



## Effect of Meditation On Self-Control of Mind

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**Abstract:** Anxiety neurosis is common due to today's lifestyle challenges. People often cannot handle their emotions and get angry, depressed, and anxious. Meditation Helps to eliminate negative emotions and develop positive emotions, increase concentration, enhance memory, give clarity of thoughts, and improve willpower. The current research work discusses the Karmas of Manasa such as *Indriyabhigraha* and *Swasyanigraha* (self-control), the Sattvavajaya Chikitsa, anxiety neurosis as a result of abnormal *Swasya Nigraha*, the utility of meditation for control on self, i.e., *Swasyanigraha*. The present study was carried out to study the self-control function of the mind and the effect of Twin Heart Meditation in anxiety neurosis subjects. In the present single-arm study, 114 young adults (aged 18-35 years) with diagnosed anxiety neurosis based on Ayurvedic Sattva Parikshana criteria and the Hamilton anxiety rating scale were selected. They were prescribed Meditation or Dhyana for 90 days. Follow-up was taken every 30 days to assess anxiety symptoms according to the Hamilton anxiety rating scale. All the 114 participants showed improvement. Moderate improvement was observed in most of the participants. (91%) Based on the results of the present study done through the Hamilton Anxiety Rating Scale and Ayurvedic Satva Parikshana Scale, it can be inferred that the Twin-Hearts Meditation for consecutive 90 days in individuals suffering from mild to moderate anxiety neurosis enhances *Swasyanigraha* Karma (Self Control).

**Keywords:** Chittodvega, Mana, Swasya Nigraha, Satva, Anxiety neurosis, Dhyana

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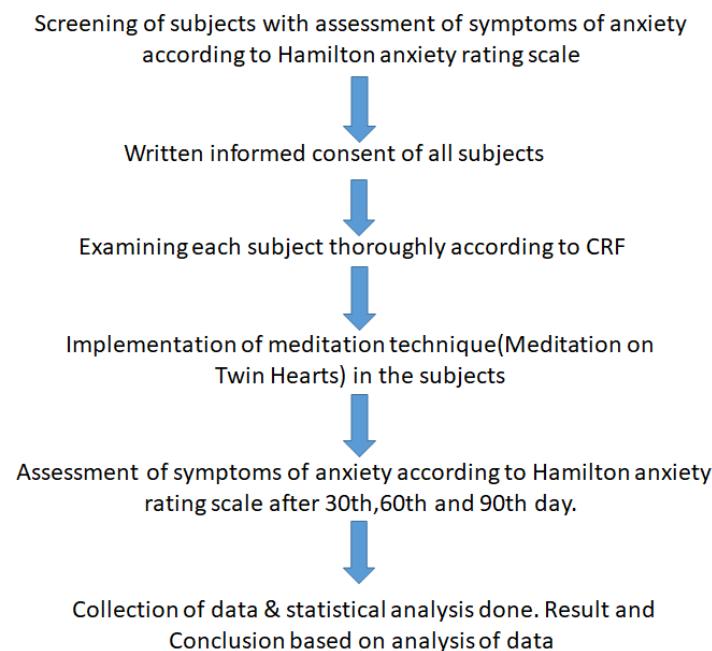
## I. INTRODUCTION

According to Ayurveda, the ancient medical system of India, life is a combination of four interdependent components viz., the Sharira (body), Indriya (sensory and motor faculties), Satva (mind), and Atma (soul)<sup>1</sup>. It is also indicated that a person with Swastha Mana, Prasanna Atma, Indriya, Mana, Sama Dosha, Sama Agni, Sama Dhatu, and Mala is perfectly healthy<sup>2</sup>. The state of 'Manasa' is chiefly responsible for the Sukha, Dukkha, Hita, and Ahita variation of Ayu. Therefore, 'Manasa' is highly responsible for attaining complete health. The entity that is responsible for thinking is known as Manas, i.e., Sattva (mind). 'Manasa' has a special ability of Swasya Nigraha, i.e., self-control<sup>3</sup>. Indriyabhigraha and Swasyanigraha are functions of the mind, showing control of the special sense organ and the mind itself. It means self-control is control over sense organs, too. Self-control is self-awareness and self-management through the proper use of sense organs and social awareness and relationship management through timely action to overcome any challenging situation. In other words, self-control is nothing but emotional regulation and resilience. Self-control is knowing, naming, and handling emotions intelligently. The result of this self-control is that a person can find the best solution or plan to overcome difficult situations. PNI, or psychoneuroimmunology, is now a leading-edge science to understand how this function occurs. Only an emotionally intelligent person can regulate emotion by self-awareness and social awareness. Hence, it is necessary to have the right orientation towards desired objects and refrain from those after the purpose is fulfilled. No other can control the activities of the mind except the mind itself. Thus, the mind is the regulator and coordinator of its activities. This function of self-restraint has been implied widely in psychiatric treatments also<sup>4</sup>. Anxiety and neurosis are common due to today's lifestyle challenges. People often cannot handle their emotions and get angry, depressed, and anxious. There is no self-awareness & self-management, leading to wrong decisions in important periods of their life. The Satvavajaya Chikitsa has been elaborated to restrain the mind from harmful objects and train the mind to avoid dangerous things<sup>5</sup>. Dhyana, or meditation, is the seventh step of yoga, and during this stage,

