

## RESEARCH ARTICLE

## STRESS INDUCED CHRONIC INSOMNIA (ANIDRA) AND IT'S MANAGEMENT WITH DASHAMULA KWATHA SHIRODHARA

\*Singh Anil Kumar<sup>1</sup>, Chandola HM<sup>2</sup>, Ravishankar B<sup>3</sup>

<sup>1</sup>Reader in Deptt. Of Katachikitsa V.Y.D.S. Ayurvedic college, Khurja, Bulandshahr (U.P.), India

<sup>2</sup>Professor –Department Kayachikitsa in I.P.G.T &RA, Jamnagar, India

<sup>3</sup>Head- Pharmacology Lab I.P.G.T &RA, Jamnagar, India

\*Corresponding Author's E-mail: [ydanilsing@yahoo.co.in](mailto:ydanilsing@yahoo.co.in)

### ABSTRACT:

Sleep is one of the most important physiological processes responsible for the maintenance of health. It is one of the states of brain activity generally resultant effect of exhaustion and fatigue. 'Sleep' is defined as unconsciousness from which the person can be aroused by external stimulus or other. It is different from coma. In coma state person cannot be aroused. The incidence of sleep disturbance is very common in all age groups irrespective of caste, community, race, socio-economic status and sex etc. which might be related to the life style, environmental influence, mental tension, changed food habits and day to day stress. These ultimately disturb the psychoneuro-biological rhythm of sleep broadly discussed under sleep disorders. Nidra is one among the primary tripod of life<sup>1</sup>. Ten patients of stress induced chronic Insomnia (Anidra) have been studied to evaluate the role of psychic traits (Manasabhabha) in etiopathogenesis and management of disease.. Dashamula kwatha Shirodhara half an hour daily in morning for 21 days showed highly significant relief on Sleeplessness (61.29%), Distress (63.64%) , Sleep Time, Sleep Quality and Freshness after Awakening (100% each).Relief in mental health has been observed based on Hamilton's Anxiety Rating Scale, Hamilton's Depression Raring Scale, Brief Psychiatric Rating Scale and Manasabhabha pariksha on Ayurvedic parameters .

**Key words:** Anidra, Psychic traits, Manasabhabha, Sleep, Stress, Chronic Insomnia, Dashamula kwatha Shirodhara.

### INTRODUCTION:

*DSM-IV-TR* defines insomnia as "difficulty in initiating or maintaining sleep or non restorative sleep" and as "causing clinically significant distress or impairment in social, occupational, or other important areas of functioning."<sup>2</sup> It must cause the patient significant distress or functional impairment. A brief period of Insomnia is most often associated with anxiety either as a sequel of an anxious experience or in anticipation of an anxiety provoking experience. Amongst its types, *Transient Insomnia* is usually situational with duration of less than a week and caused by life stress (examinations, bereavement, and brief illness), time (zone travel, shift work), and environmental change (hospitalization). *Short-term Insomnia* persists for 1-4 weeks & often due to family or work stress.<sup>3</sup> Chronic insomnia, including sleep maintenance problems, occurs more commonly among the elderly<sup>4</sup>, depressed patients,<sup>5</sup> and medically ill populations<sup>6, 7</sup>, including those with chronic pain syndromes<sup>8</sup>. These patients are often viewed as difficult to treat yet are among the groups that have the greatest need for treatment.

*Chronic Insomnia* may continue for more than a month and is usually consequence of medical & psychological problems. It could be: primary which may be idiopathic, a rare condition characterized by life-long short sleep commences in early life & continues into adulthood with daytime fatigue, irritability, tension; or secondary insomnia precipitated due to medical causes (pain from arthritis, nerve compression & angina; others include asthma, peptic ulcer, dementia & sleep apnoea), psychological causes (anxiety, depression, hypochondriasis), drug induced (coffee, tea, nicotine, beta-blockers, methyldopa, phenytoin, bronchodilators, monoamine oxidase inhibitors, steroids, alcohol, hypnotic withdrawal).<sup>9</sup>

