

" THE ROLE OF AYURVEDIC MEDICINE AND *SHIRODHARA* IN AVASADA
W.S.R DEPRESSION – A REVIEW STUDY"

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ABSTRACT

Depression, a prevalent mental health issue globally, affects millions of individuals and manifests as persistent feelings of despair, loss of interest, and hopelessness. It impacts people irrespective of their age, gender, or background, often stemming from a complex interplay of genetic, environmental, and psychological factors. Symptoms vary among individuals but commonly involve enduring sadness, reduced energy, disrupted sleep, and disinterest in previously enjoyable activities. Severe cases may escalate to suicidal ideation and actions.

Shirodhara, an ancient *Ayurvedic* therapy, entails the gentle pouring of herbal oils, medicated milk, or decoctions onto the forehead in a continuous rhythmic flow from a specific height. This unique treatment is administered for a defined duration to achieve therapeutic effects.

Depression treatment encompasses a multifaceted approach involving medication, therapy, and lifestyle adjustments. Medicinal solutions like selective serotonin reuptake inhibitors (SSRIs) and tricyclic antidepressants (TCAs) are commonly prescribed to alleviate symptoms. Psychotherapy, such as cognitive-behavioral therapy (CBT), aids in acquiring coping strategies and fostering a more positive life perspective.

Several risk factors contribute to depression, encompassing genetic predisposition, stressful life events, chronic ailments, and substance misuse. Seeking timely assistance upon experiencing depression symptoms is crucial, as early intervention enhances the effectiveness of treatment.

KEYWORDS: Depression, antidepressants, *Ayurveda*.

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INTRODUCTION

Ayurveda stands as one of the oldest medicinal systems globally, rooted in the principles of life, health, and natural remedies dictated by timeless laws. According to *Ayurvedic* philosophy, life encapsulates the union of body, senses, mind, and the soul's embodiment. Health signifies a harmonious equilibrium among *Trigunas*, *Tridoshas*, *Dhatus*, *Agni*, and *Malas*. Within this framework, the primary cosmic intelligence manifests as *Sattva*, *Rajas*, and *Tama*, where an imbalance among these attributes may contribute to various mental afflictions, such as *Avasada*, within the psyche.

In the era of technological advancement, self-sufficiency has surged, rendering individuals increasingly independent. Yet, this self-reliance has led to busy, hectic lifestyles, fostering an inner void in personal and social spheres. This void hampers the sharing of emotions, leading to various psycho-social issues, among which Depression is prominent.

Depression transcends mere mood swings or fleeting emotional responses. Globally, an estimated 3.8% of the population, including 5.0% of adults and 5.7% of those older than 60, grapple with this illness, impacting nearly 280 million individuals. When recurring with moderate or severe intensity, depression evolves into a severe health condition, greatly affecting one's ability to function at work, school, or within familial settings. At its gravest, depression can culminate in suicide, claiming over 700,000 lives annually and ranking as the fourth leading cause of death among 15-29-year-olds.

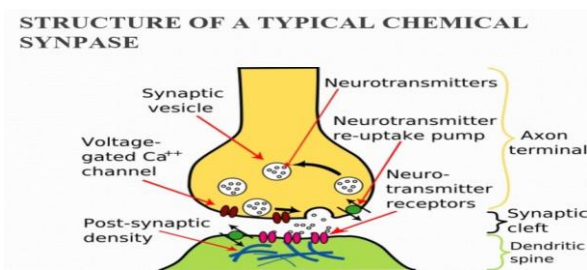
In contemporary times, the rise in depressive instances correlates with our current lifestyle, becoming an escalating concern by the day. Health professionals differentiate clinical depression from fleeting periods of unhappiness or temporary dissatisfaction. Clinical depression manifests as profound and enduring sadness, disrupting daily life for weeks, months, or even years, diverging significantly from momentary emotional states. While allopathic treatments may alleviate prevailing symptoms over time, they often accompany a multitude of adverse effects.

