A COMPARATIVE STUDY OF BRAHMI TAILA AND ANUTAILA PRATIMARSHA NASYA IN MANAGEMENT OF GENERALIZED ANXIETY DISORDER (GAD)

A THESIS SUBMITTED TO,

TILAK MAHARASHTRA VIDYAPEETH, PUNE

FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY (Ph.D.)

In Subject

Ayurveda – Swasthavritta

Under the board of **Ayurveda** Studies

Submitted By

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December 2021

CERTIFICATE OF THE SUPERVISOR

It is certified that work entitled “A Comparative Study Of Brahmi Taila And Anutaila Pratimarsha Nasya In Management Of Generalized Anxiety Disorder (GAD)” is an original research work done by Dr. Nikhila B. Hiremath, under my supervision for the degree of Doctor of Philosophy in Swasthavritta, to be awarded by Tilak Maharashtra Vidyapeeth, Pune. To best of my knowledge this thesis

- Embodies the work of candidate herself.
- Has duly been completed.
- Fulfils the requirement of the ordinance related to Ph. D. degree of the TMV.
- Up to the standard in respect of both content and language for being referred to theexaminer.

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Dr. Medha Kulkarni

DECLARATION

I hereby declare that the thesis entitled *"A Comparative Study Of Brahmi Taila And Anutaila Pratimarsha Nasya In Management Of Generalized Anxiety Disorder (GAD)"* completed and written by me has not previously been formed as the basis for the award of any Degree or other similar title upon me of this or any other Vidyapeeth or examining body.

[Dr. Nikhila B Hiremath]

Signature of the Research Student

Place: Pune

Date:

ACKNOWLEDGEMENT

I express my sincere gratitude to my parents Smt. Meena Hiremath and Late Shri. Basavaraj S Hiremath, my brother and his family and my daughter Ritika Hiremath for supporting and inspiring me to go ahead with this work.

I express my sincere gratitude to my guide, Dr. Medha Kulkarni, who has been a constant and strong support and has spared her precious time and energy throughout my period of study.

I am grateful to the Head of Department of Ayurveda, Dr. Abhijith. H. Joshi Registrar and Head, Dept of Ayurveda, TMV, Pune, who supported during crisis and guided at every level with his immense knowledge and simplicity.

I am sanctified by the blessings of His holiness Sri Sri Ravishankar ji, who provided all I needed.

I am grateful to Vice chancellor, Registrar, Dr. S.P.Sardeshmukh, Dean, of Tilak Maharashtra Vidyapeeth, Pune for providing me an opportunity to pursue my PhD.

I am thankful to Dr. S.M. Sathye of Pune and all the faculty members.

I also express my gratitude to Dr Ganesh Puttur, Principal, SSCASR, Bengaluru for supporting during my studies.

I express my sincere thanks to Dr. Aparna Desai, Vice-Principal and Dr. Sajitha, HOD, Dept. of Swasthavritta and Yoga.

I would like to express my heartfelt thanks to Dr. Lekha, Dr. and MD. Altaf for helping me with all the necessary essentialities.

I would like to express my heartfelt gratitude to Dr. SriNagesh KA, HOD, Dept. of Samhita Samskrita and Siddhanta, Dr. Varuni S J and Dr Sriharsha K V, who stood with me and constantly inspired me for the completion of my work.

I would like to express my gratitude to Dr. Rakshit, Dr. Deepthi, Dr. Jalindhar, Dr Savitha and Dr Ranjith, Dr. Keerthi, Dr. Arpana and many other friends for helping me in contribution towards the subject.

I am thankful to *Smt. Sushama pathak,* and other staff of the Department of Ayurveda, Tilak Maharashtra Vidyapeeth, Pune for their endurance in responding to our doubts and clarifications.

I am grateful to Chief administrative officer and MRD section of Sri Sri College of Ayurvedic Science and Research Hospital, Bengaluru for supporting for collection of data from patients.

I am indebted to all the patients who supported me by providing their valuable information for the study.

I am thankful to all those who directly and indirectly helped me in the research work.

Dr. Nikhila B Hiremath

ABSTRACT

Even though one becomes familiar with the concept of health, the maintenance part is specially the difficult one. One of the major reasons among the hindrances to health, which is easily overlooked, is the 'Stress'. 'Stress' has become inevitable in the day to day scenario of man. One can either take it positively and overcome, or succumb to it. Our Acharyas recommended following of *Dinacharya, Sadvrutta* and *Dharaneeya vegas*, so as to avoid the negative effect of stress. These rules were formed to maintain the balance between man and his environment (social aspect), and the internal balance of man himself (mental aspect). *The environment plays an important part in forming a link between the agent of the disease and the host.* Dinacharya plays an important role in controlling the environment (external and internal). As its definition goes – ***Dine dine charya dinacharya I***[1] i.e, it refers to the activities carried out on a regular bases. *Pratimarsha* nasya is one such procedure in dinacharya, which should be practiced regularly.

Generalized anxiety disorder (**GAD**)[2] is an excessive anxiety and worry about several events or activities for a majority of days during at least a 6-month period. This excessive worry often interferes with daily functioning, as individuals suffering GAD typically anticipate disaster, and are overly concerned about everyday matters such as health issues, money, death, family problems, Friendship problems, Interpersonal relationship problems or work difficulties

Anxiety is prolonged by uncertainty, and therefore it is important to set out a clear plan of treatment. Patients with recent onset anxiety need no more than counselling, but the more severe and persistent cases usually require additional cognitive or behavioural or drug treatment. ***Pratimarsha Nasya*** not only ensures the continued medication, but provides strength to Shiras. Hence the topic was taken up for study.

AIM AND OBJECTIVE:

1. To compare the effect of Brahmi taila pratimarsha nasya and Anu-taila pratimarsha nasya in management of generalized anxiety disorder.

MATERIALS AND METHODS:

Literary Review: The references were collected from various Ayurvedic classics and other ancient texts. They were revived and analyzed.

Clinical study:

A. Level : It was an Out Patient Department level study.

B. Center for the study: The center for study was taken at Sri Sri College of Ayurvedic Sciences and Research, Bengaluru.

C. Number of groups: The patients were categorized in to two groups.

D. Sample size: The samples / patients were divided into two groups, in which each group consisted of 54 patients each.

E. Duration of the study: The duration of the study was 3 months.

F. Schedule of the therapy & Research Design:

It was a randomized comparative clinical trial conducted in two groups, each group consisting of 54 patients.

Group A: *Brahmi taila Pratimarsha nasya*

Group B: *Anutaila Pratimarsha nasya*

Procedure of Nasya: The patient is made to lie in supine position; the head should be 'Pralambita' or lowered down. The lower limbs should be kept slightly higher[3] The lukewarm medicine is administered in the patient's nostrils one after other.[11]

Pratimarsha nasya when given in *pratah kala* is considered as *Manah prasadakara*. [6,7] and hence this time was considered for study.

G. Follow – up:

Before study assessment	- 0th Day
After 1st month of starting treatment.	- 30th day
After 2nd month of starting treatment.	- 60th day
After 3rd month of starting treatment.	- 90th day

H. Diagnostic and Assessment criteria: The scales used in the study are:

- Hamilton's rating scale for Anxiety neurosis and
- Clinical Global impression (CGI) scale for severity and improvement.

J. Source of Drugs: The Raw materials and the finished product were procured from a GMP certified company, M/S Pavaman Pharmaceuticals Pct. Ltd, located in Bijapur, Karnataka, India; with the manufacturing License No.AUS 895.

K. Source of data: The patients were procured for the study from OPD of Sri Sri College of Ayurvedic sciences and Research, Bengaluru.

The number of patients were be rounded off to 100. But extra subjects were taken for trial in each category to consider the cover up for the ‘lost to follow-up’ cases

RESULT ASSESSMENT:

Result were assessed based on the data obtained, analysis of the data based on the conceptual study and suitable statistical methods.

DISCUSSION:

Discussion were based on the literary research made on the concepts, observations and the results obtained.

CONCLUSION

After discussion, outcome of the study was concluded.

KEY WORDS

Brahmi taila, Anutaila, Pratimarsha Nasya, Generalized anxiety disorder.

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INTRODUCTION

Ayurveda defines *Swasthya* as a state of balance between the factors like - *Dosha, Agni, Dhatu, Mala,* leading to a proper functioning (*Sama kriya*), which on a long run leads to *Prasannata* of *Atma, Indriya* and *Manas*.[1] Though the term '*Atma'* is indicated as '*Samanaska* Shareera', we find that *Manas* is separately quoted. This might be to indicate the independent existence of *Manas*.

WHO also substantiates this view in its definition of health – "Health is the state of complete physical, mental, and social wellbeing, and not merely absence of disease or infirmity. [2] To achieve the state of health, one has to follow few rules and regulations explained in Ayurveda, which include *Dinacharya, Rutucharya, Sadvritta, Dharaneeya- Adharaneeya vegas, Rutushodhana* and the rules pertaining to *Ahara*. [3]

Even though one becomes familiar with the concept of health, its maintenance is difficult. One of the major reasons among the hindrances to health, which is easily overlooked, is 'Stress'. 'Stress' has become inevitable in the day to day scenario of man. One can either take it positively and overcome, or succumb to it. Our Acharyas recommended following of *Dinacharya*, *Sadvrutta* and *Dharaneeya vegas*, so as to avoid the negative effect of stress. These rules were formed to maintain the balance between man and his environment (social aspect) and the internal balance of man himself (mental aspect). The environment plays an important part in forming a link between the agent of the disease and the host. *Dinacharya* can help controlling the environment (external and internal). As its definition goes – *Dine dine charya dinacharya*[4] i.e, it refers to the activities carried out on a regular basis. The diseases produced due to impairment of *Dinacharya* can be treated more effectively by correcting the *charyas*. *Pratimarsha nasya* is one such procedure described under *dinacharya*, which should be practiced regularly.

Generalized anxiety disorder (GAD) is excessive anxiety and worry about several events or activities for a majority of days during at least a 6-month period. This excessive worry often interferes with daily functioning, as individuals suffering with GAD typically anticipate disaster and are overly concerned about everyday matters such as health issues, money, death, family problems, friendship, Interpersonal relationships or work difficulties.

Anxiety is prolonged by uncertainty, and therefore it is important to set out a clear plan of treatment. Patients with recent onset anxiety need no more than counselling, but the more severe and persistent cases usually require additional cognitive or behavioural or drug treatment. *Pratimarsha Nasya* not only ensures the continued medication, but provides strength to *Shiras*[5], especially the new cases which have not yet been initiated on other forms of medicine.

Previous Works Done

1. **Malaviya P.C. (1977):** Clinical Studies on Chittodvega vis-à-vis Anxiety Neurosis and its treatment with Rasayana Drug- Ashwagandha (W. somnifera Dunal)
2. **Sharma M.P.E. (1987):** Study on Chittodvega vis-à-vis Anxiety Neurosis and its treatment with three Rasayana Drugs.
3. **Tripathi N.C. (1990):** A Clinical Study of Shankhapushpi Medhya Rasayana on patients of Cittodvega (Anxiety Neurosis).
4. **Saxena S.C. (1993):** A Clinical Evaluation of Ashvagandha Curna on Manasa Roga - Cittodvega (Anxiety Disorder).
5. **Tatte S.N. (1993):** Cittodvega Ka Manovaijyanika Vivechana Evam Usmen Medhya Rasayana (Yashtimadhu) Ka Chikitsiya Adhyayana.
6. **Kotecha Rajesh Kumar & Singh G. (1991):** A Clinical Study on the treatment of Atattvabhinivesha w.s.r. to Anxiety States.
7. **Bhatt G.J. & Singh G. (1996):** A Study on the Role of Adambu Balli (Ipomea pescaprae Linn.) and Mamsyadi Kvatha in the management of Cittodvega vis-à-vis Anxiety Disorders (DSM III).
8. **Sharma Shekhar & Chandola H.M. (1999):** Role of Brahmi Compound and Chaitas Ghrta Nasya in the management of Anxiety Disorders (Atattvabhinivesha).
9. **Shreevathsa & Dwivedi R. B. (2000):** Concept of Manasa Prakriti and its role in Psychopathology w.s.r. to Anavasthita Chittatva (Anxiety Disorders) and its management.
10. **Parsania Sanjay & Singh G. (2001):** A Clinical Study on the role of Jaladhara and Shankhapushpi (Convolvulus pluricaulis Chois.) in the management of Chittodvega (Anxiety Disorders).
11. **Vikas Dadaso Autade (2003)*:*** Management of Cittodvega (Anxiety Disorders) with Ankush Choorna, an Ayurvedic Compound – A Double Blind Study

12. **Chavan Prashant Jalindar (2004**): The role of Shankhapushpi (Clitoria ternatea) and Clinical Yoga Techniques in the management of Generalized Anxiety Disorder.
13. **Rajendra V. (2000)**: A Conceptual analysis of Generalized Anxiety Disorder and Cittodvega with a controlled clinical trial on the effect of Kshiradhara.
14. **Sanjeev Kalra (2006):** A Study on Effect of Shankhapushpi Compound and Satvavajaya Chikitsa in Chittodvega (Generalized Anxiety Disorder).
15. **Prathap G (2007**): A Comparative study on effect of Takradhara and Jaladhara in the management of Chittodvegs wsr to Occupational stress

The previous works were mainly on either conceptual studies or treatment with *medhya Rasayana* or modalities like *shirodhara, Marsha nasya,* etc,. which indicate secondary level of prevention.

Scope of study:

The current study aims at primary prevention as well rather than only the secondary (treatment).

As GAD to get established, takes minimum of 6 months to start therapy, for the current study the patients with only upto 3 months history were taken, which implies that the disease was not fully established and hence the intervention worked as a primary prevention as well as a secondary prevention, the treatment procedures may lead to *arrest the development of the disease and reversibility of the pathogenesis*.

Understanding *Swastha- Swasthya*

A human being follow a particular pattern of activities which involves reflection, analysis and implementation. This model aims to maintain the health of the individual for the sake of longevity. This implies a longer useful life and an optimal quality of life. Again, it depends on the physical, mental, social and spiritual realms. Therefore, '*Swastha*', an individual who is in the state of '*Nirvikaratwa*' stays there for a long period of time.[6] It is also important to understand the mental realm of human life, which is an integral part of '*Swasthya*'.

'*Swasthya*' is a Sanskrit word, it is coined from two components "SWA" (self) and "STHA" (stable). *Swasthya* really means 'Getting stabilized into One's Own self'[7]

By definition, *Swastha* is a state of equilibrium between factors such as: *Dosha, Agni, Dhatu, Mala*, which leads to good functioning (*Sama kriya*), which in the long run leads to *Prasannata* of *Atma, Indriya* and Manas. Although *'Dalhana*' states that the term '*Atma*' indicates "*Samanaska Shareera*", we still find that Manas is cited separately. This could indicate the independent existence of Manas.[1]

WHO also supports this view in its definition of health: "Health is the state of complete physical, mental and social well-being, and not simply the absence of disease or illness.[2] To achieve l state of health, one must follow certain rules and regulations explained in Ayurveda, including: *Dinacharya, Ratricharya, Rhutucharya, Sadvrutta, Dharaneeya-Adharaneeya vegas, Rutushodhana*, [3], etc., and the rules regarding *Ahara*.