there is deep awareness but no focus. There may be very few thoughts or no thoughts. Spiritual therapy (daivavya pashraya) is advocated for psychosomatic disorders. Auspicious rites, fasting, praying, blessings, meditation, etc., are employed in spiritual therapy.<sup>6</sup> The Ayurvedic psychotherapy (Sattvavajaya) is aimed at restraining the mind from a desire for unwholesome objects and directing it towards wholesome objects, attaining the height of spiritual wisdom<sup>7</sup>. Mind (sattva) is of three types according to its strength. An inferior mind (avar sattva) person can be advocated by spiritual therapy and ayurvedic psychotherapy.<sup>8</sup> Psychotic disorders (Unmada) usually can be treated by Spiritual and psychotherapy.<sup>9</sup> Psychotic disorders like Unmada mind is weak (alpha sattva), and vitiated dosha, in turn, vitiate hruday (mind)<sup>10</sup>. The development of the heart (the higher emotions) has been neglected. Because of this, we may encounter a person who is quite intelligent but very abrasive. Although he is intelligent and successful, his human relationships may be very poor, he hardly has any friends, and he may have no family. Whether the abstract and concrete mind will be used constructively or destructively depends on the development of the heart chakra (the higher emotions). It is why the development of the heart should be emphasized in the educational system. The heart chakra (The center of higher emotions) is a replica or lower correspondence of the crown chakra (The center of illumination and divine love). By practicing Meditation on Twin Hearts, introduced by MCKS, a person becomes harmoniously balanced<sup>11</sup>. Meditation will lead to improved emotional intelligence, self-awareness, and self-regulation, which may lead to control of self, i.e., Swasyanigraha<sup>12</sup>. The Hamilton anxiety rating scale and Ayurvedic sattva parikshan assessment is the best technique for examining a person's mental strength (sattva).<sup>13</sup>

## 2. METHODOLOGY

114 patients were clinically diagnosed with Anxiety disorder based on the Hamilton anxiety rating scale (mild to moderate) and Sattva parikshan assessment criteria. Regular Timings – 8.00 am to 9.00 am (IST) Spot – YMT Ayurvedic Medical College, Kharghar, Navi Mumbai, India.



Flow chart: I

## 2.1. Inclusion criteria

Age - 18 to 35 years, both male and female. All subjects who were clinically diagnosed as Anxiety disorders based on the Hamilton Anxiety Rating scale (mild to moderate) and abides the study protocol.

## 2.2. Exclusion criteria

Known cases of acute or chronic medical or surgical illness. Patients undergoing any medication for anxiety neurosis. Pregnant women, heavy smokers, meat eaters, alcoholics, or drug addicts.

## 2.3. Ethical statement

After ethical approval from the Institutional Ethics Committee (KPB/EC/18), all the subjects were prescribed the twin heart meditation technique for 90 days.

## 2.4. Meditation technique: -Twin Heart Meditation<sup>14</sup>

Meditation on Twin Hearts is a technique for achieving cosmic consciousness or illumination. When the mind and emotions become still, it is possible to achieve what Indian yogis call "self-realization." This Technique includes several steps as follows:

1. Physical Exercise for about 5 minutes.
2. Invocation for Divine Blessing.
3. Meditating and Blessing the Earth with Loving-kindness through the Heart and Crown Chakras simultaneously.
4. Achieving Illumination by Mantra Om<sup>15</sup> or Amen.
5. Release of excess energy and strengthening the body through massage and more physical exercises.

## 2.5. Criteria for Assessment

1. Hamilton Anxiety Rating Scale (HAM-A) (Table 1). This scale was used to assess the severity of symptoms of anxiety.<sup>9</sup>

## 2.6. Scoring

Each item is scored on a scale of 0 (not present/Absent) to 4 (Very severe), with a total score range of 0-56, where a score less than 17 indicates mild severity, 18-24 indicates mild to moderate severity and 25-30 indicates severe anxiety neurosis. Below is a list of phrases that describe certain feelings that people have; rate the patients by finding the answer that best describes the extent to which they have these conditions. Select one of the five responses for each of the fourteen questions. 0 = Not present, 1 = Mild, 2 = Moderate, 3 = Severe, 4 = Very severe.

**Table 1 - Hamilton Anxiety Rating Scale (HAM-A)**

•	Anxious mood – 0, 1, 2, 3, 4
•	Worries, anticipation of the worst, fearful anticipation, irritability.
•	Tension – 0, 1, 2, 3, 4
•	Feelings of tension, fatigability, startle response, moved to tears easily, trembling, feelings of restlessness, inability to relax.
•	Fears – 0, 1, 2, 3, 4
•	Of dark, of strangers, of being left alone, of animals, of traffic, of crowds.
•	Insomnia – 0, 1, 2, 3, 4
•	Difficulty falling asleep, broken sleep, unsatisfying sleep, fatigue on waking, dreams, nightmares, and night terrors.
•	Intellectual – 0, 1, 2, 3, 4
•	Difficulty in concentration, poor memory.
•	Depressed mood – 0, 1, 2, 3, 4
•	Loss of interest, lack of pleasure in hobbies, depression, early waking, diurnal swing.
•	Somatic (muscular) – 0, 1, 2, 3, 4
•	Pains and aches, twitching, stiffness, myoclonic jerks, grinding of teeth, unsteady voice, increased muscular tone.
•	Somatic (sensory) – 0, 1, 2, 3, 4
•	Tinnitus, blurring of vision, hot and cold flushes, feelings of weakness, pricking sensation.
•	Cardiovascular symptoms – 0, 1, 2, 3, 4
•	Tachycardia, palpitations, pain in the chest, throbbing of vessels, fainting feelings, missing beat.
•	Respiratory symptoms – 0, 1, 2, 3, 4
•	Pressure or constriction in the chest, choking feelings, sighing, dyspnea.
•	Gastrointestinal symptoms – 0, 1, 2, 3, 4
•	Difficulty swallowing, wind abdominal pain, burning sensations, abdominal fullness, nausea, vomiting, borborygmi, looseness of bowels, loss of weight, constipation.
•	Genitourinary symptoms – 0, 1, 2, 3, 4
•	Frequency of micturition, urgency of micturition, amenorrhea, menorrhagia, development of frigidity, premature ejaculation, loss of libido, impotence.
•	Autonomic symptoms – 0, 1, 2, 3, 4
•	Dry mouth, flushing, pallor, tendency to sweat, giddiness, tension headache, raising of hair.
•	Behavior at interview – 0, 1, 2, 3, 4
•	Fidgeting, restlessness or pacing, tremor of hands, a furrowed brow, strained face, sighing or rapid respiration, facial pallor, swallowing, etc.