ETIOLOGY

According to *Acharya Charaka*, *Sushrut* and *Vagbhat*, *Manas rogas* occurs due to *mansik Dosh* and *Manas bhavas* (*kam*, *krodha*, *bhaya*, *Lobha* etc) responsible for *Manas rogas*. It includes *Aharaja*, *viharaja*, *sharirika*, *mansik* and other factors and according to modern medical science genetical, biochemical, social and other factors.

PATHOPHYSIOLOGY OF DEPRESSION

Sr. No.	Neurotransmitters in the brain in depression	Level
1.	Level of MAO (Monoamine oxidase)	↑
2.	Level of HVA (Homovanillic acid)	↓
3.	Level of Catecholamine	↓
4.	Level of Dopamine	↓
5.	Level of Serotonin	↓
6.	Level of acetylcholine	↑
7.	Level of MHPG Methoxy-4 hydroxy Phenylalylecole	↓



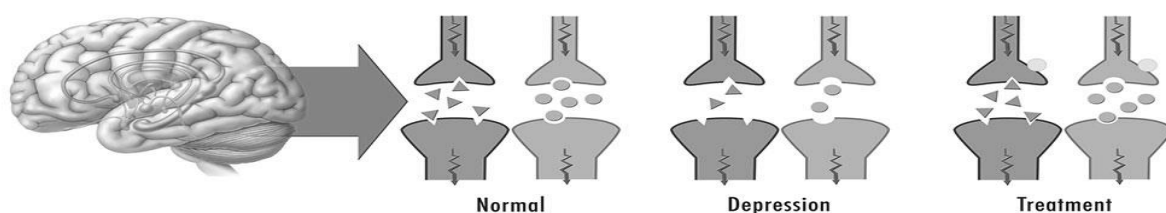
The brain contains millions of neurons, each one interacting with others. The junction between two neurons is called a synapse. At the synaptic level, neurons do not form anatomical contact but a small gap called the synaptic cleft. It brings about the release of neurotransmitters into the synaptic cleft.

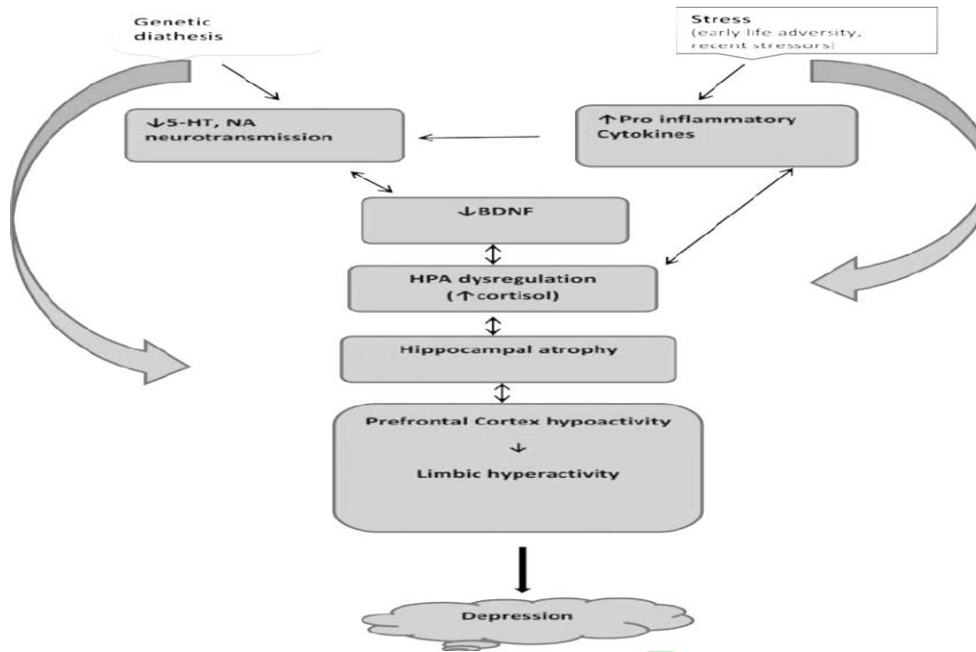
SIGNIFICANCE OF NEUROTRANSMITTER

Neurotransmitters, recognized as chemical messengers, are inherent substances facilitating neurotransmission. They transmit signals across chemical synapses, such as neuromuscular junctions, transferring information from one neuron to another neuron, muscle cells, or brain cells.