Manas / Mental health

'Mental health' is not the mere absence of any mental disease. Good mental health is the ability to respond to various life experiences with flexibility and a sense of purpose. It is explained as a state of balance between the individual and the surrounding environment, a state of harmony between oneself and others, the coexistence between the realities of self and those of others and that of the environment.

Attributes of a mentally healthy person:

- A mentally healthy person is free from internal conflicts; he is not at "war" with himself.
- He is well adjusted, i.e., he is able to get along well with others. He accepts criticism and is not easily upset.
- He searches for identity.
- He has a strong sense of self- esteem.
- He knows himself; his needs, problems and goals. (self-actualization)
- He has good self-control; emotionality and balances rationality.
- He faces problems and tries to solve them intelligently. i.e., coping with stress and anxiety.

A mentally healthy person has the following characteristics:

He feels comfortable about himself, he feels reasonably secure and adequate. He neither underestimates nor overestimates his own ability. He accepts his shortcomings. He has self-respect.

The mentally healthy person feels good around others. This means that he is able to be interested in others and is able to love them. He has friendships that are satisfying and lasting.[8]

As the mind is a dual faculty (*Ubhayendriya*) or sensorimotor faculty (*Jnana-Karmendriya*), it perceives and responds.

विकारो धातुवैषम्यं, साम्यं प्रकृतिरुच्यते|

सुखसञ्ज्ञकमारोग्यं, विकारो दुःखमेव च ||४||

Even physical well-being is reflected in the mind, as is illness. This made the terms happiness (*Sukha*) and misery (*Dukha*) synonymous with health and sickness.[9]

ते च विकाराः परस्परमनुवर्तमानाः कदाचिदनुबध्नन्ति कामादयो ज्वरादयश्च||८||

The influence of the mind on the origin, existence or cure of any condition of any sickness cannot be excluded. When allowed to persist for a long time, psychic and somatic disorders combine with each other.[10]

त्यागः प्रज्ञापराधानामिन्द्रियोपशमः स्मृतिः|

देशकालात्मविज्ञानं सद्वृत्तस्यानुवर्तनम्॥५३॥

Disease prevention consists of avoiding *Prajnaparadha* (intellectual errors), taking care of the sense organs by avoiding under / incorrect / excessive use, having a good memory and a good knowledge of place, time and self, following the rules of *Sadvritta*: you will avoid diseases.[11]

Stress

Maintaining life fundamentally depends on maintaining our constant internal environment in the face of a changing environment[12]. This is called "homeostasis". The term “stress” is used to represent the effects of anything that seriously threatens homeostasis[13]. The threat which might be an actual or perceived one, to an organism is called a “stressor” and the response to the stressor is called a “stress response”. Although stress responses have evolved as adaptive processes, it is observed that prolonged and severe stress responses can lead to tissue damage and disease. Stressors have a big influence on our mood, our sense of well-being, our behavior and our health. Acute stress responses in young, healthy individuals can be adaptive and do not normally impose a health burden. However, if the threat is incessant, especially in the elderly or sick, the long-term effects of stressors can be harmful to health. The relationship between psychosocial stressors and illness is affected by the nature, number, and persistence of various stressors, as well as by the individual's natural vulnerability (i.e., genetics, constitutional factors) [14].

Biology of Memory

The subject of memory is fundamental in the discipline of psychiatry. Memory is the glue that unites our mental life, the scaffolding of our personal history. Personality is in part an accumulation of habits that have been acquired, most of them very early in life, which create dispositions and influence our behavior. Similarly, neuroses are often the product of learning anxieties, phobias, and maladaptive behaviors that result from particular experiences. Psychotherapy itself is a process by which new skills and habits are acquired through the accumulation of new experiences. In this sense, memory is at the theoretical heart of psychiatry's apprehension for personality, the significances of early experience, and the possibility of growth and change. Memory is also of clinical

interest because memory impairment, and memory impairment are common in neurological and psychiatric diseases.

Memory is a distinct case of the general biological phenomena of *neural plasticity*. Neurons can display history-dependent activity by responding differently based on prior information, and this plasticity of nerve cells and synapses is the basis of memory.

Plasticity

Neurobiological evidence supports two basic conclusions: first, short-lived plasticity, which can last for seconds or minutes depending on specific synaptic events, including increased release of neurotransmitters; and second, long-term memory depends on the synthesis of new proteins, the physical growth of neural processes, and an increase in the number of synaptic connections[14].

Epidemiology

Globally, in 2010, approximately 273 million (4.5% of the population) suffered from an anxiety disorder[15]. It is more common in women (5.2%) than in men (2.8%) [15]. In Europe, Africa and Asia, the rates of lifelong anxiety disorders are between 9% and 16%, and annual rates are between 4% and 7%[16]. In the United States, the lifetime prevalence of anxiety disorders is around 29%[17] and between 11% and 18% of adults have the disease. during a given year[16]. This difference is affected by the variety of ways in which different cultures interpret symptoms of anxiety and what they consider to be normative behaviour[18,19]. Overall, anxiety disorders represent the most common psychiatric condition in the United States, apart from substance use disorders[20].

Generalized anxiety disorder (GAD)

Definition

Generalized Anxiety Disorder (GAD) is defined as at least 6 months of excessive preoccupation with everyday problems that is disproportionate to any inherent risk of distress or impairment. The concern is not limited to characteristics of another mental disorder, nor as a result of substance abuse or general health. At least 3 of the following emotional, somatic, and cognitive symptoms are present most of the time: restlessness or nervousness, easy fatigue, lack of concentration, irritability, muscle tension, or sleep disturbances.[21] Other common complaints are autonomic in nature, such as as such as sweating, dizziness, palpitations, dizziness and epigastric discomfort[22]. Anxiety may be 'free-floating' (i.e., not restricted to, or even strongly predominating in, any particular environmental circumstances).[22] Examples of worries include fears that the patient or a relative will shortly become ill or have an accident.

Aetiology

There is no single aetiology, but an increase in minor stressors in life[31,32], the presence of physical or emotional trauma[33] and genetic factors appear to contribute. A systematic review found that bullying or peer victimization among youths was associated with a higher incidence[34]. A review of case control studies found increased rates in those experiencing civilian trauma in 4 of 5 studies, versus the non-traumatized control population.[33] Systematic reviews found a significant number of patients and their first-degree relatives (odds ratio 6.1) developing the disorder.[35] Another review of 35 twin and family studies found a significant association with other anxiety disorders and depression, suggesting a common underlying genetic factor.[36]

The chromosome 15 abnormality has been associated with panic, agoraphobia, social phobia, and joint laxity in families, and panic disorder in unknown cases. However, these data are only preliminary, and more research, including more sophisticated studies on genetic markers, are warranted to substantiate this and identify other genetic factors associated with anxiety disorders. [37]

Pathophysiology

The pathophysiology is not clearly understood, but biological studies have focused on abnormal stress responses, involvement of several neurotransmitters, neurohormonal

disorders, sleep disturbances, and chromosomal and genetic factors. Studies have identified changes in cerebral blood flow in response to stress, and hypervigilance and increased metabolic activity suggest a hyperactive brain circuitry.[38]

Multiple neurotransmitters involving large areas of the brain have been implicated in anxiety and other disorders,[39]including the benzodiazepine, N-methyl-D-aspartate / glutamate, serotonin, and cholecystokinin receptors.

Abnormalities in cerebral corticotropin releasing factor secretion in the hypothalamic-pituitary-adrenal axis appear to coexist with episodes of anxiety and may interfere with neurotransmitters and arousal[40]. Increased alertness and associated arousal are associated with insomnia and daytime fatigue[41].

History & examination

- Key diagnostic factors
- presence of risk factors

Table No. 01 Key diagnostic factors

• Key factors include family history, female gender, increased stress, history of physical or emotional trauma, and concomitant depression, substance abuse / dependence, or other anxiety disorder.
Excessive worry for at least 6 months
• The presence of chronic excessive worry, about a series of problems disproportionate to the situation, causing distress or deterioration, is the central symptom and is necessary for diagnosis.[21]
Anxiety not confined to another mental disorder
• Recommended for determining whether anxiety is not confined to another Axis I mental disorder (e.g., panic disorder, social phobia, PTSD, or a somatoform disorder such as somatization disorder or hypochondriasis).
• This feature is required for diagnosis.
Anxiety not due to medication or substance

• A thorough list of prescribed and over-the-counter and herbal medications should be obtained to determine if any medications the patient is taking cause anxiety as a side effect.
• Common examples include asthma medications (e.g., salbutamol, theophylline), herbal medicines (e.g., ma huang, St. John's wort, ginseng, guarana, belladonna), corticosteroids, and antidepressants.
• Additionally, a history of any alcohol or illicit drug use should be obtained, as these substances can cause anxiety symptoms acutely and in withdrawal.
Muscle tension
• One of 6 core symptoms in the predominant picture of chronic, excessive worry, with at least 3 required to make a diagnosis. [21]
• May lead patients to seek medical care.
Sleep disturbance
• One of 6 core symptoms in a picture of excessive worry, of which at least 3 are required to make a diagnosis. [21]
• Includes difficulty falling or staying asleep, or restless sleep.
Fatigue
• One of 6 core symptoms, of which at least 3 are required to make a diagnosis. [21]
• Patients are easily fatigued.
Restlessness
• One of 6 core symptoms in a picture of excessive worry, of which at least 3 are required to make a diagnosis. [21]
• Also described as 'feeling on edge'.

Irritability
• One of 6 core symptoms in a picture of excessive worry, of which at least 3 are required to make a diagnosis. [21]
Poor concentration
• One of 6 core symptoms in a picture of excessive worry, of which at least 3 are required to make a diagnosis. [21]
Other diagnostic factors
Headache
• Patients may present with headache.
Sweating
• Patients may present with excess sweating.
Dizziness
• Symptom of hyperarousal
GI symptoms
• Patients may have GI complaints such as nausea and diarrhea, or irritable bowel syndrome.
Muscle aches
• Patients may have muscle aches due to muscle tension.
Increased heart rate
• Sign of hyperarousal.
• Not confined to a discrete episode (i.e., a panic or anxiety attack).
Shortness of breath
• Sign of hyperarousal.

Trembling
• Patients may have trembling or shakiness on examination.
Exaggerated startle response
• May be seen on examination.
Chest pain
• The presence of anxiety does not exclude cardiac pathology.

Appropriate workup should be done for suspected organic etiology, for example, in people with exertional symptoms or cardiac risk factors.

Differential diagnosis

Table No. 02 Differential diagnosis

Condition	**Differentiating signs/symptoms**	**Differentiating investigations**
Panic disorder	Characterized by recurrent episodes of sudden worry, with at least 4 symptoms including shortness of breath, palpitations, tremors, nausea, hot flashes or cold flashes, dizziness and fear of dying. It is also frequently accompanied by avoidance behaviors (activities in which escape would be difficult). Panic can exist with GAD. Autonomous complaints are felt simultaneously during an acute crisis without the predominant picture of multi-themed worry.[21]	▪ No differentiating tests exist.

Condition	**Differentiating signs/symptoms**	**Differentiating investigations**
Social phobia	▪ Anxiety or persistent fear is limited to social situations and fear of social scrutiny or embarrassment. Avoidance behaviour commonly present. [21]	▪ No differentiating tests exist.
Obsessive-compulsive disorder	▪ Anxiety is directly related to compulsions or obsessions.	▪ No differentiating tests exist.
Post-traumatic stress disorder	▪ Anxiety is directly related to exposure to reminders of past trauma; patients re-experience symptoms (through flashbacks, nightmares).	▪ No differentiating tests exist.
Somatoform disorders	▪ Anxiety is directly related to specific physical complaints. ▪ Thorough medical evaluation shows no basis for physical complaints.	▪ No differentiating tests exist.
Depression	▪ Inability to feel pleasure with an overall sad or irritable mood.[21, 45]	▪ No differentiating tests exist.
Substance- or drug-induced	Anxiety is directly linked to exposure to substances (e.g., caffeine, toxin, alcohol, illicit drugs), drugs (e.g., salbutamol, theophylline,	▪ Testing for drugs in urine can identify addiction, such as intoxication

Condition	Differentiating signs/symptoms	Differentiating investigations
anxiety disorder	corticosteroids, antidepressants) or herbal medications (e.g., Ma huang, St. John's wort, ginseng, guarana, belladonna). Thorough history of prescribed and over-the-counter medications and herbal medicines should be obtained.[45] A history of illicit drug and alcohol use should also be obtained. ▪	with a stimulant or withdrawal from alcohol or benzodiazepines. May miss cocaine, which is rapidly metabolized and excreted. ▪ Urine drug screen for antidepressants may detect prescribed medications or those taken in overdose. ▪ Serum theophylline level may be elevated above the therapeutic range. ▪ No differentiating tests exist for other substances or drugs.

Condition	**Differentiating signs/symptoms**	**Differentiating investigations**
CNS-depressant withdrawal	▪ Anxiety may occur during withdrawal from a substance (e.g., alcohol, opioids, sedative-hypnotics) with characteristic symptoms such as tremors (i.e., rapid heart rate, fluctuating blood pressure), and, in case of delirium, mental confusion. ▪ Typical signs on are tachypnoea, tachycardia, and disorientation.	▪ Monitoring of vital signs is essential to detect autonomic instability and sometimes delirium.
Anorexia nervosa	▪ Anxiety is directly related to a fear of gaining weight. ▪ Body weight <85% of ideal.	▪ No differentiating tests exist.
Situational anxiety (non-pathological)	▪ Anxiety is more controllable and less pervasive (limited to one situation or context, such as an upcoming examination). ▪ Situational worries are less likely to be accompanied by physical symptoms.[21] ▪ Restlessness, fatigue, and other physical symptoms are rarely present.	▪ No differentiating tests exist.
Adjustment disorder	▪ Anxiety occurs temporarily in response to a life stressor and does not	▪ No differentiating tests exist.

Condition	Differentiating signs/symptoms	Differentiating investigations
	persist for more than 6 months after the stressor ends.	
Cardiac disease	▪ Anxiety symptoms are predominantly cardiac in nature (i.e., palpitations, sensation of rapid heartbeat or skipped heartbeat, dizziness, dyspnoea on exertion, chest pain, and numbness). ▪ Chest pain is typically exertional. ▪ Cardiac risk factors may be present. ▪ Physical examination may be normal or show hypertension, hypotension, tachycardia or bradycardia, or S3 or S4 gallops.	▪ Imaging studies such as angiogram, echocardiogram, exercise stress test, or ECG rule out cardiac disease.
Pulmonary conditions	▪ There may be a history of pulmonary disease such as asthma or COPD, or signs/symptoms such as wheezing, cough, respiratory distress, or sputum production. ▪ Patients may specifically have a feeling of suffocation accompanied by physical signs.	▪ Pulmonary function tests (or less commonly bronchoscopy) rule out primary lung pathology. ▪ Pulse oximetry shows low oxygen saturation.