The provided table is a comprehensive tool used in mental health and psychology to assess and quantify anxiety-related symptoms. It comprises different categories, each assigned numerical values from 0 to 4, which gauge the severity of symptoms. These categories cover a wide range of emotional and physical manifestations associated with anxiety, including anxious mood, tension, fears, insomnia, intellectual functioning, depression, somatic symptoms (both muscular and sensory), cardiovascular and respiratory symptoms, gastrointestinal and genitourinary symptoms, and autonomic symptoms. Additionally, it assesses observable behaviors during interviews. Healthcare professionals utilize this tool to gain a thorough understanding of an individual's mental and physical well-being, facilitating the diagnosis, monitoring, and treatment of anxiety disorders. Clinicians can assess and track the patient's condition over time by systematically rating each symptom on a 0 to 4 scale. This tool is a valuable instrument for comprehensive diagnosis and treatment planning, ensuring a holistic approach to addressing the multifaceted impact of anxiety on a person's life.

**Table 2 - Questionnaire for sattva parikshan<sup>16</sup>**

Sr. No.	Question	Never	Sometimes	Always
1	Do you forget what you wanted to buy at store or things at home?	3	2	1
2	Do you remember marks of SSC and HSC or any incidence when you were 15 – 20 years old?	1	2	3
3	Are you devotional towards God?	1	2	3
4	Are you grateful for the favours done on you by any person?	1	2	3
5	Do you take unnecessary time to think over a problem?	3	2	1
6	Does cleanliness (physical or mental) matter much to you?	1	2	3
7	Are you equally enthusiastic for all the matters (study, entertainment)?	1	2	3
8	Do you work smartly and quickly?	1	2	3
9	Do you dare enough to face any type of problem or situations?	1	2	3
10	Do you overcome your opponent in debate?	1	2	3
11	Do you get depressed with any kind of problem?	3	2	1
12	Do you plan and follow your schedule regularly?	1	2	3
13	Do you try to get deep knowledge about your allotted work?	1	2	3
14	Whether you participate in charity work?	1	2	3
15	Do you tolerate the pain inflicted due to accidental injury?	1	2	3
16	Can you tolerate the pain inflicted due to major illness?	1	2	3
17	Do you console yourself by having examples of others?	1	2	3
18	Do you get counseled either by others and get the desired courage?	1	2	3
19	Don't you get counseled either by others or by yourself?	1	2	3
20	Do you feel that, in spite of being well built and strength, you cannot tolerate even mild pain?	3	2	1
21	Do you have feelings like Bhaya / Shoka / Lobha / Moha / Maana?	3	2	1
22	Do you get Vishada / vaivarna / Moorcha / Unmada / Bhrama after hearing or seeing Roudra / Bhairava / Bibhatsa / Vikruti things?	3	2	1

The table 2 is a questionnaire or survey designed to assess various aspects of an individual's behavior, personality, and emotional responses. It consists of 22 questions, each with three response options labeled "Never," "Sometimes," and "Always," assigned numerical values 1, 2, and 3, respectively. These questions cover various topics: memory, emotional disposition, religiosity, work habits, physical and mental well-being, coping mechanisms, and reactions to various stimuli. The questions aim to gauge different facets of an individual's life, from their ability to remember past events to their emotional resilience, religious devotion, and attitudes toward work and study. Some questions inquire about one's ability to handle pain and adversity, while others focus on mental states like fear, depression, and distraction. The questionnaire could

## 2.7. Sattva Parikshana Assessment Criteria

The questionnaire based on the Satva-Pariksha explained by Charak contains 22 questions (Table 2). Initially, instructions were given on how questions were to be answered. Each question has three options: never, sometimes, and always. If the never option has the highest percentage, the person is considered as Avara; sometimes, if it gets a higher percentage, a person is considered Madhyama; and if the always option gets a higher percentage, a person is considered Pravara. In the case of Avara-sattva, the answer is considered as Pravara; the answer is considered as Avara. According to Charaka Samhita, control of sense organs, self-restraint, hypothesis, and consideration represent the action of the mind. The *Satva Parikshana* questionnaire was designed to capture participants' data regarding functions of the mind, especially *Swasya-Nigraha Karma* (self-restraint).

be used in various contexts, such as self-assessment, research, or psychological evaluation, to gain insights into an individual's behavior and personality traits. The numerical responses can be analyzed to understand patterns and tendencies in a person's responses to these questions.

## 2.8. Clinical Study

According to selection criteria, 114 patients were selected randomly. Written informed consent was obtained from every patient. A proper case history was taken, and a special case record form was prepared. Clinical findings were recorded as per case proforma. In the present single-arm study, 114 young adults (aged 18–35 years) with diagnosed anxiety neurosis

based on Ayurvedic Sattva Parikshana criteria and the Hamilton anxiety rating scale were selected. They were prescribed Meditation or Dhyana for 90 days. Follow-up was taken every 30 days to assess anxiety symptoms according to

the Hamilton anxiety rating scale and the specially designed Sattva Parikshana Scale based on Sattva-Parikshana according to Charaka Samhita.

