

“CLINICAL SIGNIFICANCE OF SNEHAPANA IN PSYCHOLOGICAL DISORDERS IN ACCORDANCE WITH CENTRAL NERVOUS SYSTEM”

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ABSTRACT

Psychological disorders are defined as the disorders which encompass a broad range of conditions characterized by patterns of psychological signs and symptoms and abnormal behavioral pattern that result in dysfunction of mind as well as body. Worldwide 1 in 7 subjects, with the prevalence of DALYs of 10 percent as a share of total disease burden and 970 million are suffering from one or more psychological disorders, whereas in India the suffering rate is 7.5 percent of total Indian population which constitutes one sixth of all health related disorders with 15 percent of the global mental, neurological and substance abuse disorder burden and DALYs of 2443 per one lakh. As most of the psychiatric medications dose not cure mental illness, but they can only act on the signs and symptoms, *Ayurveda* a life science with holistic approach plays a vital role in not only improving the signs and symptoms but also acts at cellular level, on organs and systems affected, in turn providing whole support by means of three basic treatment modalities: *Satvavajaya* (Psychology and Psychiatric treatment modalities including Yoga and Pranayama), *Daiva Vyapashraya* (treatment modalities based on Microbiology, Psychology, Spiritualism, Philosophy, Astrology and Paranormal sciences) and *Yukti Vyapashraya* (treatment modalities including Medicines, life style modification and diet, planned and advised by skilled physician) which primarily includes *SNEHAPANA* (oleation therapy) which acts: 1. Action on enteric nervous system- brain in the belly, 2. Based on the composition of Central Nervous System, 3. Drug distribution in blood and Blood brain barrier, and 4. Action on neurotransmitters and neurological pathways effectively in all the Psychological disorders by its specialized pharmacological qualities and action.

KEYWORDS: *Snehapana*, *Satvavajaya*, Psychological disorders, Central Nervous System, Blood brain barrier, Neurotransmitters

INTRODUCTION:

Definition

Psychological disorders are defined as the disorders encompass a broad range of conditions characterized by patterns of psychological signs and symptoms and abnormal behavioral that result in dysfunction.

-DSM IV

Mental illnesses are health conditions involving changes in thinking or behavior and emotion, (or a combination of these). Mental illnesses are associated with distress and/or problems functioning in social, work or family activities.

-American Psychiatric Association

Ayurvedic definition

“Mano Buddhi Sanjna Jnana Smrithi Bhakthi Sheela Chesta Achara vibhramam vidyat”- (Ch. Ni 7/5)² which refers to perversion of mind, intellect, consciousness, knowledge, memory, desire, manners, behavior and conduct.

Atiology⁴

Combination of psychological, biological and environmental factors such as:

1. **Genetics (Heredity)** : Stress
2. **Brain defects / Injury**: Dementia- Memory disorders, personality changes and impaired reasoning.
3. **Infections**: Obsessive compulsive disorder (Streptococcus bacterial infection), Pediatric autoimmune neuropsychiatric disorder (PANDA)
4. **Substance Abuse**: Depression, Anxiety, Paranoia (person loses touch with reality/ delusions)
5. **Prenatal damage** : Autism spectrum disorder
6. **Other factors**: Exposure to toxins such as lead, Poor nutrition

Ayurvedic aspect

1. *TRIVIDHA KARANA* (Major Three Causes)

- *ASATMYENDRIYARTHA SAMYOGA* (Incompatible relation of senses with their object)
- *PRAJNAPARADHA*(Intellectual error)
- *PARINAMA* (Time factor)

2. *ISHTASYA ALABHAT* (Not acquiring the desired)

3. *LABHAT ANISHTASYA* (Acquiring undesired)

Classification

Based on 5 diagnostic axes specified by DSM-IV (Diagnostic and Statistical Manual of Mental Disorders)

Table No.1. DSM-IV Classification of Psychological disorders⁴

AXIS 1	Clinical Disorders	Learning disorder such as reading or arithmetic disorders, Major depressive disorder, Post-traumatic stress disorder, Developmental disabilities, such as autistic disorder
AXIS 2	Personality Disorders or Mental Retardation	Mental retardation (MR)
AXIS 3	Medical or Physical Conditions	Diabetes Cancer
AXIS 4	Contributing Environmental or Psychosocial Factors	Financial problems or homelessness, job loss, divorce
AXIS 5	Global Assessment of Functioning The GAF is a number between 0 and 100	Indicates the level of functioning, or ability to engage in adaptive daily living.

Ayurvedic aspect

1. **Kevala Manasika Roga-** Diseases with primary mental origin and predominantly mental symptoms
2. **Mano- Sharirika i.e. Psychosomatic disorders-** Disease with primary mental origin and predominantly physical Symptoms
3. **Sharira- Manasika i.e. Somato- psychiatric-** Diseases with primary physical origin and predominantly mental symptoms
4. Diseases with primarily physical origin and predominantly physical signs and symptoms
5. Diseases with primarily idiopathic origin and predominantly mental and physical signs and symptoms.