Condition	**Differentiating signs/symptoms**	**Differentiating investigations**
Hyperthyroidism	▪ Weight loss, warm moist skin, heat intolerance, ophthalmopathy, or goiter.	▪ TFTs (increased T4, decreased TSH) can identify primary hyperthyroidism or use of excessive thyroid hormone.
Infections	▪ Anxiety limited to the time period of the infection. ▪ Other symptoms include fever, night sweats, or cough.	▪ Viral antibody titres, blood cultures, and acid-fast bacillus test of sputum can assess possible infectious causes. ▪ Successful treatment of infection should result in resolution of symptoms.
Peptic ulcer disease	▪ Typically, burning epigastric pain which occurs hours after meals or with hunger, relieved by food or antacids.	▪ Upper GI endoscopy detects peptic ulcer and possibly presence of *Helicobacter pylori*.

Condition	Differentiating signs/symptoms	Differentiating investigations
	▪ It may be difficult to distinguish gastrointestinal symptoms as a cause versus a result of anxiety.	
Crohn's disease	▪ Chronic diarrhoea, weight loss, and right lower quadrant abdominal pain mimicking acute appendicitis. ▪ Perianal lesions including skin tags, fistulae, abscesses, scarring or sinuses. ▪ It may be difficult to distinguish gastrointestinal symptoms as a cause versus a result of anxiety.	▪ Colonoscopy shows aphthous ulcers, hyperaemia, oedema, cobble stoning, or skip lesions.
Irritable bowel syndrome	▪ Alteration of bowel habits associated with pain, and abdominal discomfort, bloating, or distention. ▪ It may be difficult to distinguish gastrointestinal symptoms as a cause versus a result of anxiety.	▪ No differentiating tests. Diagnosis is clinical and investigations only performed to exclude other causes.

Diagnostic approach

The clinical characteristic common to all patients is a history of chronic and excessive preoccupation with a life situation for at least 6 months which is out of proportion to any inherent risk and causes distress and impairment. In adults, at least 3 out of 6 key symptoms are needed for a diagnosis (only one is required in children)[21], and fatigue is

a common complaint. Generalized anxiety disorder (GAD) is in part a diagnosis of exclusion. Medical conditions, drugs or substances and other mental disorders should be excluded as the main cause. 'Pure' GAD is rare, as this condition typically presents in primary care with co-morbid mental disorders such as depression, anxiety disorders, and substance abuse, complicating diagnosis and treatment.[21] Physical examination and studies tests are generally normal if there are no coexisting medical conditions, there are substance abuse problems or issues. Patients can abuse health care resources to find medical causes for their concern and associated symptoms.

History

A family history of anxiety or depressive disorders should be obtained, as well as a history of physical or emotional trauma, depression or anxiety disorders, addiction or substance abuse issues, and current stress levels. GAD is more common in women.

A complete list of prescription and over-the-counter medications and herbal remedies should be obtained in order to determine whether the medications the patient is taking are causing anxiety as a side effect. Common examples include asthma drugs (e.g., salbutamol, theophylline), beta blockers (e.g., metoprolol), herbal medicines (e.g., Ma huang, St. John's wort, ginseng, guarana, belladonna), corticosteroids and certain antidepressants.[42] Additionally, a history of any alcohol or illicit drug use should be obtained, as these substances can cause anxiety symptoms acutely and in withdrawal.

In adults, at least 3 of the following key symptoms are required to make a diagnosis, in addition to a predominant pattern of chronic excessive worry for 6 months causing distress or impairment (only 1 item is required in children):[21]

- Muscle tension
- Sleep disturbance
- Fatigue
- Restlessness or sense of 'feeling on edge'
- Irritability
- Poor concentration.

Other symptoms may include muscle aches, sweating, dizziness, shortness of breath, chest pain, nausea, diarrhea, or other gastrointestinal complaints.

Physical examination

It is usually normal that there are no concomitant medical or substance abuse problems. Tremor, tremors, an exaggerated startle response, or an increase in heart rate that is not limited to a discrete episode (i.e., panic or anxiety attack) may be observed with the exam.

Mental health screening

The possible etiology of the anxiety should be determined by a complete psychiatric history and mental status examination.

Other mental disorders are suggested if the anxiety is confined to the following circumstances:

- A panic attack (panic disorder)
- Embarrassment in public (social phobia)
- Fear of contamination (obsessive-compulsive disorder)
- Fear of gaining weight (anorexia nervosa)
- Fear of being away from home (separation anxiety disorder)
- Exposure to reminders of past trauma (post-traumatic stress disorder)
- Having multiple physical complaints (somatization disorder).

Comorbid mental disorders are common, such as mood disorders, other anxiety disorders, and substance-related disorders.[21] Finding evidence of a comorbid mental disorder does not exclude GAD if the anxiety is not confined to a specific circumstance.

Investigations

There is no research to confirm a diagnosis of GAD, and studies are usually normal if there are no coexisting medical or substance abuse issues.

Laboratory tests are only indicated if there are signs, symptoms, or a medical history suggesting a medical condition strongly associated with anxiety, such as thyroid disease, lung disease, or cardiovascular conditions. Specific tests include:

- Urine drug screen: should be ordered to rule out suspected drug abuse

- TFTs: recommended if the patient has suspected thyroid disease (e.g., weight loss, goitre, mood swings)

- 24-hour urine test for vanillylmandelic acid and metanephrines: ordered to rule out phaeochromocytoma if cardiac symptoms such as tachycardia etc. are present

- ECG and echocardiogram: recommended for patients with a high risk of cardiac disease or evidence of cardiac disease

- Pulmonary function tests: should be considered for patients with shortness of breath and evidence of respiratory disorders

- EEG: useful for evaluating patients where anxiety may be a prodromal symptom for seizure.

Diagnostic criteria

Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) [21]

Excessive anxiety and worrying about various issues are present most of the time for more than 6 months.

Difficulty controlling worry.

At least 3 symptoms associated with anxiety for the past 6 months:

1. Restlessness or feeling on edge
2. Easily fatigued
3. Difficulty concentrating
4. Irritability
5. Muscle tension
6. Sleep disturbance (difficulty falling or staying asleep, or restless sleep).

Anxiety causes significant distress or impairment in social, occupational, or other important areas of functioning.

The disturbance is not best explained by another mental disorder (for example, worry about having a panic attack in panic disorder), worry about embarrassment in public (social phobia), fear of contamination (OCD), separation anxiety; fear of gaining weight (anorexia nervosa), multiple physical complaints (somatization disorder), fear of serious illness (hypochondria) or due exclusively to PTSD.

The disturbance cannot be attributed to the physiological effects of a substance or other medical condition.

International classification of diseases, tenth revision (ICD-10) [22]

Anxiety that is generalized and persistent but not restricted to, or even strongly predominating in, any particular environmental circumstances (i.e., it is 'free-floating'). The dominant symptoms are variable but include complaints of persistent nervousness, trembling, muscular tensions, sweating, palpitations, dizziness, and GI discomfort, Fears of various kinds.

Anxiety:

- Neurosis (characterized by anxiety, depression or hypochondria)
- Reaction (anxious response to an event or situation)
- State (a temporary frame of mind, as opposed to a more lasting trait).

Excludes: neurasthenia (chronic physical and mental fatigue).

Hamilton Anxiety Rating scale (HAM-A)

A clinician-administered assessment of psychic and somatic anxiety symptoms, which are rated in severity from mild to severe. [Hamilton Anxiety Rating Scale]

Clinical Global Impressions (CGI) scale

A standardized assessment tool in which a clinician assesses the rate of severity of the patient's illness on a 7-point scale over time. [Clinical Global Impressions (CGI) Scale][44]

Management approach

The main goals in treating generalized anxiety disorder (GAD) are to improve symptoms of anxiety and reduce or eliminate disability.

Generalized anxiety disorder meeting DSM-5 criteria

Pharmacotherapy is considered a first-line option for GAD. CBT or CT scans are considered equal first-line options, especially for patients who cannot tolerate drug therapy or who do not want to take medication. For children, CBT is recommended before medications to treat moderate or persistent GAD.[45]

Drug options include antidepressants (selective serotonin-reuptake inhibitors [SSRIs], serotonin-norepinephrine reuptake inhibitors [SNRIs] and others), benzodiazepines

(short term, with caution in case of dependence), anticonvulsants and antipsychotics outliers (second generation). [46, 47] Selection is based on severity of illness / degree of distress, presence of medical conditions, substance abuse profile, patient preference and side effect profile. 43 For example, if the patient has a history of drug abuse or at risk of drug abuse, benzodiazepines should be avoided. Information on the long-term effects of these drugs in GAD is limited.

Psychotherapy with cognitive behavioral therapy (CBT) or cognitive therapy (CT) should be considered with or without drug treatment and during pregnancy.[48,49]These techniques work by training patients in alternative responses to worrying habits and may be particularly helpful. for generalized patients. Anxiety in adulthood.[50,51,52] Studies have shown the effectiveness of internet-based CBT through individually administered media interventions.[57,58].Both short- and long-term psychodynamic psychotherapy have also been found to be effective.[57.58,59,60]

In addition to psychotherapy and drug therapy, several non-drug therapies may also be considered for GAD. Meditation training is an option for patients who are unable or unwilling to do psychotherapy.[61,62] Training in applied relaxation can also be a useful complementary treatment.[43]Sleep hygiene education, while not a treatment for GAD per se, could be a useful tool in primary care given the high frequency of sleep disturbances in this disorder, and is often used with CBT for GAD to ensure the best possible sleep efficiency. and quality. In addition to other treatment options and / or referrals, patients may be counseled to improve sleep hygiene by going to bed and getting up at the same time each day, eliminating alcohol after 6 p.m. avoiding caffeine after 3 p.m. and getting out of bed. if you cannot fall asleep, to avoid negative associations with the bed environment, among others.[63,64]

Physical exercise has not been studied extensively in GAD, but results from some RCTs have shown that exercise training can reduce symptoms of anxiety.[65] Self-help books or manuals Self-help can also be useful for GAD. A review of 6 RCTs identified 2 studies showing the benefits of self-help books / manuals over waitlist monitoring.[66]

Monitoring

Generalized anxiety disorder is a chronic, relapsing disorder that usually requires long-term treatment.[42] After a short trial of drug therapy for 6-8 weeks, effective therapy should be continued for 6-12 months. Patients should be monitored during this time to ensure continued benefit. At this point, a trial reduction of the drug may be performed and treatment is reinstated in the event of a relapse.[74] Several drugs that have been shown to be effective for short-term treatment have also been shown to be effective in preventing relapse. [67, 73]

Patient instructions

If the anxiety is accompanied by depression (especially suicidal thoughts), or if there is drug or alcohol abuse, patients should seek medical attention for symptoms of anxiety that cause significant distress or distress. functional impairment.

Complications

Complication Timeframe Likelihood comorbid depression

Depression co-occurs in at least 50% of patients and increases the risk of suicidal tendencies, therefore caution is advised when prescribing tricyclic antidepressants and sedatives. Patients with depression and generalized anxiety disorder have a more severe and prolonged course.[70]

Treatment of comorbid depression with antidepressants can improve symptoms of both conditions and reduce the risk of suicide.[71, 72]

Hospitalization is warranted for serious suicidal risk.

Comorbid substance abuse or dependence

Alcohol, sedative, hypnotic, or anxiolytic dependence or abuse may coexist, as patients can use these substances to reduce their anxiety. Alcohol abuse occurs in more than a third of patients. [74]

Complications of this include secondary medical conditions (i.e., hepatotoxicity, GI bleeding) and substance withdrawal.

Detoxification from alcohol or benzodiazepines is indicated if signs of withdrawal from the substance appear. Treatment in a specialized facility for chemical dependence should be considered. Recognition and treatment of the underlying substance abuse is important to the overall treatment plan.

Over-utilization of healthcare resources

Symptoms may prompt the patient to see their primary care physician for treatment.[21] If the physician does not recognize the anxiety, expensive medical tests may be performed.[69]

Recognizing the pattern of worry or subjective anxiety along with the physical signs that accompany it can help the doctor avoid expensive diagnostic tests while also considering possible medical causes of the anxiety.

Effective treatment with pharmacotherapy or cognitive behavioural therapy should reduce symptoms and seek medical attention.

comorbid anxiety disorder

Panic disorder, social phobia, or specific phobia often co-occur, and may contribute to distress and avoidance behaviours.[21]

Panic disorder and social phobia may respond to similar treatments (i.e., antidepressants and cognitive behavioural therapy). Behavioural treatments such as systematic desensitisation may treat specific phobias, thus relieving distress.

Prognosis

Pharmacotherapy should be given for at least 6 - 8 weeks to determine efficacy, and continued for up to 6 to 12 months if effective. [74] The physician may attempt to taper the medication after this period, monitoring the patient for recurrence of symptoms. With proper treatment, a decrease in symptoms, improved psychosocial functioning, and a reduction in over-utilisation of medical care can be achieved. Generalised anxiety disorder may recur under physical or emotional stress.

Depression co-occurs in 30% to 60% of patients and increases the risk for suicidality. Patients with depression and generalized anxiety disorder have a more severe and prolonged course.[70]

Treatment

Generalized anxiety disorder is based on psychological components, including cognitive avoidance, positive and worrying beliefs, ineffective emotional problem solving and processing, interpersonal issues, previous trauma, intolerance of uncertainty, negative orientation of problems, ineffective coping, emotional hyperarousal, poor understanding of emotions, negative cognitive reactions to emotions, maladaptive emotion management and regulation, experiential avoidance, and behavioral restriction.[75]

To combat previous cognitive and emotional aspects of GAD, psychologists often include some of the following key elements of treatment in their intervention plan;, relaxation techniques, self-control, progressive control of stimuli, cognitive restructuring, monitoring worry outcomes, focus on the present moment, life without expectations, problem-solving techniques, basic fear treatment, socialization , discussion and reflection on worry beliefs, emotional skills training, experiential exposure, psychoeducation, mindfulness exercises and acceptance.[75]

There exist behavioural, cognitive and a combination of both treatments for GAD that focus on some of those key components. Among the cognitive–behavioural orientated psychotherapies the two main treatments are cognitive behavioural therapy and acceptance and commitment therapy (ACT).[76] Intolerance of uncertainty therapy and motivational interviewing are two new treatments for GAD that are used as either stand-alone treatments or additional strategies that may enhance CBT.[77]

Cognitive behavioural therapy

Cognitive behavioural therapy (CBT) is a psychological method of treatment for GAD that involves a therapist working with the patient to understand how thoughts and feelings influence behaviour.[78] Elements of therapy include exposure strategies that allow the patient to gradually cope with their anxieties and feel more comfortable in anxiety-provoking situations, as well as to practice the skills learned. CBT can be used alone or in conjunction with medication.[79] Components of CBT for GAD includes psychoeducation, self-monitoring, stimulus control techniques, relaxation, self-control desensitization, cognitive restructuring, worry exposure, worry behaviour modification, and problem-solving.

The first step in the treatment of GAD is informing of the patient about the issues and the plan of the solution. The purpose of psychoeducation is to provide some relief, de-stigmatization of the disorder, motivating, and accomplishing participation by making the patient understand the program of treatment. The purpose of this component is to identify cues that provoke the anxiety. Stimulus control intervention refers to minimizing the stimulus conditions under which worrying occurs.