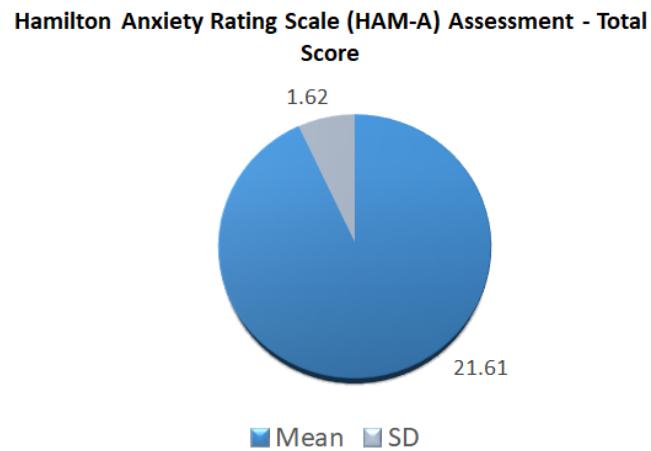
### 3. RESULTS AND DISCUSSION

**Table 3: Hamilton Anxiety Rating Scale (HAM-A) Total Score Assessment**

Sr. No.	Parameter	BT	Day 30	Day 60	AT	Difference (BT - AT)	Percentage Relief (%) (BT - AT)
1	Anxious Mood	<b>261</b>	243	212	<b>17</b>	107	41.00%
2	Tension	<b>244</b>	227	130	<b>113</b>	131	53.69%
3	Fears	<b>163</b>	148	122	<b>109</b>	7	33.13%
4	Insomnia	<b>184</b>	159	135	<b>51</b>	133	72.6%
5	Intellectual	<b>215</b>	212	169	<b>100</b>	115	53.49%
6	Depressed Mood	<b>247</b>	223	135	<b>102</b>	145	58.70%
7	Somatic (muscular)	<b>151</b>	16	109	<b>85</b>	66	43.71%
8	Somatic (sensory)	<b>161</b>	144	8	<b>48</b>	113	70.19%
9	Cardiovascular symptoms	<b>104</b>	95	64	<b>20</b>	84	80.77%
10	Respiratory Symptoms	<b>45</b>	44	35	<b>31</b>	14	31.11%
11	Gastrointestinal Symptoms	<b>143</b>	106	85	<b>69</b>	74	51.75%
12	Genitourinary Symptoms	<b>99</b>	83	73	<b>59</b>	40	40.40%
13	Autonomic Symptoms	<b>26</b>	203	177	<b>126</b>	102	44.74%
14	Behaviors at Interview	<b>219</b>	202	111	<b>91</b>	16	58.45%
	Total	<b>2464</b>	<b>2217</b>	<b>1612</b>	<b>1158</b>	<b>1306</b>	<b>53.00%</b>

The table presents a comprehensive overview of a study's results, focusing on the impact of a therapeutic intervention on various psychological and physical parameters. The table comprises 14 different parameters, each measured at three-time points: baseline (BT), day 30, and day 60 of the intervention, and an additional measurement at assessment time (AT). The "Difference (BT - AT)" column highlights the change observed in each parameter, and the "Percentage Relief (%)" column quantifies the percentage of improvement or reduction. The parameters include emotional aspects like "Anxious Mood," "Tension," "Fears," "Depressed Mood," and more, as well as physical symptoms such as "Cardiovascular

Symptoms," "Gastrointestinal Symptoms," and "Autonomic Symptoms." The results reveal notable improvements throughout the intervention, with "Cardiovascular Symptoms" experiencing the highest relief at 80.77% and "Respiratory Symptoms" showing the lowest at 31.11%. In summary, the data demonstrates significant positive changes in various psychological and physical aspects over the 60-day intervention, with an overall percentage relief of 53.00%. These findings suggest the effectiveness of the intervention in improving the participants' well-being and reducing their symptoms across a wide range of parameters.



**Fig 1: Hamilton anxiety rating scale(HAM-A) Assessment – Total score**

Hamilton Anxiety Scale in 114 students shows a 53% improvement in overall symptoms. The maximum of 80.77% is showing in the cardiovascular system, and the least is 31.11% in respiratory symptoms. Insomnia and sensory symptoms are nearly the same, 72.60% and 70.19%, respectively. Other symptoms showing result in 40 – 60 % category. Only

respiratory symptoms show 31.11% more than before. After going through this information, one can conclude that we can use meditation techniques on all kinds of psychosomatic disorders. For respiratory symptoms, we can try this technique for more days and, with this, can add some breathing exercises, too.