These neurotransmitters are released from the synaptic cleft, reaching and interacting with specific receptors present on the target cells. Examples of neurotransmitters include serotonin, dopamine, and norepinephrine, which fall under the category of amino acids.

MECHANISM OF DEPRESSION





MODE OF ACTION OF *SHIRODHARA*

As per *Ayurvedic* texts, *Shirodhara* proves advantageous in addressing *Vata* and *Pitta doshas*. The properties and actions of the liquid employed during *Shirodhara* work to counterbalance the repercussions of imbalanced *doshas*. This therapeutic practice involves the application of a liquid to the forehead, scalp, and nervous system, effectively calming, nourishing, and appeasing the *doshas*.

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Procedure

During the process of *Shirodhara*, a gentle pressure and vibration are applied to the face and head. This vibration gets accentuated through the hollow sinuses within the frontal bone. Subsequently, this vibration travels internally through the fluid medium of the cerebrospinal fluid.

The resultant vibration, accompanied by slight temperature alterations, potentially stimulates the functioning of the thalamus and basal forebrain. This activation contributes to regulating the levels of serotonin, dopamine, and catecholamines, thereby inducing a state conducive to sleep. The continuous and rhythmic pouring of *tail dhara* during this process also promotes heightened concentration levels and the increased release of serotonin. Additionally, it encourages the production of chemical substances like acetylcholine and minimal levels of Acetylcholine, potentially leading to a decrease in blood pressure.

MODE OF ACTION OF *MEDHYA RASAYANA*

Medhya Rasayana comprises a blend of four potent medicinal components: *Mandukaparni*, *Mulethi*, *Shankhapushpi*, and *Guduchi*. These *Medhya Rasayana* formulations exhibit notable effects on enhancing intellectual capacities. For instance, *Mandukaparni Swaras*,

Yashtimadhu Churna with *Ksheer*, *Guduchi Swaras*, and *Shankhapushpi Kalka* are renowned for their beneficial impact on cognitive faculties. These herbal combinations prove beneficial in preventing and treating mental ailments across all age groups. They effectively bolster various mental aspects such as intellect (*Dhee*), retention power (*Dhriti*), and memory (*Smriti*).

Traditional medicinal approaches focusing on psychoactive drugs have encountered limitations in treating diverse neurological and psychiatric conditions due to the multifaceted nature of these disorders. This review emphasizes the potential of *Medhya Rasayana* in mitigating age-related cognitive decline as an alternative and promising approach.