Secondary Insomnia is further classified as: *physical insomnia* (due to febrile illness, urinary frequency, chronic obstructive lung disease, cardiac disease, vascular disorders and endocrine & metabolic disorders), *physiological insomnia* (jet lag, shift work & noise etc.), *psychological insomnia* (stress - examination, work, bereavement etc.), *psychiatric insomnia* (depression, anxiety etc.), *pharmacological insomnia* (alcohol, caffeine, CNS depressants, CNS stimulants, nicotine & steroids).<sup>10</sup>

Ayurveda considered Nidra among three Upastambha<sup>11</sup> and discussed about Nidra and Nidranasha in the context of Astaunindaniya Adhyaya. Charaka has stated that happiness & sorrow, growth & wasting, strength & weakness, virility & impotence, knowledge & ignorance as well as existence of life and its cessation depend on the sleep. Moreover, Nidra is *Pushtida* and Nidranasha does the *Karshana* of the body. Untimely excessive sleep and prolonged vigil take away both happiness and longevity<sup>12</sup>. Charaka has included the *Asvapna* (Insomnia) in Vataj Nanatmaja Vikara<sup>13</sup> whereas Sushruta explained it under Garbha Vyakarana Shariram<sup>14</sup> since Nidra plays a role of nutrition and development along with *Vaikariki Nidra* which can be correlated to sleep disorders.

Vagbhata mentioned it in *Trayopastambha* and considered *Mandanidra* due to Vata, but used the term *Asvapna* in Vataj Nanatmaja Vikara<sup>15</sup>. In *Ashtanga Hridaya* – Nidra, Nidra vikara and its Chikitsa are mentioned under *Anna-rakshadhyaya* where *Trayopastambha* are explained<sup>16</sup>. Sharangadhara discussed *Anidra* in Vataj Nanatmaja Vikara, *Alpa nidra* in Pittaja Nanatmaja Vikara and *Atinidra* in Kaphaja Nanatmaja Vikara<sup>17</sup>. Thus, all Acharyas considered importance of Nidra and Nidranasha is explained with physiology of Nidra only. Anidra or Alpa

Nidra is seen in many diseases as a *Lakshana* and it may be Upadrava or Arishta Lakshana also. Hence, the Nidana, Samprapti and Chikitsa of *Asvapna* are explained with manifestation as a disease.

Stress is one of the commonest causes attributed to Insomnia. Sleep disturbance associated with stress has not been well-documented due to its transient's nature. It must be further emphasized that those who do respond with insomnia may later develop chronic psycho-physiological insomnia as result of the initial stress. Vata and Manasa are interdependent and if one becomes vitiated, it vitiates the other.<sup>18</sup> Thus both seems to be vitiated in Anidra. Charaka has given importance to Vata in the management of Anidra.<sup>19</sup> Treating this psychic disorder is a difficult task, however proper counseling and relaxation techniques along with other therapies are helpful in the management. Hence, Manaha-sukham, Manonukula-vishaya etc. are mentioned in the management of Anidra.<sup>20</sup> Many ayurvedic formulations have been shown to relieve stress. Among them Mamsyadi Ghrita oral and Dashamula Kwatha Shirodhara had been selected for treating the stress induced chronic insomnia.

#### MATERIAL AND METHODS:

Ten patients fulfilling the diagnostic criteria of sleep disorder (especially stress induced chronic insomnia) were randomly selected from O.P.D. & I.P.D. of I.P.G.T. & R.A., Hospital, Gujrat Ayurved University, Jamnagar among them 08 patient complete the treatment and two patient left the treatment in between.

**Diagnostic Criteria:** Detail medical history and physical examination was made according to modern and Ayurvedic clinical method. Patients were diagnosed according to diagnostic criteria given for insomnia in DSM – IV. Detailed proforma was prepared to study Manasabhabha in insomnia supported by Hamiltons Anxiety Rating Scale, Hamiltons Depression Rating Scale & Brief Psychiatry Rating Scale.

**Drug & Dose:** *Dashamula Kwatha Shirodhara*: Dashamula Kwatha 500 gm/day to prepare two liter kwatha for Shirodhara for 21 Days. The follow up was one month.

**Inclusion Criteria:** 1) Male & female patients between 25 & 70 years, 2) Psycho- physiological insomnia especially stress induced, 3) Willing to give informed consent.

**Exclusion Criteria:** 1) Below 25 & above 70 years, 2) Psychiatric patients on treatment, 3) Hypertension, 4) Patients in pain, 5) On hypnotic or other drugs known to cause drowsiness.

