in a dream one has the growth of spiky creeper on his chest, he falls a victim to fatal type of *Gulma*[22]. Like these, many examples are explained in our classics. By analysing the *Lakshanas* in dreams, practitioners can predict the progression of disease and adjust the treatment plans accordingly.

- **DREAMS AND MENTAL HEALTH**

Dreams can indeed offer valuable insights into our mental health and wellbeing. Exploring dreams can serve as a tool for self-reflection, helping us better understand our thoughts, emotions, and behaviors. The psychoanalytic theory of dreams states that a dream is the result of interaction between the subconscious mind and the consciousness system accompanied by the transfer of psychological energy. Types of dreams like nightmares, recurrent dream, sleep paralysis, insomnia etc. are often associated with stress, anxiety, trauma etc.[23]

Lucid dreaming therapy, a type of psychotherapy that utilizes lucid dreaming as a tool for personal growth, self-awareness and healing. This therapy has been found effective in conditions like nightmares, PTSD etc. It helps to overcome fears and anxieties by improving self- awareness and problem-solving skills[24]. Lucid dreaming therapy may be most effective when combined with other therapies and more research is needed in this field.

CONCLUSION

Both modern physiology and Ayurvedic science provide valuable insights into dreams. While modern physiology has explained the neural mechanisms underlying dreaming, Ayurvedic concepts provide a unique perspective on the diagnostic as well as prognostic role of dreams. The psychological approach to dreams has always been comparable to Ayurvedic concepts since the beginning. Integrating all the approaches may help us discover new ways of understanding the complex relationships between dreams, brain function, and overall health. Further research exploring the intersections between modern neuroscience and Ayurvedic science may ultimately shed new light on the art of dream interpretation and its relevance to the contemporary science.

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