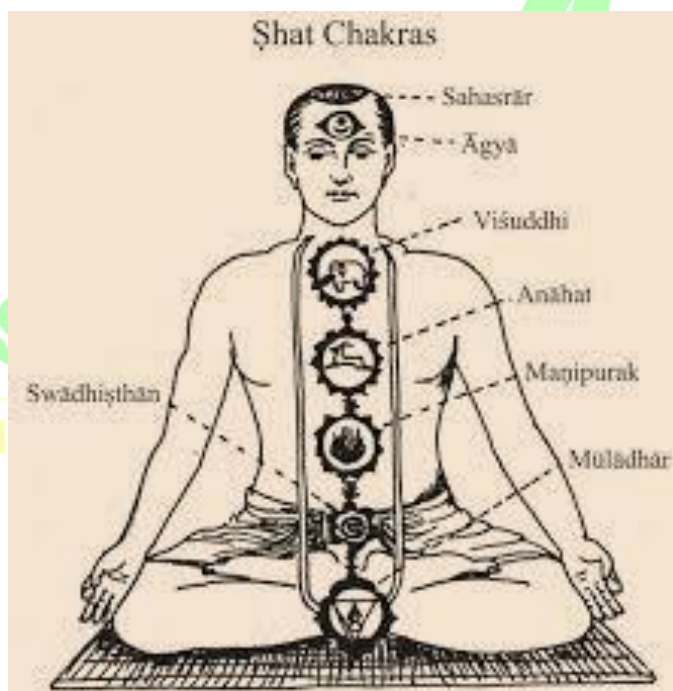
PROBABLE MODE OF ACTION OF SHIRODHARA

1. Tranquillizing effect
2. Effect on autonomic nervous system
3. Effect on Endocrine system
4. Regulation of emotional and behavioral patterns
5. Effect of temperature
6. Effect of pressure
7. *Marma* concept
8. *Chakra* concept
9. *Asana* concept
10. *Manomaya* concept

1. **Tranquillizing Effect:** The chemical constituents in the medicated oil might simulate neurotransmitters like serotonin, hypothetically compensating for certain neurotransmitter deficiencies. This effect is akin to Johnson's approach in treating angina using nitroglycerine to affect brain cortex circulation.
2. **Effect on Autonomic Nervous System:** *Shirodhara* might exhibit an alpha-adrenergic blocking effect, potentially influencing adrenaline and noradrenaline actions. Additionally, it could modify the synthesis, storage, and uptake mechanisms of noradrenaline, impacting adrenergic neurons.
3. **Effect on Endocrine System:** Hypothalamus, a vital regulator of the endocrine system, secretes regulatory hormones under the control of specialized monoaminergic neurotransmitter neurons originating in the midbrain. These neurons release noradrenaline and serotonin, responsive to stress and emotional disturbances.
4. **Regulation of Emotional and Behavioral Patterns:** Collaborating with the limbic system, the hypothalamus manages emotions like rage, aggression, pleasure, and behavioral patterns. *Shirodhara's* influence on the hypothalamus may contribute to diminishing various psychic and somatic disorders.
5. **Effect on Temperature:** The vibration, coupled with slight temperature changes, might activate the thalamus and basal forebrain, regulating serotonin and catecholamine levels.
6. **Effect of Pressure:** Pressure appears to impact nerve impulse conduction in modern physiology. *Shirodhara's* consistent pressure and vibration, amplified by the hollow sinuses in the frontal bone, transmit vibrations through the cerebrospinal fluid,

stimulating the autonomic nervous system, acetylcholine release, and subsequently lowering blood pressure, resulting in a tranquil mind.