Relaxation techniques lower the patients' stress and thus increase attention to alternatives in feared situations (other than worrying). Deep breathing exercise, progressive muscle relaxation, and applied relaxation fall under the scope of relaxation techniques.[77] Self-control desensitization involves patients being deeply relaxed before vividly imagining themselves in situations that usually make them anxious and worry until internal anxiety cues are triggered. Then patients imagine themselves coping with the situation and reducing their anxiety response. If the anxiety subsides, they enter a more relaxed state and turn off the scene. The goal of cognitive restructuring is to move from a disturbing perspective to a more functional and adaptive perception of the world, the future and the self. It is a Socratic questioning that causes patients to reflect on their worries and anxieties in order to realize that the alternative interpretations and feelings are more precise. It also involves behavioural experiments that really test the validity of negative and alternative thoughts in real situations. In CBT for GAD, patients also perform worry exposure exercises in which they are asked to imagine being exposed to images of the most feared outcomes. They then engage in response prevention instructions that prevent them from avoiding the image and motivate alternative outcomes to the feared stimulus. The goals of exposure to worry are habituation and reinterpretation of the meaning of the feared stimulus. To prevent worrying behaviors, patients should control the behaviors that worry them and then ask them to avoid participating in them. Instead, they are encouraged to use other coping mechanisms learned earlier in treatment. Finally, problem solving focuses on dealing with current problems through a problem-solving approach:

(1) definition of the problem, (2) formulation of goals, (3) creation of alternative solutions, (4) decision-making, and (5) implementing and verifying the solutions.[77] There is little debate regarding the effectiveness of CBT for GAD. However, there is still room for improvement as only around 50% of those who complete treatment achieves better function or better recovery after treatment. Therefore, there's a need for

enhancement of current components of CBT.[77] CBT usually helps one-third of the patients substantially, whilst another third does not respond at all to treatment.[80]

Acceptance and commitment therapy

Acceptance and Commitment Therapy (ACT) is a behavioural treatment based on an acceptance-based model. ACT is designed to target three therapeutic goals:

(1) reduce the use of avoidance strategies aimed at avoiding feelings, thoughts, memories and sensations;

(2) decreasing a person's literal response to their thoughts (e.g., understanding that thinking "I'm hopeless" does not mean that the person's life is truly hopeless), and

(3) increasing the person's ability to keep commitments to changing their behaviours.

These goals are achieved by changing the person's intention to control events to work to change their behaviour and focus on meaningful directions and goals in their life, as well as by adopting behaviours that help the individual achieve. these personal goals.[81] This psychological therapy teaches mindfulness (paying attention on purpose, in the present, and in a non-judgmental manner) and acceptance (openness and willingness to sustain contact) skills for responding to uncontrollable events and therefore manifesting behaviours that enact personal values.[82] Like many other psychological therapies, ACT works best in combination with pharmacology treatments.

Intolerance of uncertainty therapy

Intolerance of uncertainty therapy (IUT) refers to a constant negative reaction to uncertain and ambiguous events, regardless of their likelihood of occurrence. IUT is used as a stand-alone treatment for patients with GAD. Therefore, IUT aims to help patients develop the ability to tolerate, cope with and accept the uncertainty in their lives in order to reduce anxiety. The IUT is based on the psychological components of psychoeducation, worry awareness, problem solving training, re-evaluation of the usefulness of worry, imagination of virtual exposure, recognition of uncertainty and behavioural exposure. Studies have shown that they support the efficacy of this therapy in patients with GAD with continuous improvements in follow-up periods.[77]

5.1.4 Motivational interviewing

A promising innovative approach to improving recovery rates for the treatment of GAD is to combine CBT with Motivational Interviewing (MI). Motivational Interviewing is a strategy centred on the patient that aims to increase intrinsic motivation and decrease ambivalence

about change due to the treatment. MI contains four key elements;

(1) express empathy

(2) heighten dissonance between behaviours that are not desired and values that are not consistent with those behaviours

(3) move with resistance than direct confrontation and

(4) encourage self-efficacy.

It is based on asking open-ended questions and listening attentively and reflectively to patient responses, provoking the "change talk" and discussing with patients the pros and cons of change. Some studies have shown that the combination of CBT and MI is more effective than CBT alone.[77]

Review from the Classical Trio:

In *Samhita* (1000 B.C. to 600 A.D.) period ancient seers like *Charaka*, *Sushruta*, and *Vagbhata* contributed about *Manas*, *Manasika* Rogas and their management nicely

***Charaka Samhita*:**

लक्षणं मनसो ज्ञानस्याभावो भाव एव च|
सति ह्यात्मेन्द्रियार्थानां सन्निकर्षे न वर्तते||१८||
वैवृत्त्यान्मनसो ज्ञानं सान्निध्यात्तच्च वर्तते|
अणुत्वमथ चैकत्वं द्वौ गुणौ मनसः स्मृतौ||१९||
चिन्त्यं विचार्यमूह्यं च ध्येयं सङ्कल्प्यमेव च|
यत्किञ्चिन्मनसो ज्ञेयं तत् सर्वं ह्यर्थसञ्ज्ञकम्||२०||
इन्द्रियाभिग्रहः कर्म मनसः स्वस्य निग्रहः|
ऊहो विचारश्च, ततः परं बुद्धिः प्रवर्तते||२१||
इन्द्रियेणेन्द्रियार्थो हि समनस्केन गृह्यते|
कल्प्यते मनसा तूर्ध्वं गुणतो दोषतोऽथवा||२२||

1. A detailed description, definition, properties, and functions of '*Manas'* have been explained in the *samhita*.[83]
2. There is also mentioning of '*Chittodvega'* as a one of *vikaras* of *Manas*.[84]
3. इमे तु खल्वन्येऽप्येवमेव भूयोऽनुमानज्ञेया भवन्ति भावाः|

   तद्यथा- अग्निं जरणशक्त्या परीक्षेत, बलं व्यायामशक्त्या, श्रोत्रादीनि शब्दाद्यर्थग्रहणेन, मनोऽर्थाव्यभिचरणेन.....

   Understanding and examination of *Manasa Bhava* is described.[85]

4. The effects of emotional factors like *Vishada, Harsha* etc. on body are mentioned.[86]

5. सत्त्वतश्चेति सत्त्वमुच्यते मनः|

तच्छरीरस्य तन्त्रकमात्मसंयोगात्|

तत् त्रिविधं बलभेदेन- प्रवरं, मध्यम्, अवरं चेति; अतश्च प्रवरमध्यावरसत्त्वाः पुरुषा भवन्ति|

तत्र प्रवरसत्त्वाः सत्त्वसारास्ते सारेषूपदिष्टाः, स्वल्पशरीरा ह्यपि ते निजागन्तुनिमित्तासु महतीष्वपि पीडास्वव्यथा दृश्यन्ते सत्त्वगुणवैशेष्यात्;……. ll

Satva Pareeksha, - examination of mental status is explained.[87]

6. प्रशाम्यत्यौषधैः पूर्वो दैवयुक्तिव्यपाश्रयैः|

मानसो ज्ञानविज्ञानधैर्यस्मृतिसमाधिभिः||५८||

Satvavajaya, the treatment of *Manasika Roga* is told which includes *Jnana, Vijnana, Dhairya, Smriti* and *Samadhi* as pillars of the treatment.[88]

7. Description about *manasika vyadhis* like *Unmada, Apasmara* and *Atattvabhinivesha* are explained thoroughly.[89]

8. त्रिविधं खलु सत्त्वं- शुद्धं, राजसं, तामसमिति|

तत्र शुद्धमदोषमाख्यातं कल्याणांशत्वात्, राजसं सदोषमाख्यातं रोषांशत्वात्, तामसमपि सदोषमाख्यातं मोहांशत्वात्|

तेषां तु त्रयाणामपि सत्त्वानामेकैकस्य भेदाग्रमपरिसङ्ख्येयं तरतमयोगाच्छरीरयोनिविशेषेभ्यश्चान्योन्यानुविधानत्वाच्च|……

The 16 types of *Manasika Prakriti* (mental constitutions) and their characteristics are explained.[90]

Sushruta Samhita:

1. It is explained that most of the *Manasika Bhavas* like *Krodha* (anger), *Shoka* (grief), *Bhaya* (fear), *Kama* (passion) etc. are either a part of *Iccha* (desire) or *Dvesha* (aversion).[91]

2. 16 types of *Manasa Prakruti* are described in *Shareera Sthana*.[92]

3. *Unmada* and *Apasmara* are explained in detail.[93]

4. Psychiatric disorders of children are described under the heading *Balagrahas*[94]

Ashtanga Samgraha /Hrdaya:

1. *Dhi, Dhairya,* and *Atma Vijnana* are considered as the best treatment modalities for disorders of *Manas*.[95]
2. *Bhutavidya, Unmada, Apasmara and Balagraha* etc. are very nicely discussed in both of these texts.[96]

We also find the texts written during medieval period (600 A.D. to 1600 A.D.) like *Madhava Nidana, Sharangdhara Samhita, Bhava Prakasha* and all the commentaries of the *Samhitas* have described mental disorders but are mainly based on the three *Samhitas*.

Chittodvega- Nirukti

The word *Chittodvega* comprises of two words

Chitta + Udvega

Chitta is derived from the root *Chitt* and the word coveys the following meanings

Chitta: 1) To Perceive, See, Notice, Observe

2) To Know, to understand,

3) To be aware or Conscious of

4) Thought, Perception, Intelligence, Intellect

5) The Heart, Mind[97]

Chitta: Thinking, Intellect, Spirit, Soul[98]

Chitta: 1) Observed, Perceived, Considered, Mediated

2) Resolved

3) Mind[99]

Chiti:

The Thinking mind[100]

Udvega:

Trembling, Shaking, Waving

1) Agitation, Excitement

2) Alarm, Fear

3) Anxiety, Regret, Sorrow

4) Admiration, Astonishment[101]

Udvega: Trembling, Shaking, Agitation, Anxiety, Distress[102]

Chittodvega

Chitta: Mind *Udvega*: Anxious

Anxious state of mind is *Chittodvega*

It is evident from the forgoing references that the *Acaryas* knew different forms of mental status. Among all these terms, only *Cittakshobha, Asvastha Citta, Anavasthita Citta, Tapta Citta, Manvikshobha* and *Cittodvega* are indirectly towards the meaning of anxious status. However, *Cittodvega* is more applicable term to illustrate whole anxious status. So in this study the term '*Cittodvega'* is compared with anxiety disorders.

Nidana – Etiology of *Cittodvega*

The common causative factors for all *manasika rogas* are to be considered as etiological factors of *Chittodvega* as well. *Rajas* and *Tamas* are the *doshas* of the *manas*.[103] Respectively.

वायुः पित्तं कफश्चोक्तः शारीरो दोषसङ्ग्रहः|

मानसः पुनरुद्दिष्टो रजश्च तम एव च||५७||

The *nidanas* which vitiate *Rajas* and *Tamas* may be considered as etiological factors of *Chittodvega* also. The *Nidanas* can be multi-dimensional and are listed below :

1. *Upadha*
2. *Nija Agantuja*
3. *Shareera Avastha*
4. *Ahara- Vihara*
5. *Vata Dosha*

1. ***Upadha*:**

उपधा हि परो हेतुर्दुःखदुःखाश्रयप्रदः|

त्यागः सर्वोपधानां च सर्वदुःखव्यपोहकः||९५||

The *Upadhas* (desires) which can get influenced by *rajas* and *tamas* are considered as the main reason for the *dukha* of *manas* and *shareera*.[104]

समवायोऽपृथग्भावो भूम्यादीनां गुणैर्मतः|

स नित्यो यत्र हि द्रव्यं न तत्रानियतो गुणः||५०||

The diseases occur in body and/or mind, which constitute the substratum for any ailments.[105] The association of *manas* with disagreeable things and disassociation with agreeable things accounts for majority of causes for *manasika rogas*[106].

2. ***Nija Agantuja Nidana*:** The diseases of *shareera* and *manas* have been categorized as *nija*, and *agantuja* and *agantuja* diseases are caused by *karanas* like *abhichara, abhishapa, abhishanga* and *abhighata*.[107]

मुखानि तु खल्वागन्तोर्नखदशनपतनाभिचाराभिशापाभिषङ्गाभिघातव्यध-बन्धनवेष्टनपीडनरज्जुदहनशस्त्राशनिभूतोपसर्गादीनि, निजस्य तु मुखं वातपित्तश्लेष्मणां वैषम्यम्||४||

3. ***Shareera Avastha*:** The conditions like *bala kshaya* and *oja kshaya* also initiate psychic symptoms[108]

अतिपीतेन मद्येन विहतेनौजसा च तत्|

हृदयं याति विकृतिं तत्रस्था ये च धातवः||३६||

4. ***Ahara & Vihara*:**

***Ahara*:** The *ahara* is categorized according to *guna* it nourishes, viz, *Satvika, Rajasika* and *Tamasika.*[109] hence, *virudha, dushta, ashuchi, malina ahara* are the causative factors of physical as well as mental diseases.

In *Chandogya Upanishad* we have a reference that nutrition of mind depends on the diet. One third of food is utilized by mind. The bad quality food vitiates the mind leading to various types of mental disorders[110]

Vihara:

इमांस्तु धारयेद्वेगान् हितार्थी प्रेत्य चेह च|

साहसानामशस्तानां मनोवाक्कायकर्मणाम्||२६||

लोभशोकभयक्रोधमानवेगान् विधारयेत्|…….

निर्दिष्टं दैवशब्देन कर्म यत् पौर्वदेहिकम्|

हेतुस्तदपि कालेन रोगाणामुपलभ्यते||११६||……

Purvajanmakruta Karma, not following *Sadvritta* and *Vega dharana* are mentioned as the causes for derangement in mental health.[111,112,113,114]

The *trividha hetu* are considered to be responsible for the all physical and mental diseases.[115,116,117]

कालबुद्धीन्द्रियार्थानां योगो मिथ्या न चाति च|

द्वयाश्रयाणां व्याधीनां त्रिविधो हेतुसङ्ग्रहः||५४||

1. *Prajnaparadha*

2. Parinama

3. Asatmendriyartha samyoga

***Prajnaparadha*:**

धीधृतिस्मृतिविभ्रष्टः कर्म यत् कुरुतेऽशुभम्|

प्रज्ञापराधं तं विद्यात् सर्वदोषप्रकोपणम्||१०२||

Charaka mentions that *Dhi vibramsha* (impairment of intellect), *Drti vibramsha* (impairment of will) and *Smrti vibramsha* (impairment of memory) are the main causative factors of the mental disorders, which lead to sinful *Karmas*, this condition is defined as a *Prajnaparadha*.