#### OBSERVATIONS:

**Age - Sex - Religion:-** Maximum patients (40%) belonged to the age between 41 to 70 years which denotes initial stage of Pitta-Vata & Rajas predominance playing an active role in pathogenesis of Anidra. Female patients (60%) were more in comparison to male (40%). Sleep disorders are on higher side in females than the males.<sup>21</sup> More patients were Hindus (80%) being dominancy of Hindu population in the area.

**Education, Occupation & Socio-economic status:-** Maximum patients (40%) were secondary educated

followed by 30% graduates, 20% higher secondary educated & 10% post graduate. As such there is no relationship between education and Anidra. Maximum patients reported in this study were house wives (50%), followed by 30% Labourers, 10% each Business & students while 20% were of other categories. This suggests that due to the physical & mental stress and strain and having more responsibility, the housewives suffer more from this disease. labourers and students also suffer from excessive mental stress & worry which may leads to disease manifestation Anidra.

Majority of patients were married (80%) indicating marital commitment, children care & other family problems. Maximum patients were from poor class (30%) followed by lower middle, middle & rich class (20% in each) and upper middle class (10%). The poor class people may have more struggles leading to stressful life and insomnia. Maximum (100%) patients belong to urban habitat, suggesting environment & working atmosphere, living condition etc. are responsible to precipitate disease. Still Indian life style has its root in rural areas, which is best for healthy living.

**Stress & Family History:** - Psychic stress was observed in 60% patients followed by physical stress (40%) and 40% of the patients had positive family history for psychic & physical disturbance. Negative attitude and insight towards the patients might act as a stressor enhancing psychic symptoms in insomnia. It is reported that sleep disorders run in families.<sup>22</sup>

**Dietetics & Life style:** Most of the patients were vegetarian (90%) followed by mixed diet (10%). The 80% patients had Sattvika and 20% had Rajasika type of diet. As per Ayurvedic classics vegetarian diet increases dominancy of Sattvika Ansha of Manas and decreases Tamasika ansha of Manas causing Anidra.<sup>23</sup> Data reveals that 90% patients had katu rasa dominant diet, 80% each tikta & lavana rasa, 20% patients madhura rasa and 10% had kashaya rasa dominant diet. Katu- tikta rasa dominant diet increases vata and due to vata prakopa anidra occurs.<sup>24</sup> Moreover, 50% patients had Mandagni, 30% Tikshnagni, 20% Vishamagni since Nidra is stated to enhance Agni,<sup>25</sup> the sleeplessness may produce mandagni. More patients had krura koshtha (50%) followed by madhyama koshtha (40%) & Mridu Koshtha (10%) suggestive of pitta and vata dominancy since majority of patients had vata-pitta prakriti (70%).

Maximum patients had addiction of tea and smoking (20% in each) followed 10% patients of coffee addicted, caffeine has a stimulant action on CNS increasing mental activity. Nicotine is responsible for dependence and leads to CNS stimulation resulting aggrivation in disease condition.<sup>26</sup> All the patients had disturbed sleep and 50% each had regular and occasional dreams during routine sleep. Sometimes, dreams are indicative of underlying disorders causing insomnia.<sup>27</sup> The patients had constipation & irregular bowel habit (90%) indicating vata dominancy.

**Prakriti – Sara - Samhanana – Pramana - Satmya – Sattva :-** Maximum patients had vata-pittaja sharirika prakriti (70%), 20% Vataja prakriti, 10% had Pittaja sharirika prakriti indicating that vata-pitta prakriti patients are more at risk for developing Anidra. Further, 90% patients had rajasika & 10% sattvika manasa prakriti.

