



## **Therapeutic Use of Ksheerbala Tail in Manoavsad (Depression) - A Conceptual Study**

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**Citation of this Article:** Dr. Anupama Bhardwaj, “Therapeutic Use of Ksheerbala Tail in Manoavsad (Depression) - A Conceptual Study” IJMSAR – November – 2023, Vol. – 6, Issue - 6, Page No. 35-41.

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**Type of Publication:** Original Research Article

**Conflicts of Interest:** Nil

### **ABSTRACT**

Among all the psychological disorders, depression is the most common mental disorder nowadays. According to WHO, approximately 280 million people have depression worldwide. In Ayurvedic classics *Vishada* and *Avasada* are the two mentioned conditions which have close resemblance with depression. With a focus on balancing doshas, adopting a nourishing lifestyle, and embracing ancient detoxification techniques, Ayurveda offers a comprehensive approach to address the rising challenges of depression and anxiety. *Ksheerabala Taila* is an important *Sneha Kalpana* (oil formulation) mentioned in Ayurveda texts prepared from *Go-Ksheera* (cow milk), *Bala* (*Sida cordifolia*) and *Tila Taila* (sesame oil). Cow's milk contains all the elements necessary for the growth and nutrition of bones, nerves, muscles and other tissues of the human body. The presence of *Go-Ksheera*, *Bala* and *Tila*

*Taila* makes *Ksheerabala Taila* to pacify chronic conditions of Vata origin disease such as *manoavsad* (depression), *Ardita* (facial paralysis), *Katishula* (low back ache), *Greeva Hundana* (cervical spondylosis), cerebral palsy, *Ardhangavata* (hemiplegia), *Kampavata* (Parkinson's disease), convulsions and other neurological disorders. The present article reviews use on *Ksheerabala Taila* in *manoavsad* (depression) and probable scientific mode of action.

### **Keywords**

*Ksheerabala Taila*, *manoavsad*, depression, management

### **INTRODUCTION**

Depression is a common major depressive disorder has a prevalence of 5% in the general population and 10-20% in chronically ill medical outpatients. It is a major cause of disability and suicide.<sup>1</sup> The symptoms range from mild sadness, anxiety, irritability, worry

and lack of concentration, discouragement and somatic complaints to the more severe symptom of frank depression.<sup>2</sup> During a depressive episode, the person experiences depressed mood or loss of pleasure or interest in activities for most of the day, nearly every day for at least two weeks.<sup>3</sup> Symptoms of depression includes somatic as well as psychological factors. If comorbid with medical condition depression magnifies disability, diminishes adherence to medical treatment and rehabilitation, may even shorten life expectancy. Psychological and pharmacological treatments both work on depression. In practice the choice is determined by patient preference and local availability.<sup>4</sup> Acharaya Charak quote “*Vishado Rogavardhanam*” i.e., it is the most foremost factor to worsen the condition of any disease. It comes under one of the eight *Vataja nanatmaja vikaras* which indicate that it cannot occur without the involvement of Vata dosha. In modern science there are enormous drugs for treatment of mental disorders but with so many adverse effects. The prolong consumption of these medications leads the patient more dreadful condition which became fatal at later stage. Acharya charak has quoted the definition of best treatment in Charak Samhita. He explains that the treatment that cures any diseases without causing any morbid condition or side effect said to be the best treatment. One of the most popular and important oil formulations in Ayurveda is “*Ksheerabala Taila*” (oil) known for its effectiveness in various diseases such as *manoavsad* (depression). The name *Ksheerabala Taila* was first mentioned in *Sahasrayogam* and similar formulations has been mentioned in other classical Ayurveda texts with some different names. In Charaka Samhita, it is mentioned

as *Shata Paka* and *Sahasra Paka Bala Taila*.<sup>5</sup> Sushruta mentioned it as *Bala Taila* and *Shata Paka Bala Taila*.<sup>6</sup> National Ayurvedic formulary of India and pharmacopeia standards of Ayurvedic formulations have adopted the formula of Charaka and named as *Ksheerabala Taila*. *Ksheerabala taila* being utilized as a *Rasayana* drug in conventional Ayurveda treatment and continuous administrations of this formulation prevent the release of abrupt electrical discharge, improve the physical and mental condition of the patients. It has profound soothing and relaxing effect on mind.<sup>7</sup>