यच्चान्यदीदृशं कर्म रजोमोहसमुत्थितम्|

प्रज्ञापराधं तं शिष्टा ब्रुवते व्याधिकारणम् ||१०८||

It causes various types of physical and mental disorders i.e. *Kama, Krodha, Bhaya, Moha, Soka, Udvega*, etc.[118,119]. The sinful acts caused by *Prajnaparadha* leads to the vitiation of physical and mental *Doshas*, which are as follows:

धीधृतिस्मृतिविभ्रष्टः कर्म यत् कुरुतेऽशुभम्|

प्रज्ञापराधं तं विद्यात् सर्वदोषप्रकोपणम्||१०२||

उदीरणं गतिमतामुदीर्णानां च निग्रहः|
सेवनं साहसानां च नारीणां चातिसेवनम्||१०३||
कर्मकालातिपातश्च मिथ्यारम्भश्च कर्मणाम्|
विनयाचारलोपश्च पूज्यानां चाभिधर्षणम्||१०४||
ज्ञातानां स्वयमर्थानामहितानां निषेवणम्|
परमौन्मादिकानां च प्रत्ययानां निषेवणम्||१०५||
अकालादेशसञ्चारौ मैत्री सङ्क्लिष्टकर्मभिः|
इन्द्रियोपक्रमोक्तस्य सद्वृत्तस्य च वर्जनम्||१०६||

- Forcible stimulation of natural urges and suppression of the manifested ones, exhibition of undue strength, over indulgence in sexual act, negligence of the time of treatment, initiation of action in improper time, loss of modesty and good conduct, Disrespect for respectable persons, enjoyment of harmful objects, resorting to the factors which are responsible for the causation of *unmada*, movement without any regard for temporal or local propriety, friendship with person involved in sin-full actions, avoidance of the healthy activities i.e. *Sadvritta*. [120]

2. *Parinama*:

Ayurveda explains that result of all improper deeds (*Kukarma*) will mature in time and when matures, the person will be afflicted with particular disorder. It is seen in some physical disorders and all mental disorders.[121]

3. *Astmendriyathasamyoga*:

Unwholesome contacts with senses are the third causative factor of mental disorder. They may be in the form of *Atiyoga* (excessive utilization), *Ayoga* (non-utilization) and *Mithyayoga* (wrong utilization) of sense faculties. (Ca. Sa. 1/128). These three types of unwholesome contact of senses aggravate the physical and mental disorders.

5. ***Vata Dosha:*** *('Rajo bahulo vayu') Vata* is considered to have *bahulata* of *rajas*, which in turn `influences activities of *vata* and mind. Aggravation of *vata* can happen by extreme mental emotions like *krodha* etc,. [122]

At the biological level Vayu is *Niyanta* i.e. controller and *Praneta* i.e. motivator of the mind[123]. So any dysfunction of *Vata* will afflict mental activities. Vitiated *Vata* is responsible for dysfunction of *Indriyas* and *Manas*. It is also a beginning of *Bhaya* (fear), *Moha* (infatuation), *Soka* (grief), *Dainya* (poverty), *Atipralapa* (delirium) etc.[124]

Among the five subtypes of *Vata*; *Prana, Vyana* and *Udana* are directly involved in mental activities. The function of Prana Vayu is to control of *Buddhi, Citta, Indriyas and Hrdaya*[125]. The etiogenic factors of Prana Vayu are *Rukshata, Vyayama, Langhana, Atyahara, Abhighata, Adhva, Vegaudirana and Vegadharana*[126]. *Udana Vayu* is responsible for memory[127] and it is vitiated through suppression of natural urges, heavy weight lifting, excessive crying and laughing etc.[128] *Vyana Vayu* is responsible for motion etc.[129] and it is provoked by *Atigamana, Atidhyana, Atikrida, Visamacesta, Virrudha* and *Ruksa Anna, Harsa, Visada* etc.[130]

Samprapti – Pathogenesis of *Chittodvega*

The factors involved in the pathogenesis, i.e., *Samprapti Ghataka* computed for *Cittodvega* are as follows:

- *Dosha – Manasika – Rajas, Tamas*

Shareerika – Vata – Prana, Udana & Vyana

Pitta – Sadhaka, Aalochaka (Buddhi vishesha)

Kapha – Tarpaka

- *Dushya –Rasadi dhatu*
- *Agni – Jatharagni – Manda/ Vishama/ teekshna*
- *Srotas – Manovaha, Sarvasrotodushti*
- *Srotodushti Prakara- Atipravrtti*
- *Udbhava Sthana - Manas*
- *Sanchara Sthana – Manovaha srotas/ Sarva Shareera*
- *Adhishthana – Sherohrudaya*[131]
- *Vyakta Sthana – Manas* and *Shareera*
- *Purvarupa : Alpa Vyakta Laksana*
- *Rupa : Chittodvega*
- *Upasaya : Dhairya, Asvasana*
- *Anupasaya : Manasika Klesa*
- *Sadhya Sadhyata – Krcchra Sadhya*
- *Roga Swabhava - Ashukari*
- *Upadrava - Unmadadi Manovikara/ Shareera Vikara*
- *Rogamarga : Madhyama*

The mind and sense faculties get vitiated due to the over use, under use and wrong utilization of their objects leading to disorders of corresponding sensory perceptions [132]

Manasasthu Chintya Arthaha - thinking constitutes the object of mind.[133] The impairment of mind power of making decision and cognition are responsible for Psychic disorders.

The previously mentioned *Nidanas* act on both *Manasika* and *Sharirika Doshas* and vitiate them. The vitiated *Doshas* take *Sthana Samsraya* in *Hrdaya* which is the seat of mind. It travels along the *Manovahasrotas* and cause *Manovavaha sroto dusti* and produces the *Manasika Lakshanas* of *Chittodvega*.

As the *vatadi doshas* also get vitiated, the impairment of *agni* is seen which in turn leads to the vitiation of *dhatus*, thus leading to the manifestation of somatic symptoms of *Chittodvega*. Thus establishing the full-fledged disease.

1. *Dosha*:

रजस्तमश्च मानसौ दोषौ|
तयोर्विकाराः कामक्रोधलोभमोहेर्ष्यामानमदशोकचित्तो(न्तो)द्वेगभयहर्षादयः|
वातपित्तश्लेष्माणस्तु खलु शारीरा दोषाः|
तेषामपि च विकारा ज्वरातीसारशोफशोषश्वासमेहकुष्ठादयः|
इति दोषाः केवला व्याख्याता विकारैकदेशश्च||५||

Rajas is the main causative factor for *Chittodvega* [134]

Prajnaparadha, *Parinama* and *Asatmyendriyartha samyoga* vitiate *Raja Dosha* because these *Nidana* have a nature of *Doshaprakopa* [135] *Raja* and *Tama* have '*Chala'* and '*Guru'* properties respectively[136] and due to these properties, actions of *Manas* are also influenced.

Vata is chief causative factor of *Chittodvega*. Without *Vataprakopa*, mind cannot be disturbed.

तत्रादौ वातविकाराननुव्याख्यास्यामः|…… अनवस्थितचित्तत्वं च; इत्यशीतिर्वातविकारा....

Acharya Charaka mentioned 80 types of *Vata Nanatmaja Vikaras* including *Anavasthita Cittatva* i.e. unstable mind[137]**.** It indicates that *Vata* is necessary cause for *Chittodvega* especially *Prana, Udana* and *Vyana Vayu.* Due to their etiological factors *Prana, Udana* and *Vyana* are vitiated[138]

2. *Dushya*:

.....रजस्तमश्च मानसौ दोषौ|
तयोर्विकाराः कामक्रोधलोभमोहेर्ष्यामानमदशोकचित्तो(न्तो)द्वेगभयहर्षादयः|.....

Mana is a main *Dushya* of *Cittodvega*, which is vitiated by *Raja* and *Tama* [139] So that *Manas* cannot properly analyze perceived object. Thus due to lack of knowledge to *Indriyas* it leads to various types of *Manasika Vikaras*.

Rasadi dhatus when vitiated,[140]So, cannot perform their proper functions, leading to various somatic symptoms.

3. *Agni*:

If *Agni* is good, a person can achieve health and happiness.

अभोजनादजीर्णातिभोजनाद्विषमाशनात्|
असात्म्यगुरुशीतातिरूक्षसन्दुष्टभोजनात्||४२||
विरेकवमनस्नेहविभ्रमाद्याधिकर्षणात्|
देशकालर्तुवैषम्याद्वेगानां च विधारणात्||४३||
दुष्यत्यग्निः, स दुष्टोऽन्नं न तत् पचति लघ्वपि|
अपच्यमानं शुक्तत्वं यात्यन्नं विषरूपताम् ||४४||

Various *Nidanas*[141] vitiate *Agni*, which may cause many physical illnesses.

मात्रयाऽप्यभ्यवहृतं पथ्यं चान्नं न जीर्यति|
चिन्ताशोकभयक्रोधदुःखशय्याप्रजागरैः||९||

It is mentioned that *Manasika Bhavas* [142] i.e. *Chinta, Shoka, Bhaya, Krodha* etc. vitiates *Agni*. So that due to *Agni vikriti* a man can suffer from various physical and mental illnesses.

4. *Srotas*:

Manovaha Srotas is mentioned in the descriptions of *Manasaroga*. It is situated in whole body due to *Chalatva Guna* of *Manas*. In *Chittodvega*, *Manas* is vitiated by *Nidanas* and *Manovaha Srotas* is vitiated by *Manas*. So *Manovaha Srotas* cannot perform proper transportation of *Cetana* to the living body cells. Thus responsible for manifestation of *Chittodvega*.

Due to *Dushti* of various *Dhatus* their transportation channels are also vitiated[143] thus vitiation of *Sarvadhatu Srotas* leads to production of different physical and mental symptoms in *Chittodvega*.

Mutra, Purisha and *Svedavaha Srotas* are also affected in *Chittodvega* due to vitiation of *Dhatu* and *Agni*. It causes various symptoms i.e. excessive micturition, frequent loose stools or constipation and excessive sweating.

5. *Sroto dushti*:

There is excessive increase in frequency of *manasika karmas* and *Mano vishayas*. Hence the type of *dushti*, which occurs in this condition can be taken as *Atipravrtti*.

6. *Udbhava Sthana*:

Hrdaya is the main seat of *Manas* [144]

As *Manas* is *Ashraya* for all *Manasika Vikaras, Hrdaya* can be considered as the *Udbhava Sthana* of *Chittodvega*.

7. *Sanchara Sthana*:

Sarva Deha is *Sanchara sthana* for *Manas*. . The stale *Mano doshas* as well as the *Shareerika doshas* move throughout the body and wherever *Khavaigunya* is found the disease manifests itself.

8.*Vyakta Sthana*:

In *Charaka Samhita* [145] it is explained that when psychic and somatic diseases become chronic due to their intensity, they may get combined with each other. Such combinations rarely occur when the disease exists only for a short period. Hence *Vyakta Sthana* of *Chittodvega* may be considered as *Manas* and *Sarva Shareera*.

9. *Adhishthana*:

Main *Adhisthanas* of *Manas* are *Hradaya* and *Shiras*. Hence *Chittodvega Adhisthana* may also either be *Hrdaya* or *Shiras* or may be both.

***Purvarupa** : Alpa Vyakta Laksana*

Rupa : Anxious state of mind

Upasaya : *Dhairya, Ashvasana*

Anupasaya : *Manasika Klesa*

10. . *Sadhyaasadhyata*:

Chittodvega is mostly chronic and more affected to normal functions of the physical and mental faculties. In *Chittodvega*, along with *Manas*, all *Dhatu*, *Malas* and

Srotas are affected. Its pathogenesis is also complicated. So it can be considered as a *Krcchra Sadhya* disease.

***Roga Swabhava*:**

As *Manas* is *Chanchala*, the diseases of *Manas* manifest rapidly and their progress is also much faster i.e. *Ashukaritva* of the disease. The causative factor (*Rajas* and *Vata*) produces the effect within very short time.

12. *Upadrava*:

Charaka included *Chittodvega* under minor psychic disorders [146] but its impacts are found in many fields i.e. social, occupational, personal etc. This minor psychic disorder can produce major psychic disorders i.e. *Unmada, Apasmara, Atattvabhinivesha, Shokaja Atisara*[147], [148, 149]. So these *Manovikaras* and *Sarvashariravikaras* can be considered as *Upadravas* of *Chittodvega*

***Rogamarga* :** *Madhyama*.

Cikitsa – Management of *Cittodvega*

- *Chikitsa* is the measure which aims in removal of causative factors of the disease and restore the equilibrium state of the *Doshas*[150]. It is quoted that through the *achara*, i.e. by the *charya* we follow, we can attain respective type of *Ayu*.

नरो हिताहारविहारसेवी समीक्ष्यकारी विषयेष्वसक्तः|
दाता समः सत्यपरः क्षमावानाप्तोपसेवी च भवत्यरोगः|| ४६||
मतिर्वचः कर्म सुखानुबन्धं सत्त्वं विधेयं विशदा च बुद्धिः|
ज्ञानं तपस्तत्परता च योगे यस्यास्ति तं नानुपतन्ति रोगाः|| ४७||

Ayu is the combination of *Shareera, Indirya, Satva* and *Atma.* Hence the *achara* affects the mind and vice versa, we can treat mind by changing or adopting specific *achara*. Therefore, a proper *dinacharya* should be followed to make sure of physical as well as mental health.[151]

The *Acharya Caraka*, in the context of *Dinacharya* commences with the explanations of procedures of daily routine with *Anjana etc.*,[152] which mainly concentrates on the health of *Uttamanga* (*Shiras*).

नस्येन रोगाः शाम्यन्ति नराणामूर्ध्वजत्रुजाः |
इन्द्रियाणां च वैमल्यं कुर्यादास्यं सुगन्धि च ||५४||

Further, It is explained that *nasya* relives one from *urdhwa jatru gata rogas* and brings about *vimalata in Indriyas.*[153].

तत्र तल्पोत्थितेनासेवितः प्रतिमर्शो रात्रावुपचितं नासास्रोतोगतं मलमुपहन्ति मनःप्रसादं च करोति,…..

Especially *pratimarsha nasya*, when given in *pratah kala* will act as *Manah prasadakara*.[154,155]

- *Dhi, Dhairya* and *Atmadivjnyanam* are considered as the best *aushadha* for *manodosha.*[156]
- त्रिविधमौषधमिति- दैवव्यपाश्रयं, युक्तिव्यपाश्रयं, सत्त्वावजयश्च|
  तत्र दैवव्यपाश्रयं-
  मन्त्रौषधिमणिमङ्गलबल्युपहारहोमनियमप्रायश्चित्तोपवासस्वस्त्ययनप्रणिपातगमनादि,
  युक्तिव्यपाश्रयं- पुनराहारौषधद्रव्याणां योजना, सत्त्वावजयः- पुनरहितेभ्योऽर्थेभ्यो मनोनिग्रहः||५४||

Acarya Caraka explains three types of therapies of physical and mental disorders:

1. *Daivavyapasraya*

2. Yuktivyapasrya

3. Sattvavajaya [157]

1. *Daivavyapasraya*:

It comprises of *Mantra* (incantation), *Ausadhi* (talisman), *Mani* (gems), *Mangala* (auspicious offerings), *Bali* (religious sacrifice), *Upahara* (gift), *Homa* (oblation), *Niyama* (religious rules), *Prayascitta* (atonement), *Upavasa* (fasting), *Svastyayana* (chanting of auspicious hymns), *Pranipata* (paying obeisance), *Gamana* (pilgrimage) etc. It has empirical powers to eradicate diseases. All the items listed under this therapy are effective in eradicating the disease only due to divine influence.

2) *Yuktivyapasraya chikitsa*: *Yukti* means rational thinking. The therapeutic undertaken keeping in view the *dosha dushya samurchana* of a disease is called *Yuktivyapashraya Chikitsa*. All the categories of *chikitsa* like *Shamana, Shodhana* & *Nidana Tyaga* come under the purview of *Yuktivyapashraya* line of treatment. This kind of treatment includes use of *Ahara, Vihara* & *Aushada*[158]

Aushada: *Medhya dravyas* like *Brahmi, Shankapushpi, Yastimadhu, Ashvagandha*, etc., *Rasayana Dravyas*[159,160,161] *Acarya Caraka* [162] has explained *Medhya Rasayana*

therapy, which is of special significance in the management of mental disorders including *Cittodvega*.