Rajas having pravartaka property keeps mind active leading to insomnia. Most of the patients had madhyama sara (80%), 20% avara sara. More patients (80%) had madhyama samhana followed by avara samhana (20%). Moreover, 60% had madhyama pramana and 20% each had pravara and avara pramana. The sara, samhana and pramana reflect the nourishment and constitution. Role of sleep in growth and nourishment is very important.<sup>28</sup> Maximum patients had madhyama satmya (80%) followed by avara satmya (20%) and madhyama sattva (30%) & avara sattva (70%). Charaka has mentioned that person having madhyama and avara sattva are more vulnerable to diseases.<sup>29</sup>

**Ahara & Vyayama Shakti :-** Maximum patients had pravara abhyavaharana (50%) followed by (40%) and 10% avar abhyavaharana shakti. 50% patients had madhyama jarana - shakti followed by 40% avar jarana - shakti and 10% pravar jarana-shakti. Proper sleep helps in digestion, improves Agnibala and normalizes doshas to maintain dhatusatmya. The 90% patients had avara vyayama-shakti followed by madhyama (10%) vyayama-shakti. Abnormal sleep decreases working capacity & performance resulting in avara vyayama-shakti.

**Vaya – Desha- Nidana :-** All the patients had madhyama vaya, anidra dominated in madhyama & jirna vaya due to stress & strain, increased liabilities and elevated pitta & vata<sup>30</sup> All patients belonged to Jangala Desha (Vata- Pitta bhuyistha) where vata-pitta dominant vikaras are found more<sup>31</sup> and Anidra is also a vata- pitta vitiated disease<sup>32</sup>. Maximum patients (40%) had aharaja nidana (dietary) followed by 60% manasika (psychic), 50% viharaja (life style) and 20% others. It highlights the role of these etiological factors in vitiation of vata-pitta, leading to disease manifestation.

**Chief Complaints:** - The 70% patients had difficulty in falling sleep and 76.67% had difficulty in maintaining sleep. Moreover, 46.67% patients had distress in working area, 26.67% had impaired Sleep wake schedule and 26.67% patients had sleep terrors or nightmares which may be due to dushti of vata and rajas caused by chala and pravartaka guna, respectively.

**Associated Complaints:** - Present study reveals that maximum 86.67% patients were having Krodha & Shirogaurava followed by 83.33% patients having Akshi Gaurava, 76.67% each having Smritihas and Ajirna, 70% Vibandha , 50% Bhrama, 40% Shirodaha and Gastroesophageal reflex, 36.67% each having Netradaha &

Bhaya, 30% each having Kshudhamandhya, Shoka & Jrumbha, 26.67% Angamarda & Glani, 23.33% Shirahshula,13.33% Udvega and 3.33% Bruxism. These complaints are due to vata, pitta and rajas. However, Akshi Gaurava, Shiro Gaurava etc. are due to kapha prakopa.

## RESULTS AND DISCUSSION:

In a series of 08 patients, Shirodhara provided highly significant relief (p<0.001) on **Chief Complaints**: Sleeplessness (61.29%), Distress (63.64%), Sleep Time, Sleep Quality and Freshness after awakening (100% each). It may be due to procedural and anxiolytic effect of Shirodhara & Tridosha-shamaka properties of Dashamula.

Highly significant relief (p<0.001) was observed on **Associated Complaints**: Akshi Gaurav (86.36%), Smritihrasa (66.67%), Angamarda (82.35%) and Freshness after awakening (75%). Improvement in Smritiharasa etc may be due to procedural & tranquillizing effect of Shirodhara normalizing the vitiated manas Doshas, improving concentration & memory. Significant relief (p<0.01) was observed on: Shiro Gaurav (94.74%), Shirahshula (80%), Keshapatan (68.42%), Netradaha (92.31%), Vibandha (47.61%) & Alasya (72.22%). Symptomatic relief on Akshigaurav and Shirogaurav may be due to ushna Virya & kapha-vatta shamaka properties of maximum drugs of Dashamula kwatha. The relief on Alasya may be due to laghu- ruksha guna & katu vipaka of majority of drugs pacifying the vitiated kapha. The relief on Smritihrasa, Angamarda and Freshness after awakening may be due to madhura & tikta Rasa and madhura Vipaka of the drugs - Shalaparni, Prishniparni & Gokshura. The relief on Shirahshula may be due to guru- snigdha guna & vata shamaka effects of Shalaparni & Gokshura. Moreover, all the drugs being ushna Virya counteract the shita guna of vitiated vata. In Keshapatana, relief may be due to tikta, kashaya Rasa & katu Vipaka of majority of Dashamula drugs normalizing vitiated pitta- kapha.