Table 4: Sattva Parikshana Scale

No.	Question	BT	AT	%Relief
1	Do you forget what you wanted to buy at store or things at home?	18	196	26.45%
2	Do you remember marks of SSC and HSC or any incidence when you were 15 – 20 years old?	159	183	15.09%
3	Are you devotional towards God?	183	216	18.03%
4	Are you grateful for the favours done on you by any person?	206	217	5.34%
5	Do you take unnecessary time to think over a problem?	204	65	39.70%
6	Does cleanliness (physical or mental) matter much to you?	142	180	6.17%
7	Are you equally enthusiastic for all the matters (study, entertainment)?	188	203	07.98%
8	Do you work smartly and quickly?	180	233	29.44%
9	Do you dare enough to face any type of problem or situations?	205	278	35.61%
10	Do you overcome your opponent in debate?	204	221	08.33%
11	Do you get depressed with any kind of problem?	173	238	37.57%
12	Do you plan and follow your schedule regularly?	151	217	43.71%
13	Do you try to get deep knowledge about your allotted work?	142	180	26.76%
14	Whether you participate in charity work?	119	17	29.41%
15	Do you tolerate the pain inflicted due to accidental injury?	178	236	32.58%
16	Can you tolerate the pain inflicted due to major illness?	175	26	30.29%
17	Do you console yourself by having examples of others?	204	231	13.24%
18	Do you get counseled either by others and get the desired courage?	206	237	15.05%
19	Don't you get counseled either by others or by yourself?	193	238	23.32%
20	Do you feel that, in spite of being well built and strength, you cannot tolerate even mild pain?	172	230	33.72%
21	Do you have feelings like Bhaya / Shoka / Lobha / Moha / Maana?	144	242	68.05%
22	do you get Vishada / vaivarna / Moorcha / Unmada / Bhrama after hearing or seeing Roudra / Bhairava / Bibhatsa / Vikrut things?	190	290	52.63%

The table presents a set of questions related to various aspects of an individual's behavior, emotions, and attitudes, along with the number of respondents who answered "Yes" (BT - Before Treatment) and the number of respondents who answered "Yes" after some form of treatment (AT - After Treatment). The "% Relief" column indicates the percentage decrease in affirmative responses after the treatment, suggesting the treatment's impact on the individual's conditions. The questions cover many topics: memory, emotions, personality traits, work habits, and coping mechanisms. Notably, some questions show significant relief after treatment, such as

improved memory (Q1), reduced depression (Q11), and better adherence to schedules (Q12). On the other hand, some questions indicate less substantial relief, especially those related to fear, distress, and sensitivity to certain stimuli (Q21 and Q22). This data reflects the impact of treatment on various aspects of an individual's life and well-being. Sattva parikshana results show that in dharaniya vegas, like lobha (greed), shoka (sadness), and Bhaya (fear), symptoms improved significantly, and the ability to handle strains or shocking news improved. Hence, this technique can be used as sattvaavajay chikitsa.

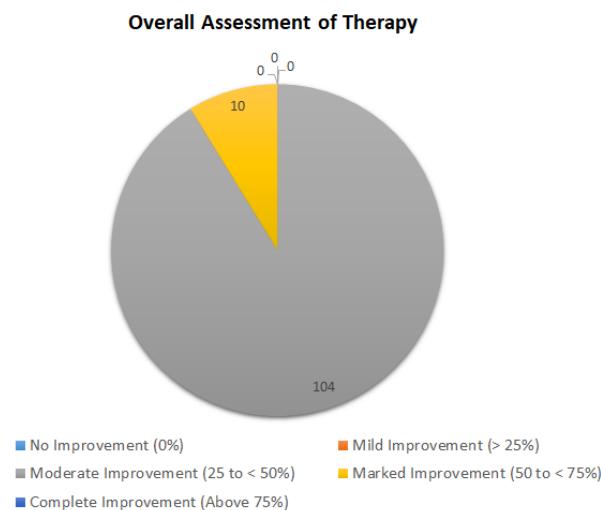


Fig 2: Overall assessment of therapy

The Hamilton anxiety rating scale shows a moderate improvement of 25% to less than 50% in 104 patients. Mainly cardiovascular system with improvement in symptoms (80.60%) than before. Hence, this technique is useful for effective management of stress or anxiety. Through the hypothalamic-pituitary axis, it acts on various systems. The

hypothalamus and pituitary gland play an important role in this process of stress or anxiety management. Meditation acts upon the HPA system, which shows its effects on various body systems. Sattva, perform the functions or Karmas of Indriyabhigraha (control the Indriyas and not perceive AhitaVishaya) and Swasyanigraha (self-control). The

Satvavajaya Chikitsa has been elaborated to restrain the mind from harmful objects, which trains the mind to avoid dangerous things. An abnormal state of mind, such as anxiety neurosis, results from abnormal *Swasya Nigraha*.<sup>17</sup> Anxiety disorders often involve repeated episodes of sudden intense anxiety and fear or terror that reach a peak within minutes (panic attacks). The stress hormone 'Cortisol' is overproduced, and weakening and decrease in the production of calming hormone serotonin and melatonin occurs. With the subsequent production of free radicals, stress hormones may damage the brain when stress is sustained. There is no self-awareness and self-management, leading to wrong decision-making in important periods of their life. Richard Davidson (2003) showed that meditation increases the activity of the left brain by up to 50%. Awasthi. In their study, S and Dwivedi (2008) showed that meditation affects pituitary glands, decreases the quantity of adrenaline and cortical hormones, and maintains the level of CRF (cortisol-releasing factor). Meditation or *Dhyana* is also helpful for better control over the activities of the mind. Meditation on Twin Hearts improves emotional intelligence, which further helps to achieve self-awareness and self-regulation. Meditation or *Dhyana* is an experience of unity, which reduces stress and brings increased creativity and efficiency to the functioning of the inner faculty. In the present single-arm study, 114 young adults (aged 18–35 years) with diagnosed anxiety neurosis based on Ayurvedic *Satva Parikshana* criteria and the Hamilton anxiety rating scale were selected. They were prescribed Meditation or *Dhyana* for 90 days. Follow-up was taken every 30 days to assess anxiety symptoms according to the Hamilton anxiety rating scale and the specially designed *Sattva Parikshan* Scale based on *Satva-Pariksha* according to *Charaka Samhita*. After completion of the study period, an assessment of recovery from the disease and its relapse was done. From our study we found ;