Medhya Rasayana drugs are considered to promote *Medha* in addition to its overall rejuvenate effects.

This can be administered in two major forms viz., *Antah Parimarjana Chikitsa* and *Bahih Parimarjana Chikitsa*

3. *Sattvavajaya*:

Acarya Caraka [163] states that *Sattvavajaya* is nothing but withdrawal of mind from unwholesome objects. It also includes methods mentioned under *Adravyabhuta Cikitsa*[164] The methods of this treatment are *Bhayadarshana* (terrorizing), *Vismaphana* (surprising), *Vismarana* (de-memorizing), *Ksobhana* (socking), *Harsa* (exciting), *Bhatsana* (chideing), etc.

[165]. Those methods may be useful in the treatment of *Cittodvega*.

The following are to be followed for the treatment of psychic disorders:

1. To attend the courses of conduct relating to virtue, wealth and desire.

2. To render service to the persons well versed in the nature and cure of psychic diseases.

3. To obtain all round knowledge about the self, etc[166]

According to *Acharya Caraka*[167], treatment of mental disorders include *Jnana-Vijnana* (Spiritual and scriptural knowledge), *Dhairya* (patience), *Smrti* (memory) and *Samadhi*(meditation). Only these treatments can reconcile the pathogenic factors of the mind.

***Cittodvega* vis.–a–vis. Anxiety Disorders**:

The word ‘anxiety’ derived form the Latin word ‘anxieta’ meaning ‘disquite’. It is also appeared that the word ‘anxiety’ was derived form the mistranslation of Freud’s word for fear i.e. ‘Angst’.

Hence, the word ‘Anxiety’ tends to cover both the meanings but in recent psychiatry, it is explained as a response to a threat that is unknown, internal, vague or conflictual, accompanied by many psychic i.e. tension, insomnia, irritability etc. and somatic i.e. headache, muscular ache, palpitation, tremor etc. manifestations. *Cittodvega* is correlated with anxiety disorders on the basis of following consideration –

- The etymology of *Cittodvega* is clearly highlights the anxious status of mind.

- *Acarya Caraka* has included *Cittodvega* as a separate *Manovikara* which produced by two *Manasa Dosa* i.e. *Raja* and *Tama*. This is indicates that *Cittodvega* is a minor psychic disorder with various type of somatic manifestation. In anxiety disorders, there are various types of classification, which are presented many disorders related with anxiety. All those disorders have various type of somatic manifestation. It indicates that *Cittodvega* and anxiety disorder both have a similarity in this respect.

- *Cittodvega* can manifest as a causative or aggregative emotional factor of various somatic disorders i.e. *Atisara*.[168] Anxiety disorders are also caused as well as aggravated by various emotional disturbances. In this regard *Cittodvega* can be presented any subtype of anxiety disorders. Actually, all sub types of anxiety disorders are conversion of basic anxiety. Hence, in this study all subtypes of anxiety disorders are diagnosed according to DSM- V criteria.

Anatomy of Nose[169]

Nose is primarily for breathing and Olfaction. Design of it's cavity results warming and moistening the inspired air & cleaning it.

Nose is broadly divided into

- External nose.
- Nasal cavity

Nasal cavity subdivided into Right and Left half

External nose

Inclination :It projects forwards and Downwards from the face.

Shape*:* Pyramidal shape.

Parts:

- **Root:** Projects forwards from the upper end which continues with forehead.
- **Base:** Lower part consisting two nostrils.
- **Dorsum:** Sides of nose meet anteriorly to form to form the dorsum of the nose.

Upper part- bridge

Lower part-tip

Ala- It is lower bulged flaccid part of side of nose.

Supporting framework:

Supporting framework of the nose are cartilages and bones.

Nasal bones

- Supports upper part of external nose.
- It articulates posteriorly with maxilla & above with frontal bone & inferiorly overlaps with lateral cartilages.

Cartilages

- Lateral cartilages
- Alar cartilage
- Septal cartilage.

Skin of external nose

It is thinnest at upper part, and thickest at lower part. It contains abundant sebaceous glands.

Muscles of external nose

1. Procerus.

2. Depressor septii.

3. Nasalis.

Facial expressions

Procerus-frowning,

Depressor septii-anger

Blood supply

1. Dorsal nasal artery- branch of ophthalmic artery.

2. External nasal-branch of anterior ethmoidal.

3. Lateral nasal

4. Superior labial artery Branches of facial artery.

Nerve supply

1. External nasal nerve-branch of anterior ethmiodal.

2. Infratrochlear branch of nasociliary nerve.

3. Nasal branch of infra orbital nerve.

Nasal cavity

Broader below & narrowed at top.

Shape: *Pyriform shape.*

Extension

Extends anteriorly- anterior naris[nostrils] & posteriorly- posterior nasal aperture.

Division

Nasal cavity divided into two sections, right and left half by nasal septum.

Each half has

- Roof.
- Floor.
- Medial wall- septum.
- Lateral wall.

Roof

Length-7 cm, Width-2cm.

-It slopes downwards both in front & behind.

-Anterior slope is formed with nasal part of frontal Bone & nasal bone.

-Posterior slope formed by body of sphenoid.

-Middle horizontal slope is formed by cribriform Plate of ethmoid bone.

Floor

Length-5cm, Width-1.5cm.

-It forms the roof of oral cavity and the floor of nasal cavity.

-It is formed by horizontal plate of palatine bone & palatine process of maxilla.

-It concaves from side to side.

Medial wall or Nasal Septum

It is divided into three parts.

- Bone
- Cartilage
- Cuticular part.

Bony part

1. Vomer. It articulates above with sphenoidal body- Forms posterior border of septum

2. Perpendicular plate of ethmoid bone- It articulates with vomer superiorly.

Cartilage

a) Septal cartilage unossified part of ethmoid perpendicular plate forms the antero-superior part of septum

b) Septal process of inferior nasal cartilage

Cuticular part

It is formed by fibro fatty tissue and is covered by skin. The lower margin of septum is called the columella.

It has four borders :-

- Superior
- Inferior
- Anterior
- Posterior

It has two surfaces right and left **lateral walls**

- It is mainly formed by maxilla
- It separates the nose
- It form’s an orbit above (Intervening with ethmoidal air sinuses)
- From maxillary sinus below

- From lacrimal groove and naso-lacrimal canal in front

Parts

It has three parts:-

- Vestibule
- Little's area.
- Atrium of middle meatus
- Chonchae-space seperating chonchae called meatus

Vestibule

- Small depressed area in anterior part
- The vestibule is lined by modified skin containing short, stiff, curved hair called vibrissae

Atrium

- The Atrium bounded above and anteriorly by a ridge called agger nasi.
- Bone cartilage and soft tissue make up the Lateral wall of the nose.

Little's area / Kiesselbach's Plexus

- Named after Wilhelm Kiesselbach.
- This area is highly exposed to trauma due to nasal picking and dry air and moreover due to its rich blood supply because of Anastomosis between different vessels.
- The vessels taking part in the anastomosis are, the anterior ethmoidal artery, the branch of ophthalmic artery from the internal carotid system while the other vessels are from the external carotid system.

Anastomosis occur between the -

- Anterior ethmoidal artery
- Septal branches of sphenopalatine artery,
- Greater palatine artery and
- Superior labial artery.

Chonchae

- Scroll like projections- Conchae/ turbinates
- Inferior
- Middle
- Superior
- Sphenoethmoidal Recess
- Space separating chonchae are called meatus.

Paranasal Sinuses

Air filled spaces which have direct communication with the Nasal cavity.

Division:

Anterior Group:

1. Maxillary Sinus

2. Frontal

3. Anterior ethmoidal

Posterior group:

1. Posterior Ethmoidal

2. Sphenoidal

Maxillary Sinus

- Largest Paranasal sinus

Capacity: 15 cc

Consists of:

- Medial wall
- Roof
- Floor
- Anterior and posterior walls

B.S.- Infra orbital, facial and greater palatine Arteries.

N.S.- Infra orbital, ant and Post alveolar nerves.

Frontal Sinus

Situated in the frontal bone

Shape:Pyramidal

Capacity: 7 cc

Walls:

- Anterior
- Posterior
- Floor
- Medial

B.S.- Supra orbital artery

N.S.- Supra orbital Nerve

Ethmoidal Sinuses

- 2 groups
- 15 -20 ethmoidal cells on either sides.

Opens into:

Middle Meatus- Anterior sinuses

Superior Meatus- Posterior sinuses

Sphenoidal sinuses

- 2 sinuses in the sphenoid bone.
- Opens into:

Sphenoethmoidal recess above the superior turbinate.

Functions of Nose

- Respiration
- Olfaction
- Purification
- Warming and Moistening
- Resonance
- Drainage cavity for Para nasal and Lacrimal apparatus.

Functions of Paranasal Sinuses

- Protection to the orbit
- Reducing skull weight
- Resonance of Voice.
- Acts as Donor sites for reconstructive purposes.
- Increase surface area for teeth eruption.

Physiology of nose

- Respiration
- Air –Conditioning
- Protection of Lower airway
- Vocal resonance
- Olfaction

RESPIRATION

Includes-

- Nasal Cycle
- Swelling and shrinkage Mechanism of inferior turbinate
- Anterior end of the Inferior turbinate undergoes swelling and shrinkage- Regulates air flow.

Air –conditioning

- Nose serves as the Air-conditioner for lungs
- Regulates temperature and Humidity

Filtration and Purification

- Nasal vibrissae- filters large particles. Ex: Fluffs of cotton.
- Front of Nose-Filters particles up to the size of 3 m.
- Mucous Membrane- traps particles of the size varying from 0.5-3.0 m.
- Particles only less than 0.5 m pass through the airways.

Temperature

- Adoption the large surface of the Nasal mucosa
- High vascularity of the mucosa at regions of Middle, Inferior and adjacent parts of nasal septum.
- Cavernous venous spaces-- Increases/ decreases the size of the turbinates-- Controls blood flow.
- Temperature elevates from anywhere between 0 c or sub-zero to 37 c in ¼ sec when the inspired air passes from Nostril to the naso-pharynx.

Humidification

- Nasal mucosa rich in Mucous and serous secretory glands provides water for saturation of inspired air.
- About 1000ml of water is evaporated from the surface of the Nasal mucosa in 24 hrs.

Protection of Lower airway

Muco-ciliary Mechanism

- The Nasal mucosa with Goblet and serous secretory glands produces Mucous and serous – Forms Mucous Blanket.
- Movement of Cilia (5-10mm /min) facilitates unidirectional flow of air.
- 600-700 ml of Nasal secretions are produced every 24 hrs.

Enzymes and Immunoglobulins

- Muramidase (Lysozyme) is serected which kills bacteria and viruses.
- IgA and IgE Immunoglobulins provide immunity against URT infections.

Sneezing

- Foreign particles which irritate the Nasal mucosa are expelled out by this reflex.

500 cubic ft of air we breathe in 24 hours is filtered, humidified, adjusted to proper temperature and cleaned of all dust, bacteria and viruses before reaching the lungs.

Vocal resonance

- Sound passes through Nasopharyngeal Isthmus and is emitted through nose.
- Helps in pronouncing *Anunaasika shabdas*

OLFACTORY PATHWAY [170]

Chart No. 01 Olfactory Pathway

Olfactory cells in the Nasal Mucosa (Superior Nasal Concha and Lat area of Nasal septum)

↓

Sensory receptors(Cilia)

↓

Central processes of olfactory Cells grouped into Olfactory Nerves

↓

Pass through the Cribriform plate of Ethmoid

↓

Mitral cells of Olfactory bulb

↓

Axons of Mitral cells form Olfactory tract

↓

Aymygdaloid and Prepiriform cortex

↓

Olfactory centre in the temporal lobe

↓

(Parahippocampal gyrus)

Nasya Karma

Nasa is considered to be that *Indriya*, whose functions are not only limited to respiration but also considered as a a pathway to drug administration. In *Ayurveda*, the special procedure called *Nasya* is mentioned *Acharyas* also have considered *Nasa* as the doorway to the *Shiras*- Head. *Nasya* is one of the *dinacharya* procedures, which can be explained in simple terms as follows –

Nasayam praneeyamanam aushadham nasyam II [172]

Etymological derivation & definition of *Nasya*:

In *Sanskrit* language each word is derived from a specific *dhatu* and each *dhatu* bears an inherent meaning which is the crux of the word. The derivation of the word *Nasya* is from "*Nasa*" *dhatu*. It conveys the sense of *Gati* – motion. *Vyapti* bears the meaning pervasion. Here, the *Nasa dhatu* is inferred in sense of nose. The word "*Nasata*" means beneficial for nose according to *Vachaspatyam*.

The word *nasya* is derived from '*nasa' dhatu*. It conveys the sense of *gati* – motion (*nasa gatau*) and *vyapti* means pervasion (*nasa vyaptau*). In *Ayurvedic* texts, *nasa dhatu* is used in sense of Nose (*Nasa nasikayam*). Thus, *Nasya* means nose or things beneficial to the nose.

- *Nasikaye hitam tatra bhavo vaa yat naasaadeshah* I [173]

Monier Williams gives the meaning of *nasya* as – 'Belonging to nose' or 'Being in the nose'.

Thus the beneficial things pertaining to nose or conductive things administered through nose are considered as *Nasya*.

औषधमौषधसिद्धो वा स्नेहो नासिकाभ्यां दीयत इति नस्यम् |
तद्द्विविधं शिरोविरेचनं, स्नेहनं च |
तद्द्विविधमपि पञ्चधा |
तद्यथा- नस्यं, शिरोविरेचनं, प्रतिमर्शो, अवपीडः, प्रधमनं च |
तेषु नस्यं प्रधानं शिरोविरेचनं च; नस्यविकल्पः प्रतिमर्शः, शिरोविरेचनविकल्पोऽवपीडः प्रधमनं च; ततो नस्यशब्दः पञ्चधा नियमितः ||२१||

In *Ayurveda*, the word *Nasya* has been taken specifically to mention the root of administration of drugs. As stated by *Acharya Sushruta*, [174] medicines or medicated oils administered through the nose are known as *Nasya*. *Acharya Aruna Datta* states as –

- *Nasayaam Bhavam nasya* |

Acharya Bhavaprakasha also suggests the same as follows –

- *Nasa Grahyam yadaushadham tad nasyam* |[175]

Sharangadhara and *Vagbhata* also agree to the same.

The word *Nasya* suggests the nasal route for administration of various drugs. As per *Acharya Sushruta,* administration of medicine or medicated oils through the nose is known as *Nasya* (Su. Chi. 40/21-29). *Arunadatta* and *Bhavaprakasha* opine that all drugs that are administered through the nasal passage are called *Nasya*[176]. *Acharya Sharangadhara* as well as *Acharya Vagbhatta* also hold the same view.