Management⁴

Although psychiatric medications do not completely cure mental illness, they can often significantly improve signs and symptoms. Some of the most commonly used classes of psychiatric medications include:

- **Anti-anxiety medications:** Stimulation of neurotransmitters such as dopamine receptors and serotonin on nerves or by increasing GABA (Gamma amino butyric acid)

Example: Benzodiazepines, Buspirone
- **Antidepressants:** Inhibits reuptake of neurotransmitters through selective receptors increasing the concentration of specific neurotransmitter around nerves in the brain.

Example: Selective serotonin reuptake inhibitor (SSRI)
- **Antipsychotic medications:** Blocks dopamine receptors in the dopaminergic pathway of brain: Example: Chlorpromazine
- **Mood-stabilizing medications:** Reduces episodes of Depression and Mania by modulating GABA, Example: Lithium

- **Substance abuse treatment:** Prevention or withdrawal of drugs, Counseling, rehabilitation.
- **Brain-stimulation treatments:** They include electroconvulsive therapy, Trans cranial magnetic stimulation, an experimental treatment called deep brain stimulation and vagus nerve stimulation.
- **Psychotherapy**, also called talk therapy, involves talking about the condition and related issues with a mental health provider. During psychotherapy, one can learn about the condition, moods, feelings, thoughts and behavior. With the insights and knowledge gained, one can learn coping and stress management skills.
- **Hospital and residential treatment programs**

Ayurvedic aspect

1. *Vikara Anutpattikara Chikitsa* (Preventive measures)

2. *Vikarasya Chikitsa* (Curative measures)

As the psychiatric medications dose not cure mental illness, but they can only act on the signs and symptoms, *Ayurveda* a life science with holistic approach plays a vital role in not only improving the signs and symptoms but also acts at cellular level, on organs and systems affected, in turn providing whole support by means of three basic treatment modalities: *Satvavajaya* (Psychology and Psychiatric treatment modalities including Yoga and Pranayama), *Daiva Vyapashraya* (treatment modalities based on Microbiology, Psychology, Spiritualism, Philosophy, Astrology and Paranormal sciences) and *Yukti Vyapashraya* (treatment modalities including Medicines, life style modification and diet, planned and advised by skilled physician) which primarily includes *SNEHAPANA* (oleation therapy).

AIMS AND OBJECTIVES:

To analyse the effect of *Snehapana* (oleation therapy) in Psychological disorders in accordance with Central Nervous System by its specialized pharmacological qualities and action.

MATERIALS AND METHODS

The following are the different varieties of *Snehapana* which acts on Psychological disorders:

Table No. 2. Pharmacological qualities of *Snehapana* in Psychological Disorders^{1, 2, 3}

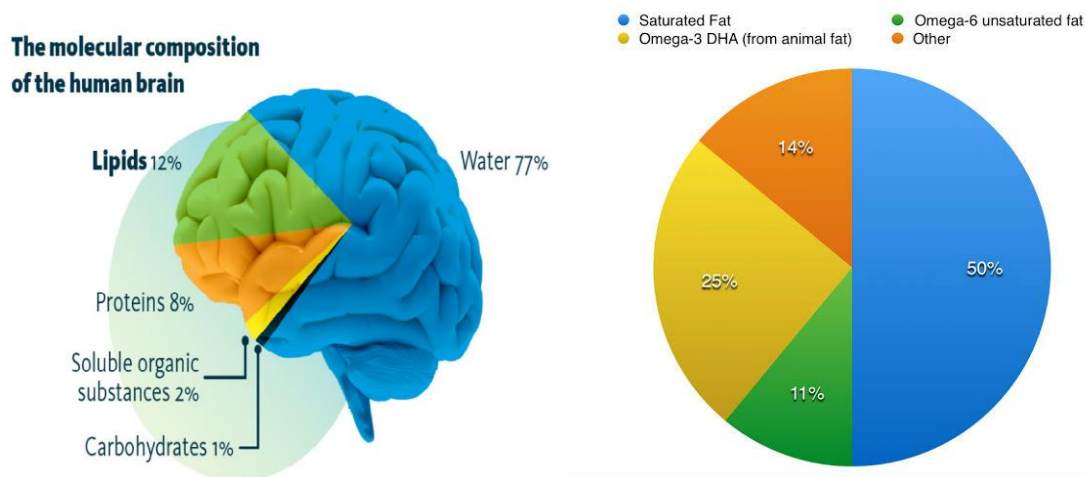
<i>GHRITA</i> (Ghee)	<i>SMRUTI</i> (Memory), <i>DHI</i> (Intellect), <i>MATI</i> (Knowledge enhancer)
<i>TAILA</i> (Oil)	<i>MEDHAKARA</i> (Intellect enhancer)
<i>VASA</i> (Animal muscle fat)	<i>MARMARUJAHARA</i> (Relives all sorts of pain)
<i>MAJJA</i> (Bone marrow)	<i>BALAVARDHANA</i> (enhances Strength)