- Gender - Out of 114 participants in the present study, 28 (25%) were males, and 86 (75%) were females. The majority of females in the study might show that they are more prone to anxiety neurosis than males, or they accept that they are suffering from anxiety neurosis, which is not found easily in the case of males. This observation cannot be conclusive as the sample size is relatively small.
- Age - Out of 114 study participants, most participants, i.e., 89 (78%), were in the 18–20 age group. 11 (10%) were in the age group of 21–25 years, 07 (06%) were in 26–30 years of age, whereas only 07 (06%) participants were above 30 years of age. Most of the patients enrolled in the present study belonged to 18–20 years of age group. This can be because of increased competition and thus stress while going in for education.
- Diet: Out of 114 study participants enrolled in the study, 62 (54%) were taking a vegetarian diet, whereas 52 (46%) participants were taking a mixed diet. There is no significant difference in participants regarding specific dietary patterns. The individuals taking a vegetarian diet may not suffer from anxiety disorders as a vegetarian diet is considered *Sattva Pradhana* in nature.
- Marital Status: Out of a total of 114 study participants included in the present study, most of the participants, i.e. (90%), were unmarried, whereas 11 (10%) were married. The number of unmarried participants may be due to the inclusion criterion of 18–35. The data is insufficient to draw any conclusion.
- *Sharira Prakriti*: Out of 114 study participants, 24 (21%) were *Vatapradhana* – *Pitta Prakriti*, 19 (17%) were

*Vatapradhana* – *Kapha Prakriti*, 14 (12%) were *Pittapradhana* – *Kapha Prakriti*, 29 (25%) were *Pittapradhana* – *Vata Prakriti*, 19 (17%) were *Kaphapradhana* – *Vata Prakriti*, 09 (08%) were *Kaphapradhana* – *Pitta Prakriti*. Although *Pittapradhana-Vata- Prakriti* individuals were more in number among participants, no specific trend was noted in *Sharira Prakriti*.

- *Manasa Prakriti*: Of 114 study participants, 87 (76%) had *Rajas* predominant *Manasa Prakriti*, whereas 27 (24%) had *Tamas* predominant *Manasa Prakriti*. Most participants in the present study had *Rajas* predominant *Manasa Prakriti*, thus indicating that *Raja Dosha* is an important factor in disease formation.
- *Agni*: Out of a total of 114 participants, 09 (08%) participants had *Sama Agni*, 62 (54%) participants had *Vishama Agni*, and 43 (38%) participants had *Manda Agni*. Most patients had *Vishama Agni* due to the predominance of *Vatadosha*, which is also one of the causative factors for anxiety neurosis.
- *Koshtha*: Out of a total of 114 participants, 57 (50%) participants had *Krura Koshtha*, 47 (41%) participants had *MadhyamaKoshtha*, and 10 (09%) participants had *MriduKoshtha*. No specific trend was noted in *Koshtha*.
- In the present single-arm study, all 114 participants were prescribed *Meditation* or *Dhyana* for 90 days. Follow-up was taken every 30 days to assess anxiety symptoms according to the Hamilton anxiety rating scale. *Meditation* enhances *Swasyanigraha Karma* (*Self Control*) of *Manasa* in Anxiety Neurosis. Thus, *Meditation* or *Dhyana* for 90 consecutive days was effective in relieving anxiety symptoms, according to the Hamilton anxiety rating scale.
- The mean *Satva Parikshana* Scale score was found to be improved significantly in all patients suffering from anxiety neurosis. Thus, it can be said that *Meditation* enhanced *Swasyanigraha Karma* (*Self Control*) of *Manasa* in Anxiety Neurosis Based on percentage relief in symptoms (according to the Hamilton Anxiety Rating Scale (HAM-A) and *Satva Parikshana* Scale), the overall assessment of Twin Heart *Meditation* was done. All the 114 participants showed improvement. Moderate improvement was observed in most participants (91%), whereas marked improvement was observed in the remaining participants (09%). The mean Total Hamilton Anxiety Rating Scale score before treatment was  $21.61 \pm 1.62$  (median score 22.00), which has been reduced to  $10.16 \pm 2.11$  (median score 10.00) after treatment of 90 days. The mean difference in total score was  $11.46 \pm 2.12$  (median score 11.00). The difference was found to be statistically significant ( $p < 0.0001$ ). A statistically significant difference was observed in all 14 symptoms under the Hamilton Anxiety Rating Scale ( $p < 0.0001$ ).

Thus, *Meditation* or *Dhyana* for 90 consecutive days was effective in relieving anxiety symptoms, according to the Hamilton anxiety rating scale. Hence, we can infer that *meditation* enhances *Swasyanigraha Karma* (*Self Control*) of *Manasa* in Anxiety neurosis. The *Sattva Parikshana* Scale questionnaire was designed to measure *Sattvabala*, specifically the '*Swasya Nigraha*' *Karma* of *Manas*. This questionnaire was based on the *Sattva Pariksha* described in the 8<sup>th</sup> chapter of *Vimanasthana*, *Charaka Samhita*. The faculties of *Sharira Kriya Samhita Siddhanta*, researcher and statistician, validated the questionnaire. The changes were made in the questionnaire according to the suggestions received from the faculties. The final questionnaire was used to assess the *Sattvabala* of the patients on every follow-up. The mean *Sattva Parikshana* Scale