## CONCEPTUAL STUDY

### MANOAVSAD (DEPRESSION)

In Ayurveda, depression can be correlated with *Mano Avasada*. It is mentioned in the classic in various scattered references. According to Ayurveda, the cardinal features of depression are due to the vitiation of Vata Dosha.<sup>8</sup>

### PREVELANCE RATE

The population-based study from India to report on depression shows that the prevalence of depression was 15.1%. India is home to an estimated 57 million people (18% of the global estimate) affected by depression.<sup>9</sup>

### SYMPTOMS<sup>10</sup>

- Difficulty to concentrate
- Feeling of worthlessness
- Social isolation
- Fatigue
- Sleep disturbances
- Irritability

## METHOD OF PREPARATION OF Ksheerabala Taila

It is one of the *Sneha Kalpana* (oil preparation) prepared using *Ksheera* (cow milk), *Bala* (*Sida cordifolia* Linn.) and *Tila Taila* (sesame oil).

#### METHOD OF PREPARATION OF KSHEERABALA TAILA AS MENTIONED IN SAHASRAYOGAM<sup>11</sup>

The method of preparation of *Ksheerabala Taila* is mentioned in *Sahasrayogam*, Taila Adhikara. Grind 5 Pala (240 grams) fresh roots of Bala plant and mix it in *Go-Ksheera* (Q.S.) to make *Kalka* (paste). Take this prepared *Bala Moola Kalka* and mix it in *Go-Ksheera* (4 parts or 960 g) and sesame oil (1 *Prastha* or 768 ml). Boil the mixture and then simmer (heat on low flame 70-80 °C) the mixture until oil remains. The mixture is then allowed to cool. The prepared mixture is then filtered to obtain the *Ksheerabala Taila*.

#### USE OF KSHEERABALA TAILA IN MANOAVASD

*Manoavasd* (Depression) usually indicates reduced sattvik energy and aggravation of rajasik and tamasic energies. Weakend ojas (which is the essence of all dhatus) often contributes to this problem. Prana vayu is responsible for proper functioning of the mind. Weakened ojas disturbs the prana vayu which then fails to stimulate the mind. Lack of energy, sluggish movements, slow talking, irritability, anxiety, lack of self-esteem, feeling of worthlessness and reduced sex drive generally reflect weakened ojas. On the other hand sadness, despair, and lack of interest in life indicate heightened rajasik and tamasic influences. *Ksheerabala* is an ayurvedic drug used to treat arthritis, central nervous system disorders, and insomnia. The main contents of *Ksheerabala* are Bala (*Sida cordifolia* Linn.), *Ksheera* (cow's milk), and *Thilathaila* (*Sesamum* oil). *Sida cordifolia* is a