ACTION OF *SNEHAPANA* IN PSYCHOLOGICAL DISORDERS^{5, 6, 7, 8, 9,}

10, 11, 12, 13, 14

1. Based on the composition of *SNEHA DRAVYA* (Ghee/Oil/Animal muscle fat/Bone marrow) and Central Nervous System

Image No 1. Composition of Human Brain



Composition of *Sneha dravya*

Table No. 3. Composition of *Sneha dravya*

Saturated fat	Poly unsaturated fatty acids (PUFA)
Phospholipids	Free fatty acids
Omega 3 fatty acids	Docosahexaenoic acid (DHA)

Linoleic acid	Medium chained Triglycerides
Vitamin A, D, E, K	Monoglycerides, Diglycerides, Triglycerides, Ketoacid glyceride

Action on CNS

1. Enhances formation of Serotonin.
2. Beneficial role in case of Memory enhancement, Stress management, Dementia, Anxiety, Depression, Epilepsy, Psychosis.
3. Effective in case of OCD, Bipolar disorders, Schizophrenia, Attention deficit disorder, Insomnia, Borderline personality disorders and Mood disorders.
4. Acts on brain's cognitive function; effectiveness in Parkinsonism, Alzheimer's disease, Atherosclerosis, Autoimmune disorders, Diabetes.

2. Action of *Sneha Dravya* on enteric nervous system- brain in the belly

- If the amount of cholesterol is low, it hampers the proper functioning of neurotransmitters.
- 90% of Serotonin, 50% dopamine and 30 other neurotransmitters are produced and co regulated by Intestines in the enteric nervous system also called as "gut brain" by Cholesterol mechanism.
- These neurotransmitters regulate Sleep patterns, Memory, Mood, Mental functioning, Stress levels, Ability to learn and other essential body processes.
- Thus, *Sneha dravya* having necessary cholesterols produces and regulate Serotonin, which in turn maintains somatic as well as psychological health of an individual.

3. Action on neurotransmitters and neurological pathways

- Unsaturated fatty acids present in *Sneha* acts on brain tissue and on neurological pathways.
- *Sneha dravya* possess the CNS antidepressant action by synapse blocking mechanism of afferent pathway, enhancing serotonin levels in hippocampus and hypothalamus.

4. Drug distribution in Blood brain barrier and blood

Drug distribution in Blood Brain Barrier:

- The Blood brain barrier has Lipophilic molecular structure which makes the lipids and lipid soluble drugs pass easily through it.
- The lipophilic nature of *Sneha dravya* facilitates its entry; also it facilitates the entry of formulations prepared with *Sneha dravya* in a similar way into the cell and its delivery to microsome, mitochondria and nuclear membrane as cell membrane also contains lipids.

The influential factors of drug distribution in blood are mainly:

1. **Lipid solubility**
2. Ionization
3. Difference in blood flow

Aqueous soluble drugs are absorbed in extra cellular spaces; do not diffuse to CSF and other body cavities whereas Lipid soluble drugs are readily available to intra and extra cellular spaces.

DISCUSSION

The Psychological disorders has become a vital public health crisis in the present world as in Worldwide 1 in 7 subjects, with the prevalence of DALYs of 10 percent as a share of total disease burden and 970 million and are suffering from one or more psychological disorders, Whereas in India the suffering rate is 7.5 percent of total Indian population which constitutes one sixth of all health related disorders with 15 percent of the global mental, neurological and substance abuse disorder burden and DALYs of 2443 per one lakh.

The pharmacological qualities and action of *Sneha dravya* on Psychological disorders are elaborated in detail which acts on Central Nervous System, Enteric nervous system, Neurotransmitters and Neurological pathways and Drug distribution in blood and Blood brain barrier.

CONCLUSION

The logical conclusions based on the above study can be drawn as:

- *Manasika Vikara* can be correlated to Psychological disorders, which is commonly seen in society as a prominent problem.
- The etiology such as Genetics, Brain defects / Injury Prenatal damage, Infections, Substance Abuse and Other factors are brought under the umbrella of *Trividha karana –Asatmendriyatha samyoga, Prajnaparadha* and *Parinama, Ishtasya alabhat* and *Labhat anishtasya*
- As the psychiatric medications dose not cure mental illness, but they can only act on the signs and symptoms, *Snehapana* plays a vital role in not only improving the signs and symptoms but also acts at cellular levels, on organs and systems affected, in turn providing whole support.
- Based on the above study and studies so far, it can be concluded that *Snehapana* has a significant role in all Psychological disorders by its effective pharmacological qualities and action and also there is a further scope of research in this attribute.

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