score before treatment was  $33.97 \pm 4.50$  (median score 34.00), which improved to  $43.27 \pm 4.92$  (median score 10.00) after treatment of 90 days. The mean difference in total score was  $-9.30 \pm 2.75$  (median score -9.50). The difference was found to be statistically significant ( $p < 0.0001$ ). Therefore, the alternative hypothesis of significant difference was accepted. Thus, it can be said that Meditation enhances *Swasyanigraha Karma* (Self Control) of *Manasa* in Anxiety Neurosis. The statistically significant difference ( $p < 0.0001$ ) was observed in almost all questions under the *Sattva Parikshana Scale* on treatment over 90 days. Based on percentage relief in symptoms (according to the Hamilton Anxiety Rating Scale (HAM-A) and *Sattva Parikshana Scale*), the overall assessment of therapy – Twin Heart Meditation has been decided. Out of 114 study participants, no participant showed no or mild improvement. Moderate improvement was observed in most participants (90%), whereas only 10 (%). No adverse events were reported during and after the intervention. Conceptual Samprapti of Anxiety Neurosis (Chittodvega): Chittodvega or is mainly caused by vitiation of *Manasika Dosha* *Rajas* and *Tamas* and *Sharirika Dosha* *Vata*, *Udana Vata*, *Vyana Vata*, *Sadhaka Pitta* and *Tarpaka Kapha*. So treatments like Meditation and *dhyana* mainly aim to bring back these into normalcies. *Dhyana* majorly acts on *Mana Vikaras* like *raja* and *tama Guna*, which in turn lead to *rasa*, *maja*, and *mana stroto dusti*, which in turn lead to *Dhriti kshaya* and *Stnana samshraya* taking place in *mana*, leading to Anxiety neurosis. Stress hormone 'Cortisol' is overproduced, and a weakening & decrease in the production of the calming hormones melatonin & serotonin occurs. With the subsequent production of free radicals, stress hormones may damage the brain when stress is sustained. Toxins and free radicals kill the cells in every organ of the body. To reduce stress, external therapies like Meditation, Oil massage, and *Shiro Pichu* play a vital role. Twin Heart Meditation is a powerful scientific method that can heal various psychological ailments. Meditation on Twin Hearts is a technique to achieve cosmic consciousness or illumination. To achieve illumination or cosmic consciousness, it is necessary to activate the crown chakra sufficiently. The Twin Hearts refer to the heart chakra, the center of the emotional heart or refined higher emotions, and the crown chakra, the center of the divine heart, the center of divine union or *yoga*<sup>18</sup>. You will not experience illumination or divine union unless your crown chakra is activated. But before it can be activated, the heart chakra must be activated first. Only by developing the higher refined emotions can one experience divine love.<sup>19</sup> Anxiety neurosis<sup>20</sup> is a common disorder due to today's lifestyle challenges and results from abnormal *Swasya Nigraha*. Psychoneuroendocrinology<sup>21</sup> is a new branch of modern science related to hormonal level fluctuations and their effect on psychological behavior. The hypothalamic-hypophyseal relationship<sup>22</sup> has a very important role in the whole process. The hypothalamus<sup>23</sup> plays an important role in regulating endocrine secretion by various axes like the HPA axis, and the emotional state of mind is maintained along with the hippocampus. Reward and Punishment center<sup>24</sup> centers play an important role in the development of the behavioral pattern of a person, and the stimulation of the punishment center gives rise to violent, aggressive, emotional expressions with extreme anger. Affective Blindness<sup>25</sup> is the inability to gauge

the emotional significance of events if the amygdala is severed from the rest of the brain. Normally, sensory organs transmit signals to the thalamus and, from there, to sensory processing areas of the neocortex. Suppose a small bundle of neurons leads directly from the thalamus to the amygdala. The amygdala can trigger an emotional response via the emergency route, whereas the neocortex unfolds its more refined plan for reaction.<sup>26</sup> Hamilton anxiety rating scale shows overall improvement as a moderate improvement of 25% to less than 50% in 104 patients. Mainly cardiovascular system with improvement in symptoms (80.60%) than before. Hence, this technique is useful for effective management of stress or anxiety. Through the hypothalamic-pituitary axis, it acts on various systems. Psychosomatic disorders are mainly corrected by *sattvavajaya chikitsa*<sup>27</sup>. *Satva* is the mind, and it controls emotion with the help of *atma*.<sup>28</sup> According to Charaka Acharya, the mind is situated in *urasthit hrudaya* (heart) and *shirasthit hruday* (brain).<sup>29</sup> Affective neuroscience explains the function of the heart and brain is responsible for higher intellectual function. *Samadhi*<sup>30</sup> (meditation) is one of the techniques used for *sattvaavajay*. The meditation technique explained in the present study is one of the easiest techniques to effectively overcome stress or anxiety-related issues. Patanjali comments *Chitta Vrutti nirodha* is calming the mind through meditative techniques<sup>30</sup>

#### 4. CONCLUSION

Based on the current clinical trial conducted, the following conclusions are drawn-

- 'Manasa' has a special ability of *Swasya Nigraha*, i.e., self-control. The mind is the regulator and coordinator of its activities. Acharya Chakrapanidatt quotes that *Swasya Nigraha* is a phenomenon in which *Manas* detracts itself from the other *Arthas* when in contact with one *Artha*.
- When the mind is agitated or anxious, detracting itself from harmful or irrelevant objects is impossible. It explains that an abnormal state of mind, such as anxiety neurosis, results from abnormal *Swasya Nigraha*. Anxiety neurosis is a very common disorder due to today's lifestyle challenges.
- Based on the results of the present study based on the Hamilton Anxiety Rating Scale and Ayurvedic *Satva Parikshana Scale*, it can be inferred that the Twin-Hearts Meditation for consecutive 90 days in individuals suffering from mild to moderate anxiety neurosis enhances *Swasyanigraha Karma* (Self Control) of mind.
- No adverse event was observed in any patient during and after the study.