herb from the *Malvaceae* family that is used widely in ayurvedic medicine. Studies conducted by Auddy *et al.*<sup>12</sup> on the antioxidant activity of three Indian medicinal plants used for the management of neurodegenerative diseases showed that *Sida cordifolia* had more potent antioxidant activity than the other herbs. Studies conducted by Dhalwal *et al.*<sup>13</sup> also showed that *Sida cordifolia* is a potential source of natural antioxidants. There are also reports that milk caseins possess significant antioxidant activity.<sup>14</sup> Studies conducted by Korpela *et al.*<sup>15</sup> have shown that cow's milk had both peroxy radical-trapping capacity and superoxide radical-trapping capacity. Sesame oil is derived from the plant species, *Sesamum indicum*<sup>16</sup> and contains several antioxidants including sesamin, tocopherol, sesamol, and sesaminol.<sup>17,18,19</sup> Sesame oil enhances hepatic detoxification of chemicals, reduces the incidence of chemically induced mammary tumors, and protects against oxidative stress.<sup>20</sup> Sesame oil is regarded as a daily supplement to increase cell resistance to lipid peroxidation.<sup>21</sup> Other investigators have also demonstrated the significant neuroprotective activity of sesame oil.<sup>22</sup> Sesame oil modulates oxidative stress and antioxidant status against Fe- induced oxidative damage.<sup>23</sup> Suja *et al.* conducted studies on the antiradical effectiveness of sesame antioxidants, namely, sesamol, lignans, and lignan glycosides isolated from sesame cake extract, and found that all these compounds possessed radical-scavenging activity.<sup>24</sup> Quinolinic acid is an endogenous neurotoxin that is involved in various neurological disorders. It is used to produce a pharmacological model of Huntington's disease in rats and primates, and has been shown to evoke N-methyl-D-aspartate receptor overactivation and oxidative

stress.<sup>25</sup> Quinolinic acid has been shown to produce a wide variety of toxic effects in the brain, such as depletion of GABA, excessive increases in cytosolic Ca<sup>2+</sup> concentration, ATP exhaustion, neuronal oxidative stress, and cell death,<sup>26,27</sup> Quinolinic acid toxicity can also result in caspase-3-like activation and DNA fragmentation.<sup>29</sup>

## PROPERTIES OF MAIN INGREDIENTS OF KSHEERABALA TAILA.

### GO-KSHEERA

*Go-Ksheera* (cow milk) contains all the elements necessary for the growth and nutrition of bones, nerves, muscles and other tissues of the human body.<sup>29</sup>

It is *Madhura* in taste, *Snigdha*, *Guru Guna* property, *Sheeta Veerya* and *Madhura Vipaka*. It alleviates *Vata Dosh*. It is *Jivaniya*, *Brimhaniya*, *Sthanya Vardhaka*, *Balya*, *Snehaniya*, *Dahanashaka*, *Ojovardhaka*, *Vishanasaka*, *Sukrajanaka*, *Agnidepaka*, *Ayurvedhaka*, *Medavardhaka*, *Rasayana*, *Mridu Rechaka*, *Abhisyanda Karaka*.

### BALA

*Bala* is a highly valuable drug in Ayurveda and the fact that it is one amongst the three most utilized raw drugs by Ayurvedic pharmaceuticals. Presently many species of *Sida* are recognized as *Bala* throughout the country. *Sida cordifolia* Linn. is proposed as source plant in Ayurvedic Formulary of India.<sup>30</sup> *Bala*, as the name itself suggests a drug providing energy or strength. It is abundantly mentioned in Ayurveda and has been largely used in neurological as well as heart diseases. *Sida cordifolia* contains alkaloids to extent of 0.085 per cent. The main portion of the alkaloid is identified to be ephedrine 11 by virtue of which it possesses psycho-stimulant properties on CNS.<sup>31</sup> Sushruta has kept it among *Vatashamaka Gana*, hence

it is best for promoting strength and alleviating *Vata*. The root possesses *Madhura Rasa*, *Guru*, *Snigdha Guna*, *Sheeta Veerya* and *Madhura Vipaka*. It is *Balya*, *Rasayana*, *Brimhaniya*, *Oojavardhaka*, *Raktapittahara*, *Vrishya*, *Vatahara*, *Kshayanashaka*, *Prajastapana*, *Grahi*. It is useful in neurological disorders like depression, hemiplegia, facial paralysis, sciatica, general debility, headache, dysuria, leucorrhoea, tuberculosis, diabetes, fever and uterine disorders.