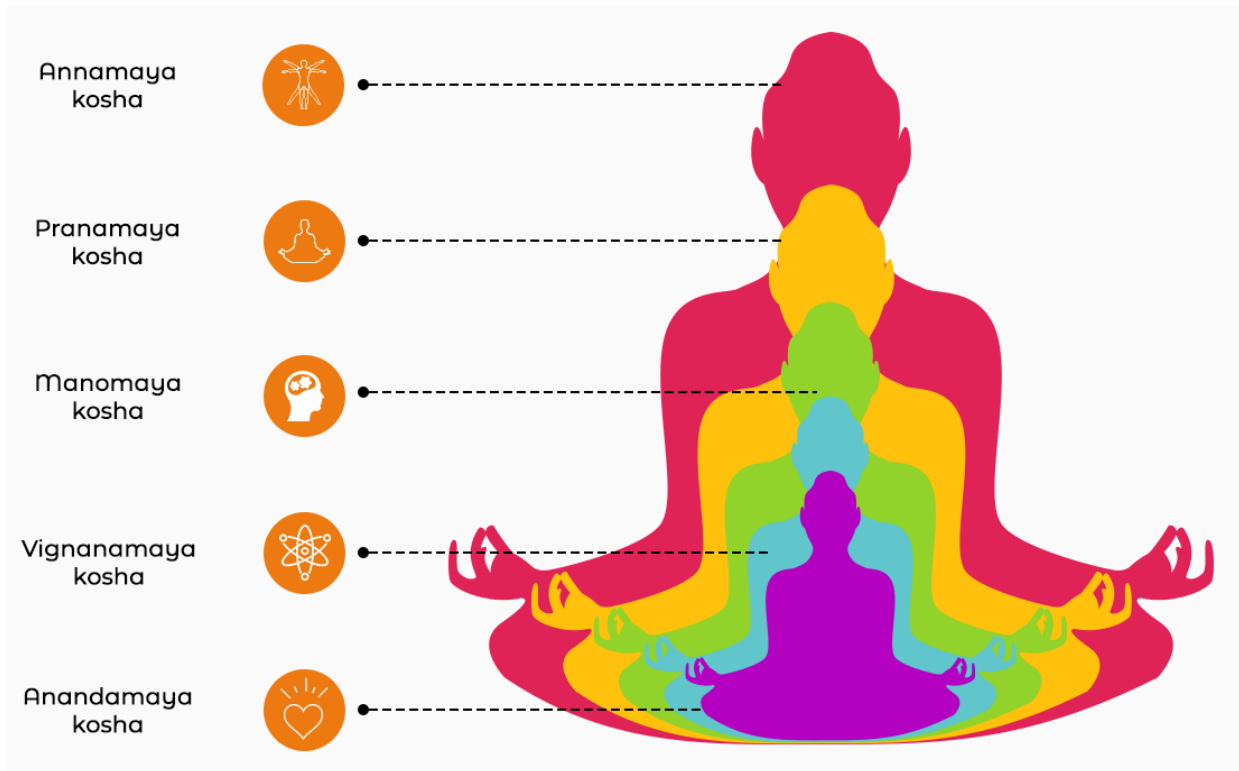
7. **Action of Shirodhara on Marma:** *Marma* points, critical spots numbering 107 in the body, include 37 in the head region. Injury to these points can lead to instant or delayed physical impairment or death, affecting predominantly the *Agni* and *Vayu Mahabhuta*. Stimulation of the *Sthapani Marma* (site of the pituitary and pineal glands) can activate these glands through CNS signals or hormones, regulating the endocrine system.
8. **Action of Shirodhara on Chakra Concept:** The *Chakras*, seven nerve plexuses in the body, control various physiological aspects. The *Shira* (head) corresponds to both the sixth and seventh *Chakras*. The *Ajna Chakra* (sixth) aligns with the external points of the eyebrows, pineal gland, and medulla oblongata. Considered the third eye due to its position, *Ajna Chakra* serves as the trigger point for concentration, consciousness, bodily systems, and awareness. *Shirodhara* treatment over the *Ajna Chakra* may stimulate the *Sahasrara Chakra* as well. The pineal gland, responsible for rhythmic changes, sleep promotion, and sexual behavior, synergizes with the medulla oblongata (brain stem) to maintain body equilibrium, potentially contributing to the desired effects of *Shirodhara*.



9. **Action of Shirodhara based on Asana:** *Shirodhara*, practiced in the *Shavasana* posture, represents a complete relaxation posture detailed in yogic scriptures. This therapy might serve as a mechanical stimulus to receptors, potentially counterbalancing pain-regulating centers involving substances like bradykinin, serotonin, histamine, potassium ions, and acetylcholine. *Shavasana*, an essential yogic practice, induces total relaxation. Recent studies suggest its

significant reduction in symptoms like headaches, giddiness, nervousness, irritability, and sleep disturbances.

10. **Action of Shirodhara based on Manomaya Kosha:** The five *Koshas* progress through the stages of life manifestation: *Annamaya* (Physical), *Pranayamaya* (Vital), *Manomaya* (Mental), *Vigyanamaya* (Intellect), and *Anandmaya* (Blissful). The *Manomaya Kosha* encompasses the emotional, mental, and spiritual aspects, composed of the *Manas* (Mind).