**Manasa Pariksha Bhava:** Shirodhara showed highly significant relief (p<0.001) on Moha (83.33%), Krodha (78.95%) and Bhaya (78.95%) which may be due to tridosha-shamaka & manas doshahara properties of the drug formulation and due to procedural effect of shirodhara increasing concentration to normalize manasabhavas.

## Interpretation of clinical data<sup>33</sup>

Table 1: Effect on Chief Complaints

| Chief Complaints                | n | Mean score |      | Mean Difference | % Relief | S.D. | S.E. | 't'   | p      |
|---------------------------------|---|------------|------|-----------------|----------|------|------|-------|--------|
|                                 |   | B.T.       | A.T. |                 |          |      |      |       |        |
| Sleeplessness                   | 8 | 3.87       | 1.5  | 2.38            | 61.29    | 0.92 | 0.32 | 7.32  | <0.001 |
| Difficulty in falling sleep     | 8 | 2.25       | 0.25 | 2               | 88.89    | 0.93 | 0.33 | 6.11  | <0.001 |
| Difficulty in maintaining sleep | 7 | 1.75       | 0.25 | 1.5             | 85.71    | 0.76 | 0.29 | 5.25  | <0.01  |
| Distress                        | 8 | 2.75       | 1    | 1.75            | 63.64    | 0.89 | 0.31 | 5.58  | <0.001 |
| Disorders of S-W schedule       | 8 | 3.25       | 0.63 | 2.63            | 80.77    | 0.52 | 0.18 | 14.35 | <0.001 |
| Sleep quantity                  | 8 | 1.75       | 0    | 1.75            | 100      | 0.46 | 0.16 | 10.69 | <0.001 |
| Sleep time                      | 8 | 1.5        | 0.13 | 1.5             | 100      | 0.53 | 0.19 | 7.94  | <0.001 |
| After awakening                 | 8 | 1.63       | 0.25 | 1.38            | 100      | 0.52 | 0.18 | 7.51  | <0.001 |

Table 2: Effect on Associated Complaints

| Associated Complaints | n  | Mean score |      | Mean Difference | % Relief | S.D. | S.E. | 't'   | p      |
|-----------------------|----|------------|------|-----------------|----------|------|------|-------|--------|
|                       |    | B.T.       | A.T. |                 |          |      |      |       |        |
| Akshigaurava          | 8  | 2.75       | 0.38 | 2.38            | 86.36    | 0.52 | 0.18 | 12.98 | <0.001 |
| Shiro Gaurva          | 7  | 2.38       | 0.13 | 2.25            | 94.74    | 1.04 | 0.39 | 5.75  | <0.01  |
| Alasya                | 7  | 2.25       | 0.63 | 1.63            | 72.22    | 0.74 | 0.28 | 5.78  | <0.01  |
| Jrimbha               | 3  | 0.75       | 0.13 | 0.63            | 83.33    | 0.92 | 0.53 | 1.18  | -      |
| Shirodaha             | 5  | 1.63       | 0.13 | 1.5             | 92.31    | 1.31 | 0.59 | 2.56  | -      |
| Netradaha             | 10 | 1.73       | 0.13 | 1.6             | 92.31    | 1.24 | 0.39 | 4.07  | <0.01  |
| Angamarda             | 7  | 2.12       | 0.38 | 1.75            | 82.35    | 0.71 | 0.27 | 6.55  | <0.001 |
| Glani                 | 1  | 0.25       | 0    | 0.25            | 100      | 0.71 | 0.71 | 0.35  | -      |
| Bhrama                | 3  | 0.88       | 0.25 | 0.63            | 71.43    | 0.92 | 0.53 | 1.18  | -      |
| Ajirna                | 3  | 0.75       | 0.25 | 0.5             | 66.67    | 0.76 | 0.44 | 1.45  | -      |
| Kshudhamandya         | 5  | 1.75       | 0.5  | 1.25            | 71.43    | 1.04 | 0.46 | 2.7   | -      |
| Vibandha              | 7  | 2.63       | 1.38 | 1.25            | 47.61    | 0.71 | 0.27 | 4.68  | <0.01  |
| Shirahshula           | 7  | 2.5        | 0.5  | 2               | 80       | 0.93 | 0.35 | 5.72  | <0.01  |
| Keshapatan            | 7  | 2.38       | 0.75 | 1.63            | 68.42    | 0.75 | 0.28 | 5.78  | <0.01  |
| After awakening       | 8  | 3          | 0.75 | 2.25            | 75       | 0.46 | 0.16 | 13.75 | <0.001 |
| Krodha                | 5  | 1.75       | 0.25 | 1.5             | 85.71    | 2.24 | 1.31 | 0.59  | -      |
| Shoka                 | 5  | 1.75       | 0.25 | 1.5             | 85.71    | 1.31 | 0.59 | 2.56  | -      |
| Bhaya                 | 4  | 1.13       | 0.13 | 1               | 88.89    | 1.07 | 0.53 | 1.87  | -      |
| Udavega               | 5  | 0.5        | 0.13 | 0.38            | 75       | 0.74 | 0.33 | 1.13  | -      |
| Vishada               | 5  | 1.5        | 0.38 | 1.13            | 75       | 0.99 | 0.44 | 2.54  | -      |
| Smritihrasa           | 7  | 2.63       | 0.88 | 1.75            | 66.67    | 0.71 | 0.27 | 6.55  | <0.001 |