### TILA TAILA (SESAME OIL)

*Tila Taila* is oil extracted from the seeds of *Sesamum indicum*. *Sesame* oil contains a crystalline substance sesamin and phenol compound *sesamol*. *Sesame* oil is used as a base for oil preparation. *Tila Taila* is *Madhura Rasa* and *Vipaka*, *Balya* and *Rasayana* in *Karma*; it nourishes and strengthens all *Dhatu*. *Snigdha*. *Tila Taila* is *Brimhana/ Lekhana*, *Preenana*, *Vrushya*, *Tvakprasadana*, *Mardavakara*, *Sthairyakara*, *Balya*, *Garbhashaya Shodhaka*, *Bhagna Sandhanakara*, *Medhavardhaka*, *Keshya*, *Shulaprashamana*, *Ropaka*, *Vrana-Nashaka*. It provides lipophilic base to *Nasya* drug which helps in its better absorption as lipid soluble substances have greater affinity through cell membrane of nasal mucosa.<sup>32</sup>

### MODE OF ACTION OF KSHEERABALA TAILA

The probable mode of action of *Ksheerabala Taila* could be analysed by its *Rasa Panchaka*. All the three ingredients *Bala*, *Ksheera* and *Tila Taila* possess *Madhura Rasa* and *Vipaka*. *Madhura Rasa* mitigates both *Vata* and *Pitta Dosh*. It is *Dhatunaamprabalam* (strength to the tissue) and is good for sense organs and pleasing to mind (*Shadindriyaprasadaka*). It nourishes the body (*Tarpayati*) and plays a major role

in promoting life (*Jeevayati*). *Tila Taila* possesses *Tikta Rasa* (bitter taste), the most effective in mitigating Pitta Dosha and Kapha Dosha in addition to Madhura Rasa. *Tikta Rasa* is effective in relieving fainting (*Murchaprasamana*) and promotes memory and intellect (*Medhya*). Ushna Veerya (of heating virtue) of *Tila Taila* reduces the Vata and Kapha. Since it has gone through processing by *Sheeta Veerya* drugs like Bala and *Ksheera*, its *Ushnatva* may get altered. *Vata and Kapha* are alleviated without agitating Pitta which is also Ushna. Thus, Ushna Guna of *Ksheerabala* acts without having adverse on Dhatu. *Ksheerabala Taila* is said to have pacifying effects on all the eighty chronic conditions of Vata origin (*Vata Nanatamja Vikara*).

#### DISCUSSION

*Ksheerabala Taila* is being utilized as a *Rasayana* drug in conventional Ayurveda treatment for *manoavsad*. The continuous administration of this formulation prevents the release of abrupt electric discharges and improves the physical and mental condition of the patient. It has profound soothing and relaxing effect on mind<sup>33</sup> Recent research has showed that it reduces the oxidative stress in rat brain and hence proven effect on neurotoxicity.<sup>34</sup> The oxidative stress is the most important mechanism in the development and progression of epilepsy and other diseases including Alzheimer's disease, chronic degenerative disorders, stroke, rheumatoid arthritis, diabetes and cancer. The presence of flavonoids in *Sida cordifolia* has been confirmed by phytochemical analysis and these as well as their glycosides exert anxiolytic, sedative and anticonvulsant effects on the central nervous system.<sup>35</sup>

#### CONCLUSION

Different methods of preparation are described in many texts and numerous studies have been conducted regarding the clinical efficacy of *Ksheerabala Taila*. The presence of *Go-Ksheera*, *Bala* and *Tila Taila* makes *Ksheerabala Taila* to pacify *vata dosha*. It is widely used oil in various *Panchakarma* therapies like *Snehana*, *Kavala*, *Talam*, *Matra Basti*, *Nasya*, *Shirobasti* and other methods of *Moordhini Taila*. *Ksheerabala Taila* is an important oil formulation and there is a need to conduct more scientific studies on *Ksheerabala Taila* in order to prove its efficacy on various neurological disorders

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