HYPOTHESIS FOR PROBABLE MODE OF ACTION -

- **Law of Conversion of Energy:** *Shirodhara's* mechanism could potentially operate based on the law of energy conversion. Objects positioned at specific heights possess potential energy, where the potential energy (P.E.) equates to the kinetic energy (K.E.), expressed as ($mgh = 1/2 mv^2$), involving the mass (m), gravitational acceleration (g), height (h), and velocity (v).

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- **Dependence of Potential Energy:** The potential energy of an object relies on two factors:

I. **Mass of Substance:** A higher mass implies greater energy possessed by the substance, given the height remains constant.

II. **Height of the Substance:** If the height remains consistent, the potential energy depends solely on the mass of the substance. Thus, a higher mass correlates to increased substance energy.

PHYSIOLOGICAL ACTION

Physiological Action: Momentum

- **Momentum Generation:** When a substance in motion encounters a stationary substance, it creates acceleration, known as momentum. Greater mass equates to increased momentum generation.

- **Impact on Neural Impulses:** Pouring a substance onto the forehead from a specific height results in energy transformations, generating momentum. This momentum alteration potentially affects the generation and conduction of nerve impulses.
- **Electric Activity and Brain Waves:** Continuous electrical activity within the brain generates electromagnetic waves, detectable through encephalograms. Brain wave intensities on the scalp surface range between 0 to 200 microvolts, with frequencies varying from sporadic occurrences to over 50 cycles per second. The nature of these waves is closely linked to the level of cerebral cortex activity.

DISCUSSION

Medhya Rasayana, known for enhancing intellectual abilities, memory, and cognitive functions, comprises substances such as *Mandukaparni Swaras*, *Yashtimadhu Churna* with *Ksheer*, *Guduchi Swaras*, and *Shankhapushpi Kalka*. These remedies, applied across diverse age groups, are instrumental in preventing and treating mental disorders. They effectively boost intellect, retention, and memory power, playing a crucial role in addressing psychiatric and psychosomatic ailments. Operating at the neurotransmitter level, *Medhya Rasayana* drugs specifically target mental performance by acting as neuro-nutrients, enhancing cerebral metabolism, increasing brain circulation, modulating neurotransmitter levels, and mitigating brain inflammation. Additionally, they shield the brain from free radical damage, reducing stress-induced memory impairment by regulating raised circulating corticosterone levels.

When *Shirodhara* incorporates *Medhya Rasayana*, it aids in alleviating depression by stimulating the nervous system to augment neurotransmitter secretion, particularly serotonin and dopamine. This action functions as a mood elevator, fostering a sense of well-being.

Shirodhara, beneficial for *Vata* and *Pitta doshas*, counters their imbalances, inducing relaxation and brightness, providing comprehensive mental rest. It aids in managing stress-related conditions like insomnia, anxiety, chronic headache, hypertension, and bronchial asthma. Further, it enhances brain blood circulation, nourishes hair and scalp, diminishes nervous tension, and aids in improving sleep quality.

CONCLUSION

The clinical study draws several important conclusions:

1. **Effectiveness of Medhya Rasayana Yog in Depression Treatment:** *Medhya Rasayana yog* exhibits substantial efficacy in treating mental depression due to its nerve and brain tonic activities. Its mechanism involves stimulating the secretion of neurotransmitters, contributing to its therapeutic action.
2. **Effectiveness of Shirodhara with Medhya Rasayana in Depression Treatment:** *Shirodhara* performed with *Medhya Rasayana* extracts proved highly effective in addressing mental depression. This practice stimulates the nervous system, potentially contributing to mood elevation and overall well-being.

3. **Modes of Action of Shirodhara:** *Shirodhara's* mode of action involves multifaceted elements such as *ajna chakra*, *sthapani marma*, temperature variations, pressure application, and *manomaya kosha*, showcasing its diverse pathways for therapeutic impact.
4. **Synergistic Effects of Medhya Rasayana and Shirodhara:** When *Medhya Rasayana* and *Shirodhara* are employed together, they exhibit synergistic effects, demonstrating significant positive outcomes in mental health treatment.

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