Synonyms:

नस्तः प्रच्छर्दने चैव प्रत्यक्पुष्पा विधीयते|
दश यान्यवशिष्टानि तान्युक्तानि विरेचने||८५||

- *Prachchardana*[177]
- *Shirovirechana* [178]
- *Shirovireka*
- *Murdhavirechana*
- *Navana*
- *Nastaha Karma*

Historical Background Of *Nasya Karma*

Seeds of knowledge are imbibed in *Veda*. *Vedas* are ancient source of knowledge. There is description of health and disease related topics in a patchy form in all *Veda* but proportion of such topics is significant in *Atharva Veda*. Hence *Ayurveda* is considered as a subset of *Atharvaveda*. It is natural that accumulation of knowledge of any topic occurs gradually and same is the case with *Nasya karma,* which has developed since *Vedic* era to Modern era. Before the historical review of *Nasya* that of *Nasa* through which it is given would be handy.

Description Of *Nasa* In *Veda*

***Rigveda* :** There is indication of a word *Nasa* in a *Mantra*

"*Yena Yagnasta yAla sapla* ……"

***Yajurveda* :** While describing the *Indriyas,* there is mention of two *Netra,* two *Karna,* two *Nasika Chhidra* and *Jihva*.

***Atharvaveda* :** *Nasa* is described among nine *chhidras* and *Indriya*.

"Ashtachakra, Navadwara……." **[179]**

"*Shirshaklima shirshamayana ……..*" **[180]**

***Bhagvad Gita*:** While describing *Indriyas*, the *Nasa* is mentioned.

"*Navadvara Purva dehi neva …….*" **[181]**

Description Of *Nasya* In Ancient Texts

***Rigveda* :** There is a *mantra* in *Rigveda* in which eradication of *Roga* is mentioned by routes of *Nasa* (Nostrils), *Chibuka* (Chin), *Shira* (Head), *Karna* (Ear), and *Rasna* (Tongue). This can be considered as a primitive picture of *Nasya Karma*.

***Krishna Yajurveda, Shatpatha Brahmana, Upanishada*:** In these texts, the term *Nasya karma* has been used frequently.

***Ramayana*:** In *Valmiki Ramayana*, when *Lakshmana* became unconscious by the blow of *Meghanada*, *Vaidya Sushena* administered the juice of *Sanjivani* through nasal route bringing him to consciousness instantaneously.

***Bauddha Kala* :** "*Jeevaka*" the famous *Vaidya* of *Bauddha kala* had utilized *Nasya karma* in many cases such as

1) In *Shirahshoola*, he prescribed *Nasya* of medicated *ghrita* to the wife of *Shreshthi* of *Saketa* Nagar.

2) Once, when *Jeevaka* wanted to give *Virechana* to Lord *Buddha*, he gave him *aushadhi* by *nasya* for *Virechana*.

***Vinaya Pitika*:** In this book, it is mentioned that one *utpala hasta* of *Nasya* has potency to induce 10 vegas of *Virechana*.

***Samhita Kala*:** Literature written during this period is the heart of *ayurvedic* literature. In all the *Samhita*, *Nasya karma* has been elaborately described especially in *Charaka Samhita*, *Sushruta Samhita* and *Ashtanga Samgraha*. The expertise on this therapy was at such a height that it was used to achieve *pumsavana*[182]. *Nasya karma* is utilized in treatment of many diseases in *Brihattrayi*.

Classification of *Nasya*:

Nasya is classified in various ways by different *Acharyas*. Each classification has its own salient features and each is done with different angles. Classification according to various *Acharyas* is described in a tabular form as below.

Table No 03 - Classification of *Nasya* According to Various *Acharya*

No	**Name of *Acharya***	**No**	**Reference**	**Classification**
1	*Charaka*	3 5 7	*Ch.Si. 9/89,92* *Ch.Vi. 8/154*	According to mode of action - *Rechana, Tarpana, Shamana* According to the method of administration – *Navana, Avapidana, Dhmapana, Dhuma, Pratimarsha* According to various parts of drugs utilized – *Phala, Patra, Mula, Kanda, Pushpa, Niryasa, Twaka*
2	*Acharya Sushruta*	5	Su.Chi.40/21	*Shirovirechana, Pradhamana, Avapida, Nasya, Pratimarsha*
3	*Acharya Vagbhatta*	3	As.H.Su.20/2	*Virechana, Brimhana, Shamana*
4	*Acharya Kashyapa*	2	Ka.Si. 2 & 4	*Brimhana, Karshana*
5	*Acharya Sharangadhara*	2	Sha.Utt.8/2,11,24	*Rechana, Snehana*
6	*Acharya Bhoja*	2	Dalhana Su. Chi. 40/31	*Prayogika, Snaihika*
7	*Acharya Videha*	2		*Sanjnya Prabodhaka, Stambhana,*

The classification is based either on the function or on the medicine used. The classification according to different *acharyas* is as follows –

औषधमौषधसिद्धो वा स्नेहो नासिकाभ्यां दीयत इति नस्यम्।
तद्द्विविधं शिरोविरेचनं, स्नेहनं च।
तद्द्विविधमपि पञ्चधा।
तद्यथा- नस्यं, शिरोविरेचनं, प्रतिमर्शो, अवपीडः, प्रधमनं च।
तेषु नस्यं प्रधानं शिरोविरेचनं च; नस्यविकल्पः प्रतिमर्शः, शिरोविरेचनविकल्पोऽवपीडः प्रधमनं च; ततो नस्यशब्दः पञ्चधा नियमितः ॥२१॥

Acharya Charaka –Nasya are of five types[183] –

- *Navana, Avapida, Dhmapana, Dhuma, Pratimarsha*

These types are further categorized as follows –

- *Navana* - *Snehana & Shodhana.*
- *Avapida* - *Shodhana & Sthambhana*
- *Dhmapana*
- *Dhuma- Prayogika, Vairechanika & Snaihika*
- *Pratimarsha- Snehana & Shodhana*

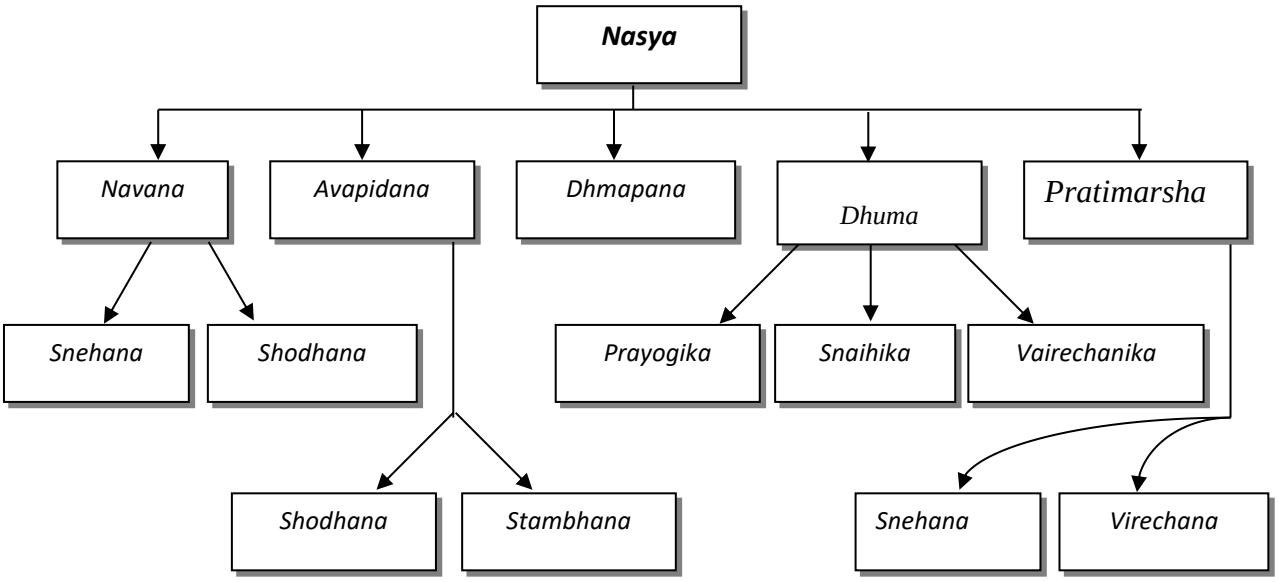
Acharya Charaka regroups the five types in to three groups according to their functions as

- *Rechana*
- *Tarpana*
- *Shamana*

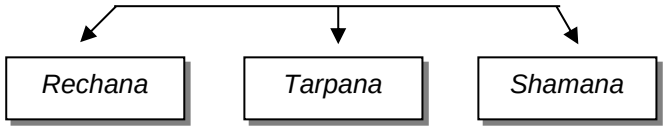
He also classifies the *nasya* based on the part of the plant used,[184] –

- *Phala, Patra, Mula, Kanda, Pushpa, Niryas, Twak*

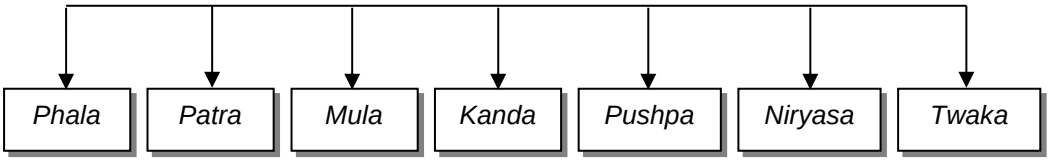
Chart No. 02 Classification of Nasya



According to the mode of action of *Nasya* therapy



According to various parts of the drugs utilized in *Nasya* therapy



Acharya Sushruta –mainly classifies *Nasya* in to two categories – *Shirovirechana* & *Snehana*. He includes further sub-divisions under the two categories [185] as follows:

..... तेषु नस्यं प्रधानं शिरोविरेचनं च; नस्यविकल्पः प्रतिमर्शः, शिरोविरेचनविकल्पोऽवपीडः प्रधमनं च; ततो नस्यशब्दः पञ्चधा नियमितः ||२१||

- *Shirovirechana*
    - *Shirovirechana*
    - *Pradhamana*
    - *Avapidana*
- *Snehana*
    - *Nasya*
    - *Pratimarsha*

Acharya Vagbhata –

Nasya has been classified based on the function in *Ashtanga sangraha*. The classifications are –

- *Virechana, Bruhana, Shamana*[186]

Acharya Kashyapa classifies *Nasya* in two categories[187] –

- *Brimhana* also known as *Purana*
- *Karshana* also known as *Shodhana*.

Based on the function, *Acharya Sharangadhara* classifies *nasya* in to two categories, *Rechana* & *Snehana.* The *Rechana nasya* is further subdivided in to *Avapida* & *Pradhamana*. *Snehana nasya* is sub-divided in to *Marsha* & *Pratimarsha*.[188]

Nasya is classified in various ways by different *Acharyas*. Each classification has its own salient features and each is done with different angles.

- According to mode of action/effect desired
- According to the method of administration
- According to various parts of drugs utilized etc,

Considering by par the classification of *Acharya Charaka* as gold standard we will have detailed description of each type.

Formulations used for *Nasya*:

The various types of *Nasya* seem to have been named & classified on the bases of their preparations. Below is the explanation regarding these preparation types of *nasyas* –

1. Navana Nasya:

Navana is generally the *sneha nasya*, and is known as *Nasya* in general. It is administered by installing drops of medicated oil or *Ghrita* in the nose. It is mainly classified in to *Snehana* & *Shodhana nasya*.

(a) Snehana Nasya – Dhatu poshaka nasya

(i) Dose -

Hina matra	8 drops in each nostril
Madhyama matra	16 drops in each nostril
Uttama matra	32 drops in each nostril

Acharya Bhoja has mentioned 8 drops for prayogika sneha nasya, 16 for snaihika nasya & the same double, triple dose can be given.

(ii) Benefits of *sneha nasya* - It is administered in lightness of head. It gives strength to neck, shoulder & chest & increases eyesight.

(iii) Indications of *snehana nasya – Vatika sherah shola, Kesha pata, Danta pata, Shmashru pata, Tivra karna shola, Timira, Nasa roga, Mukhashosha, Avabahuka, Akala valita – palita, Daruna prabodha, Vata pittaja Mukharoga*, etc.

(b) *Shodhana Nasya* – Eliminates the vitiated *doshas*.

(i) Dose –

Table No. 04 Matra of Nasya dose

Hina matra	4 drops in each nostril
Madhyama matra	6 drops in each nostril

Uttama matra	8 drops in each nostril

(ii) Indications – *Kapha purna, Talu & Shirah, Aruchi, Shiro gaurava, Shoola, Pinasa, Ardhavabhedaka, Krimi, Pratishyaya, Apasmara, Gandha Jnyana nasha, & urdhwa jatrugata Kapha rogas*.[189]*; Urdhwa jatrugata shopha, Praseka, Arbuda, & Kotha*.[190]

The seasonal regimen for administering the *Navana nasya* in healthy individuals is as follows –

Table No. 05 seasonal regimen for administering the *Navana nasya* in healthy individual

Season	**Timing**
Sheeta kala	Noon
Sharad & Vasant	Morning
Grishma Ritu	Evening
Varsha ritu	Only when sun is visible.

The Timing – *Navana Nasya* should be administered according to the following timing –

1. *Kaphaja roga* - Fore noon
2. *Pittaja roga* - Noon
3. *Vataja roga* - Afternoon

2. *Avapeeda nasya*: the word *Avapeeda* means 'expressing'. The juice expressed from *kalka* of required medicine is called *Avapeeda*.[191]

It is of two types, -

1. *Stambhana nasya*

2. *Shodhana nasya*

Though *Acharya Sushruta* recommends these for *Shirovirechana,* we find reference for *stambhana* in diseases like *Raktapitta* with *Sharkara & Ikshurasa*.

Acharya Chakrapani has mentioned three types, - *Shodhana, Stambhana & Shamana*.

Acharya Videha has mentioned two types – *Sandnya prabodhana, & Stambhana*. [192]

i. Dose -

Hina matra	4 drops in each nostril
Madhyama matra	6 drops in each nostril
Uttama matra	8 drops in each nostril

ii.Indications – [193]

Vishabhighata, Sanyasa, Murchha, Moha, Apatantraka, Mada, Apasmara, Shirovedana, Krodha, Bhaya, Manasaroga, Chitta-Vyakulata, Krisha rogi, Bhiru, Sukumara, Stri, Raktapitta, & similar states.

Avapeeda nasya is recommended by *Acharya Sharangadhara* for the patients suffering from *Galaroga, Vishamajwara, Mano vikara, & Krimi*.[194]

3. *Dhmapana Nasya*: It is also known as *Pradhamana nasya*. It is a type of *Shodhana Nasya,* where in the *Churna* (fine powder of drugs) is administered in to the nasal passage through a special *Nadi yantra*, having 6 *angula* length with both ends open.

The *churna* of the required drug is placed at one end & air is blown forcefully from the other end in to the nostril of the patient. [195]

Acharya Videha has described a different procedure for *Pradhamana nasya* in which the fine powder of drug is bind in a *potali* of thin cloth & is used for inhaling by the patient.

i. Dose – According to *Acharya Videha,* 3 *Muchuti* (3 pinch) of powder for *Nadi yantra* method, and at least 2 *tolas* (20 gms) for *potali* method.

ii.Indications – [196]

Shiro roga, Nasa roga, Akshiroga.