#### 5. AUTHORS CONTRIBUTION STATEMENT

Kavita Bhagat and Rajkumar Gupta conceptualized the manuscript, designed the study, and prepared the original draft. Deepa Kale and Kavita Bhagat discussed the methodology and analyzed the data. Sudeep Menon provided valuable inputs towards designing of the study. All the authors discussed the results and contributed to the final manuscript.

#### 6. CONFLICT OF INTEREST

Conflict of interest declared none.

## 7. REFERENCES

1. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. In: Acharya VYadavjiT, editor. Published by Chaukhamba Surbharathi Prakashan, Varanasi. reprint ed; 2000; Sutra Sthana Ch:1/42.
2. Sushruta A, Samhita S Ch 15/47. Edited with Ayurveda Tatva Sandipika by Kaviraja Ambikadutt Shastri, edition 2011; Sutra Sthana.
3. Sushruta A, Samhita S Ch I. Edited with Ayurveda Tatva Sandipika by Kaviraja Ambikadutt Shastri, edition 2011; Sharir Sthana.
4. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. In: Acharya VYadavjiT, editor. Published by Chaukhamba Surbharathi Prakashan, Varanasi. reprint ed; 2000; Sharira Sthana Ch:1/21.
5. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. In: Acharya VYadavjiT, editor. Published by Chaukhamba Surbharathi Prakashan, Varanasi. reprint ed; 2000; Sharira Sthana Ch:1/20.
6. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. In: Acharya VYadavjiT, editor. Published by Chaukhamba Surbharathi Prakashan, Varanasi. reprint ed; 2000. Vimana Sthana Ch:8/87:8/87Cha. Vi.
7. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. In: Acharya VYadavjiT, editor. Published by Chaukhamba Surbharathi Prakashan, Varanasi. reprint ed; 2000. Vimana Sthana Ch Ch 11/54. Vimana.
8. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. Published by Chaukhamba Surbharathi Prakashan, Varanasi. reprinted Acharya VYadavjiT, editor. Vols. 8/1 19; 2000; Vimana Sthana Ch.
9. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. In: Acharya VYadavjiT, editor. Published by Chaukhamba Surbharathi Prakashan, Varanasi. reprint ed; 2000 Nidana Sthana Ch: 7/4.
10. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. In: Acharya VYadavjiT, editor. Published by Chaukhamba Surbharathi Prakashan, Varanasi. reprint ed; 2000 Chikitsa Sthana Ch:9/5.
11. Master Choa Kok S. The ancient science and art of Pranic healing. Bangalore: Institute For Inner Studies Publishing Foundation India Pvt Ltd [reprint]; 2011.
12. Goleman D. Emotional intelligence. Bloomsbury Publishing Indian Pvt Ltd; 1996.
13. Hamilton M. The NM N Br. J Med Psychol. 1959;32:50-5.
14. What science tells us about meditation on twin hearts and our brain, Glenn J Mendoza, MD, MPH and Maria Nichole Perez, MD. Available from: <http://static1.squarespace.com/static/55a1e4a2e4b0ff20cede22d/t/56d89b6286db4376b82aac75/1457036130495/What+Science+Tells+Us+About+MTH.pdf> [cited 16/10/2023].
15. Kumar S, Nagendra HR, Manjunath NK. Meditation on "OM" – relevance from ancient text and contemporary sciences. Int J Yoga. 2010 January-June;3(1):2-5.
16. Prashant C. 2012. Study of Sattva w.s.r. to Sattva Pariksha according to Charak.
17. Dhargalkar Nandini D. Sharir kriya Vidnana. 3rd ed (published by Chowkhamba Sanskrit Series Office. Varanasi; 2015.
18. Ghaisas DA, Geeta SSB, Sanstha DP, Girgaon M [reprint]-2007.
19. Patanjali M, Sutra PY, Chapter 1/29 Dr. Karambalekar PV, Kaivalyadham L, editors; 1989.
20. Available from: <http://www.docguide.com>, A Special News on Generalized Anxiety Disorder by Cameron Johnston. London.
21. Wolkowitz O, Rothschild A. Psychoneuroendoendocrinology, ISBN – 13: 978-0880488573.
22. Sembulingam K. Medical physiology. 7th ed ISBN 978-93-85999-11-6; 2016. p. 390.
23. Sembulingam K. Medical physiology. 7th ed ISBN 978-93-85999-11-6; 2016. p. 936.
24. Sembulingam K. Medical physiology. 7th ed ISBN 978-93-85999-11-6; 2016. p. 896.
25. Goleman D. Emotional intelligence and working with emotional intelligence. New Delhi: Bloomsbury Publishing, ISBN 9789382563808; 2013. p. 15.
26. Goleman D. Emotional intelligence and working with emotional intelligence. New Delhi: Bloomsbury Publishing, ISBN 9789382563808; 2013. p. 21.
27. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. In: Kushavaha VHS, editor. Published by- Chaukhamba Orientalia, Varanasi. reprint ed; 2009 Sutra Sthana Ch:11/54.
28. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. In: Kushavaha VHS, editor. Published by- Chaukhamba Orientalia, Varanasi. reprint ed; 2009 Vimana Sthana Ch:8/119.
29. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. In: Kushavaha VHS, editor. Published by- Chaukhamba Orientalia, Varanasi. reprint ed; 2009 Sutra Sthana Ch:30/4.
30. Agnivesha A. Charaka Samhitha with Dipika commentary of Chakrapanidatta. In: Kushavaha VHS, editor. Published by- Chaukhamba Orientalia, Varanasi. reprint ed; 2009 Sutra Sthana Ch:1/58.
31. Prabhavananda, Patanjali yoga Sutra. 6th ed. Madras: Sri Rama Krishna Mutt. p. 1.2.