Table 3: Effect on Manasa Pariksha Bhavas

| Manasa -bhav | n | Mean Score |      | Mean Difference | % Relief | S.D. | S.E. | 't'  |
|--------------|---|------------|------|-----------------|----------|------|------|------|
|              |   | BT         | AT   |                 |          |      |      |      |
| Moha         | 8 | 2.25       | 0.38 | 1.87            | 83.33    | 0.64 | 0.23 | 8.28 |
| Krodha       | 8 | 2.38       | 0.5  | 1.88            | 78.95    | 0.64 | 0.23 | 8.28 |
| Shoka        | 7 | 2.25       | 0.63 | 1.63            | 72.22    | 0.74 | 0.28 | 5.77 |
| Bhaya        | 8 | 2.38       | 0.5  | 1.88            | 78.95    | 0.64 | 0.23 | 8.28 |
| Medha        | 8 | 2.75       | 1.23 | 1.63            | 59.09    | 0.74 | 0.26 | 6.18 |
| Smriti       | 8 | 2.13       | 0.63 | 1.5             | 70.59    | 0.93 | 0.35 | 4.29 |
| Moha         | 8 | 2.25       | 0.38 | 1.87            | 83.33    | 0.64 | 0.23 | 8.28 |

**Hamiltons Anxiety Rating Scale:** Highly significant relief (p<0.001) was found in: Anxious mood (73.68%), Tension (78.26%), Insomnia (82.14%), and Somatic Sensory (78.57%). The patient feels relaxation physically and

mentally. The relaxation of frontalis muscle tends to normalize the entire body and achieve a decrease in over activity of sympathetic nervous system.

Table 4: Effect on the symptoms of Hamiltons Anxiety Rating Scale

| H A R S             | n  | Mean score |      | Mean Differnce | % Relief | S.D. | S.E. | 't'   | p      |
|---------------------|----|------------|------|----------------|----------|------|------|-------|--------|
|                     |    | BT         | AT   |                |          |      |      |       |        |
| Anxious mood        | 8  | 2.38       | 0.63 | 1.75           | 73.68    | 0.71 | 0.25 | 7     | <0.001 |
| Tension             | 8  | 2.88       | 0.63 | 2.25           | 78.26    | 0.71 | 0.25 | 9     | <0.001 |
| Fear                | 6  | 1.88       | 0.25 | 1.65           | 86.67    | 1.18 | 0.48 | 3.35  | <0.05  |
| Insomnia            | 8  | 3.5        | 0.63 | 2.88           | 82.14    | 0.64 | 0.23 | 12.69 | <0.001 |
| Intellect. (cog)    | 8  | 3.25       | 1.38 | 1.87           | 57.69    | 1.13 | 0.40 | 4.71  | <0.01  |
| Depress. Mood       | 8  | 3.13       | 1    | 2.13           | 68       | 0.99 | 0.35 | 6.06  | <0.001 |
| Somatic (mus.)      | 8  | 1.5        | 0.13 | 1.38           | 91.67    | 0.52 | 0.18 | 7.51  | <0.001 |
| Somatic (sen.)      | 8  | 1.75       | 0.38 | 1.38           | 78.57    | 0.52 | 0.18 | 7.51  | <0.001 |
| C.V.Symptoms        | 5  | 0.63       | 0    | 0.63           | 100      | 0.52 | 0.23 | 2.7   | -      |
| R. Symptoms         | 5  | 1.13       | 0.13 | 1              | 88.89    | 1.07 | 0.48 | 2.09  | -      |
| GIT Symptoms        | 11 | 1.47       | 0.27 | 1.2            | 81.81    | 0.86 | 0.26 | 4.62  | <0.001 |
| G.U.System          | 10 | 1.07       | 0.67 | 1              | 93.73    | 0.85 | 0.27 | 3.74  | <0.01  |
| Auto.Symptoms       | 7  | 1.25       | 0.13 | 1.13           | 90       | 0.64 | 0.24 | 4.64  | <0.01  |
| Behavioral symptoms | 5  | 0.75       | 0    | 0.75           | 100      | 0.71 | 0.32 | 2.37  | -      |

| H D R S          | n  | Mean Score |      | Mean Difference | % Relief | S.D. | S.E. | 't'   | p      |
|------------------|----|------------|------|-----------------|----------|------|------|-------|--------|
|                  |    | BT         | AT   |                 |          |      |      |       |        |
| Depressed mood   | 13 | 2.07       | 0.4  | 1.67            | 80.64    | 1.11 | 0.31 | 5.4   | <0.001 |
| Guilt            | 9  | 0.93       | 0.13 | 0.8             | 85.71    | 0.77 | 0.26 | 3.10  | <0.05  |
| Suicide          | 15 | 1.87       | 0.47 | 1.4             | 75       | 1.06 | 0.32 | 4.40  | <0.001 |
| Insomnia initial | 14 | 2.13       | 0.13 | 2               | 93.75    | 0.76 | 0.20 | 10.24 | <0.001 |
| Insomnia middle  | 13 | 1.6        | 0.13 | 1.47            | 91.67    | 0.83 | 0.22 | 6.58  | <0.001 |
| Insomnia delayed | 13 | 1.6        | 0.2  | 1.4             | 87.5     | 0.74 | 0.20 | 6.85  | <0.001 |
| Work interest    | 13 | 2.27       | 0.67 | 1.53            | 67.64    | 0.92 | 0.25 | 6.03  | <0.001 |
| Retardation      | 9  | 0.87       | 0.14 | 0.78            | 90.65    | 0.70 | 0.23 | 3.37  | <0.01  |
| Agitation        | 7  | 0.53       | 0.14 | 0.78            | 90.65    | 0.70 | 0.23 | 3.37  | <0.05  |
| Anxiety(psychic) | 12 | 1.6        | 0.27 | 1.33            | 83.33    | 0.82 | 0.24 | 5.66  | <0.001 |
| Anxiety(somatic) | 15 | 1.87       | 0.2  | 1.67            | 89.29    | 0.82 | 0.21 | 7.90  | <0.001 |
| Somatic general  | 11 | 0.53       | 0.14 | 0.78            | 90.65    | 0.70 | 0.23 | 3.37  | <0.01  |
| Somatic (GIT)    | 11 | 1.13       | 0.2  | 0.93            | 82.35    | 0.80 | 0.24 | 3.88  | <0.01  |
| Genital          | 7  | 1.6        | 0.2  | 1.4             | 87.5     | 0.74 | 0.20 | 6.85  | <0.001 |
| Hypochondriasis  | 11 | 2.13       | 0.53 | 1.6             | 75       | 1.12 | 0.34 | 4.73  | <0.001 |
| Insight          | 4  | 0.33       | 0.12 | 1.6             | 83.77    | 0.61 | 0.33 | 4.73  | <0.01  |
| Loss of weight   | 6  | 0.67       | 0.07 | 0.53            | 80       | 0.83 | 0.34 | 1.57  | -      |

**Hamiltons Depression Rating Scale:** Shirodhara provided highly significant relief (p<0.001) in: Depressed Mood (80.64%), Suicidal though (75%), Insomnia initial (93.75%), Insomnia middle (91.67%), Insomnia delay (87.50%), WOrk interest (67.64%), Anxiety psychic (83.33%), Anxiety Somatic (89.29%) and Hypochondriasis (65%). This relief may be due to majority of the drugs in Dashamula having laghu, ruksha guna, ushna virya and katu vipaka which normalize vitiated kapha & tamasa in Depression while relief on other symptoms may be due to mechanical effect of Shirodhara providing relaxation to decrease activity of sympathetic nervous system. Significant relief (p<0.01) was observed on Retardation (90.65%), Somatic general (90.65%), Somatic (GIT) (82.35%) and Insight (83.77%) which may be due to anxiolytic effect of Shirodhara.

**Brief Psychiatry Rating Scale:** Highly significant improvement (p<0.001) was observed in: Mannerisms & Pasturing and Conceptual Disorg. (100% each), Anxiety (85.18%), Tension (92.59%), Suspiciousness (94.44%), Hallucinatory behave. (86.36%) and Unusual thought content (90.48%) which may be due to tranquilizing effect of Shirodhara. Significant relief (p<0.01) was observed in: Emotional withdrawal (80%), which may be due to Ushna Virya of maximum drugs in Dashamula pacifying vitiated shita guna of vata to normalize vitiated manasa doshas. Moreover, vata is the controller & coordinator of Manasa.

**Hematological and Biochemical parameters** have shown no significant changes after a course of therapy.

Table 6: Effect on the symptoms of Brief Psychiatry Rating Scale

| B S R A               | n  | Mean Score |      | Mean Difference | % Relief | S.D. | S.E. | 't'  | p      |
|-----------------------|----|------------|------|-----------------|----------|------|------|------|--------|
|                       |    | BT         | AT   |                 |          |      |      |      |        |
| Somatic concern       | 8  | 0.67       | 0.07 | 0.53            | 80       | 0.83 | 0.34 | 1.57 | -      |
| Anxiety               | 13 | 1.8        | 0.27 | 1.33            | 85.18    | 0.83 | 0.23 | 6.63 | <0.001 |
| Emotional withdrawal  | 11 | 1.33       | 0.2  | 1.07            | 80       | 0.87 | 0.27 | 4    | <0.01  |
| Conceptual Disorg.    | 12 | 1.07       | 0    | 1.07            | 100      | 0.70 | 0.20 | 5.25 | <0.001 |
| Tension               | 13 | 1.8        | 0.13 | 1.67            | 92.59    | 0.82 | 0.23 | 7.36 | <0.001 |
| Manneurism&postur.    | 7  | 0.47       | 0    | 0.47            | 100      | 0.51 | 0.20 | 2.39 | -      |
| Suspiciousness        | 7  | 1.80       | 0.10 | 1.70            | 94.44    | 0.64 | 0.19 | 8.23 | <0.001 |
| Grandiosity           | 9  | 1          | 0.67 | 0.93            | 93.33    | 0.88 | 0.29 | 3.17 | <0.05  |
| Hostility             | 7  | 0.73       | 0.13 | 0.6             | 81.81    | 0.74 | 0.28 | 2.15 | -      |
| Hallucinatory behave. | 12 | 1.47       | 0.2  | 1.27            | 86.36    | 0.88 | 0.26 | 4.97 | <0.001 |
| Motor retardation     | 3  | 0.4        | 0.67 | 0.33            | 83.33    | 0.72 | 0.42 | 0.8  | -      |
| Uncooperativene-ss    | 5  | 0.67       | 0.07 | 0.6             | 90       | 0.74 | 0.33 | 1.82 | -      |
| Unusualthoughtcont.   | 12 | 1.4        | 0.13 | 1.27            | 90.48    | 0.8  | 0.23 | 5.49 | <0.001 |
| Genital               | 7  | 0.4        | 0.67 | 0.33            | 83.33    | 0.72 | 0.42 | 0.8  | -      |
| Blunted effect        | 12 | 0.47       | 0.07 | 0.4             | 85.41    | 0.63 | 0.18 | 2.19 | -      |
| Excitement            | 5  | 0.6        | 0.07 | 0.53            | 88.89    | 0.74 | 0.33 | 1.60 | -      |

## CONCLUSION:

Dashamula Kwatha Shirodhara has showed marked improvement in 25% patients; moderate improvement in 50% and mild improvement was observed in 25%

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