4. *Dhuma nasya*: it is the type where medicated smoke or fume is administered by nasal root (inhaled) & is exhaled by mouth. *Acharya Sushruta* doesn't consider it under type of *nasya*.

i.Types – *Prayogika, Sneihika, Vairechanika*.

ii.Dhuma nadi -

Vairechanika-24 anguli
Sneihika-32 anguli
Prayogika-36 anguli

Dose:

- Two puffs are to be taken for *Prayogika Dhuma*.
- 3 to 4 puffs are to be taken for *Vairechanika Dhuma*.
- A single puff is advised for *snaihika Dhuma*.

Drugs:

- For *Prayogika Dhuma* - *Priyangu, Ushira*, etc.
- For *Vairechanika Dhuma* - *Aparajita*, *Apamarga* etc.
- For *Snaihika Dhuma* -*Vasa, Ghrita* etc.

Indication of *Dhuma Nasya*:

It is indicated for treatment of *Shiroroga*, *Nasaroga* and *Akshiroga*.[197]

Marsha – Pratimarsha Nasya

The methods shared by both these types are common but the variation occurs in context of dose. In Pratimarsha Nasya 2 drops are administered while in Marsha the dose is of 6 to 10 drops.

Pratimarsha Nasya

Following method is employed for *Pratimarsha Nasya*. A finger is dipped in the appropriate sneha up to 2 phalanges and then oil is allowed to drop from it in both nostrils.

Patient is advised to expel out the *sneha*, which comes in oral cavity.

Dose – 2 drops.

The *sneha* should be in such an amount that it reaches from nose to gullet but should not be enough to produce secretions in gullet.[198]

Indications:

Pratimarsha can be given in

- Any age

- Any season

- Even in not suitable time & season i.e. in *Varsha* and *Durdina*

- *Baala* - *Vriddha*

- *Bhiru* - *Sukumara*

- Weak patients - *Kshtakshama*

- *Trishna Pidita* - *Mukhashosha*

- *Vali* and *Palita*[199]

Contraindications

It is contraindicated in

- *Dushta Pratishyaya,* - *Krimija Shiroroga*

- *Badhirya* (deafness), - *Bahudosha*

- *Madhyapi* (habitual drunker), - *Utklishta Doshas*[200]

Acharya Sushruta and *Sharangadhara* have described 14 suitable times for *Pratimarsha Nasya*, while *Acharya Vagbhata* has mentioned fifteen.

Table No 06 - Various Timings for Pratimarsha Nasya

No	Time for *Pratimarsha Nasya*	*Su.*	*As. H.*	*Sha.*
1	After waking morning	+	+	+
2	After cleaning the teeth (with *Dantadhavana*)	+	+	+
3	Before going outside	+	-	+
4	After exercise	+	+	+
5	After sexual intercourse	+	+	+
6	After walking	+	+	+
7	After urination	+	+	+
8	After passing *Apanavayu*	+	-	-
9	After *Kavala*	+	+	+

10	After *Anjana*	+	+	+
11	After meal	+	+	+
12	After sneezing	+	-	-
13	After *Divaswapa* in the noon	+	+	+
14	In the evening	+	+	+
15	After vomiting	-	+	+
16	After *Shirobhyanga*	-	+	-
17	After defecation	-	+	+
18	After laughing	-	+	-

General indications of *Nasya*

Nasya therapy may be given in all diseases except in the conditions mentioned earlier. The specific indications of *Tarpana Nasya, Shodhana Nasya, Shamana Nasya, Shirovirechana, Navana, Avapida, Dhmapana and Dhuma Nasya* etc. have already been discussed in the classification of *Nasya*, but *Acharya Charaka* has described the following general indications, where *Nasya* therapy should be used.

- *Shirostambha*
- *Ardhavabhedaka*
- *Shirahshula*
- *Akshishula*
- *Shukra Roga-Netragata*
- *Raji*
- *Timira*
- *Vartmaroga*
- *Pinasa*
- *Nasa Shula*
- *Danta Stambha*
- *Gadgadatva*
- *Vaggraha*
- *Griva roga*
- *Swarabheda*
- *Galashundika*
- *Galashaluka*
- *Galaganda*
- *Upajihvika*
- *Manya stambha*
- *Ardita*
- *Apatantraka*

- *Danta Shula*
- *Danta Harsha*
- *Danta Chala*
- *Hanugraha*
- *Mukha roga*
- *Apatanaka*
- *Karnashula*
- *Arbuda*
- *Skandha roga*
- *Ansashula*

According to *Ashtanga Samgraha* if the *Nasya* is to be given as a part of performing the complete *Panchakarma* then, it should be given after *Basti karma*.

Table No. 07 - Contraindications of *Nasya*

Contra-indications of *Nasya* mentioned in *Brihattrayi* have been tabulated below:

Sr.	***Anasyarha***	***Charaka***	***Sushruta***	***Vagbhatta***
1	*Bhuktabhakta*	+	+	+
2	*Ajirni*	+	+	-
3	*Peeta Sneha*	+	+	+
4	*Peeta Madya*	+	+	+
5	*Peeta Toya*	+	+	+
6	*Snehadi Patukamah*	+	-	+
7	*Snatah Shirah*	+	-	+
8	*Snatukamah*	+	+	+
9	*Kshudharta*	+	-	+
10	*Shramarta*	+	+	-
11	*Matta*	+	-	-
12	*Murcchita*	+	-	-
13	*Shastradandahrita*	+	-	-
14	*Vyavaya klanta*	+	-	-
15	*Vyayama klanta*	+	*+(Shranta)*	-
16	*Pana klanta*	+	-	-

17	*Navajwara Pidita*	+	-	-
18	*Shokabhitapta*	+	-	-
19	*Virikta*	+	-	+*(Shuddha)*
20	*Anuvasita*	+	+*(Datta Basti)*	+*(Datta Basti)*
21	*Garbhini*	+	+	+
22	*Navapratishyayarta*	+	-	-
23	*Apatarpita*	-	+	+*(Shuddha)*
24	*Peetadravah*	-	+	+
25	*Trishnarta*	+	+	-
26	*Gararta*	-	+	+
27	*Kruddha*	-	+	-
28	*Baala*	-	+	-
29	*Vriddha*	-	+	-
30	*Vegavarodhitah*	-	+	+*(Vegarta)*
31	*Raktasravita*	-	-	+
32	*Sutika*	-	-	+
33	*Shvasapidita*	-	-	+
34	*Kasapidita*	-	-	+

Suitable season &time for administering *Nasya*

According to *Acharya Charaka* generally *Nasya* should be given in *Pravrita*, *Sharad* and *Vasanta Rutu*. However in emergency it can be given in any season by providing artificial conditions of the above mentioned seasons, for example in summer, *Nasya* can be given in cold places and in cold season, it can be given in hot places.

प्रावृट्शरद्वसन्तेतरेष्वात्ययिकेषु रोगेषु नावनं कुर्यात् कृत्रिमगुणोपधानात्; ग्रीष्मे पूर्वाह्णे, शीते मध्याह्ने, वर्षास्वदुर्दिने चेति||२३||

a) Time schedule in different seasons should be as below.[201]

Rutu		***Nasya* to be given at**
• *Grishma Rutu*	-	Morning
• *Shita Rutu*	-	Noon
• *Varsha Rutu*	-	When day is clear
• *Sharada + Vasanta*	-	Morning (*Acharya Vagbhata*)
• *Shishira + Hemanta*	-	Noon
• *Grishma + Varsha*	-	Evening

According to *Acharya Sushruta* in normal condition *Nasya* should be given on empty stomach.

b) Time schedule in *Doshaja Vikara* should be as below [202]

तत्रैतद्द्विविधमप्यभुक्तवतोऽन्नकाले पूर्वाह्णे श्लेष्मरोगिणां, मध्याह्ने पित्तरोगिणां, अपराह्णे वातरोगिणाम् ॥२४॥

Doshaja Vikara		***Nasya* to be given at**
• *Kaphaja Vikara*	-	Morning
• *Pittaja Vikara*	-	Noon
• *Vataja Vikara*	-	Evening

Acharya Vagbhatta has prescribed same timings as *Acharya Sushruta* has mentioned. According to *Doshaja Vikara* he has suggested some important points.

Nasya should be given daily in morning and evening in *Vataja Shiroroga, Hikka, Apatanaka, Manyastambha* and *Swarabhramsha.*

Acharya Sharangadhara has described same time schedule for different seasons as *Acharya Sushruta* has mentioned. He further states that – *Nasya* can be given in night, if the patient is suffering from *Lalasrava, Supti, Pralapa, Putimukha, Ardita, Karnanadi, Trishna, Shiroroga* and such conditions like excessive vitiated *Doshas*[203]

Table No. 08 - Course of Nasya Karma

No.	**Name of *Acharaya***	**Days**
1	*Sushruta*	1,2,7,21
2	*Bhoja*	9
3	*Vagbhata*	3,5,7,8

Vagbhata

Nasya Karma may be given for seven consecutive days. In conditions like *Vata Dosha* in head, hiccough, loss of voice etc. it may be done twice a day (in morning and evening).[204]

Nasya should be given for 3 days, 5 days, 7 days & 8 days or till the patient shows the symptoms of *Samyak yoga* of *Nasya* as stated in *Ashtanga Samgraha*[205]

Acharya Bhoja

Acharya Bhoja says that if *Nasya* is given continuously beyond nine days then it becomes *Satmya* to patients and if given further, it neither benefits nor harms the patients.

Acharya Sushruta

(एकान्तरं द्व्यन्तरं वा सप्ताहं वा पुनः पुनः |
एकविंशतिरात्रं वा यावद्वा साधु मन्यते ||४२||
मारुतेनाभिभूतस्य वाऽत्यन्तं यस्य देहिनः |
द्विकालं चापि दातव्यं नस्यं तस्य विजानता) ||४३||

According to *Acharya Sushruta*, *Nasya* may be given repeatedly at the interval of 1, 2, 7 or 21 days depending upon the condition of the patient and the disease he suffer [206].

Acharya Charaka

Acharya Charaka has not mentioned specific duration of the *Nasya* therapy, but instead suggested to give it according to the severity of disease.

DOSE OF *NASYA*

The dose of *Nasya* drug depends upon the drug utilized for it and the variety of the therapy. *Acharya Charaka* has not prescribed the dose of the *Nasya*. *Acharya Sushruta* and *Acharya Vagbhatta* have mentioned the dose in form of *Bindu* (drops), here one *Bindu* means the drop which smears after dipping the two phalanges of *Pradeshini* (index) finger in oil[207].

Table No 09 -The Dosage of *Nasya Karma*

No.	Type of Nasya	Drops in each Nostril		
		Hrasva Matra	***Madhyama Matra***	***Uttam Matra***
1	*Shamana Nasya*	8	16	32

2	*Shodhana Nasya*	4	6	8
3	*Marsha Nasya*	6	8	10
4	*Avapida Nasya (Kalka Nasya)*	4	6	8
5.	*Pratimarsha Nasya*	2	2	2

Dose According to *Acharya Videha* :

The common dose for *Pradhamana Nasya* is 3 *Muchuti* (here one Muchuti = the quantity of *Churna* which may come in between index finger and thumb = 2.4 *Ratti*.)

Dose According to *Acharya Sharangadhara* :

Acharya Sharangadhara[208] has described the following dosage schedule for *Nasya Karma* depending upon the variety of material used.

- *Tikshnaushadhi Churna - 1 Shana (4 Masha)/(24 Ratti)*
- *Hingu – 1 Yava (½ Ratti)*
- *Saindhava – 1 Masha (6 Ratti)*
- *Dugdha – 8 Shana (64 Drops)*
- *Jala (Aushadha Siddha) – 3 Karsha (3 Tola)*
- *Madhura Dravya – 1 Karsha (1 Tola)*

If the *Nasya* is given in less quantity than the prescribed dose then it does not eliminate the *Doshas* completely and cause heaviness, loss of appetite, cough, salivation, coryza, vomiting and disorders of the throat etc. If the *Snehana Nasya* is administered in the excessive dose it may produce the symptoms of *Atiyoga* [209]

ADMINISTRATION OF *NASYA*

The procedure of *Nasya karma* may be classified under following headings:

1) *Purva Karma* (Pre-measures)
2) *Pradhana Karma* (Chief measure)
3) *Pashchata Karma* (Post-measures)

***1) Purva Karma* (Pre-measure) :** It is advisable that all materials, drugs and equipment like napkin, utensils necessary for *Nasya karma* are collected in sufficient quantity prior to *Nasya karma.*

Patient should be prepared for *Nasya karma*. It can be described in detail as under.

Special room for *Nasya* should be prepared which should be free from atmospheric effects like direct blow of air or dust and it should be lighted properly[210].

***Nasya Asana*:** It should be placed in *Nasya* room. It consists of -

a) A chair for sitting purpose

b) A cot for lying purpose

***Nasya Aushadhi*:** Drug required for *Nasya karma* in the form of *Kalka, Churna, Kwatha, Kshira, Udaka, Sneha, Asava* etc. should be collected in sufficient quantity.

Drug for counter acting any complications during or after the *nasya* should also be kept ready.

***Nasya Yantra*:** It should be collected according to the types of *Nasya* such as :

A dropper or *Pichu*	:	For *Snehana, Avapida, Marsha* and *Pratimarsha Nasya*.
Shadangula Nadi	:	For *Pradhmana Nasya*
Dhuma Yantra	:	For *Dhuma Nasya*

Besides it is also necessary that a stove, bowl, napkins, spitting pits and an efficient assistant are kept handy.

Selection of The Patient: The patient should be selected according to the indications and contra-indications of *Nasya* described in classics.

Preparation of The Patient: To prepare the patient for the *Nasya karma* following matter should be considered according to *Acharya Sushruta*.

- Patient should have passed his natural urges like urine and stool.
- He should have completed his routine activities.
- Light breakfast prior (1 hour) to *Nasya karma* is advised.

After preparation of patient by above said regimens, *snehana* and *swedana* should be done. Here, *Snehana* means, *Mridu Abhyanga*. It should be done on scalp, forehead and neck for 3 to 5 minutes by medicated oil like *Bala taila* etc. [211]

After *Abhyanga, Mridu Swedana* should be done on *Shira, Mukha, Nasa, Manya, Griva* and *Kantha*. Though *Swedana* should not be done on the head, but for the purpose of

elimination and liquification of dosha *Mridu Swedana* can be done as *Purva karma* of *Nasya*.

2) *Pradhana Karma* (Chief measure): The procedure to be adopted for the *Nasya karma* is described here as per the statements of[212,213,214].

Posture of the Patient:

- Patient should lay down in supine position on table.
- The head of the patient should be lowered (*Pravilambita*).
- The position of head should not be excessively extended.
- After covering of eyes with a clean cloth, the tip of patient's nose should be drawn upward by the left thumb of the Vaidya. At the same time with the right hand Vaidya should instill lukewarm medicine in both the nostrils, alternately, with the help of proper instrument like *pichu*, dropper, *shadangula nadi* etc. according the type of *Nasya*[215].
- The drug should be proper in dose and temperature.
- The patients should remain relaxed at the time of administration of *nasya* and he should avoid speech, anger, sneezing, laughing and shaking his head[216].

3) *Pashchat Karma* (Post-measure): According to *Acharya Charaka*[217], Acharya Sushruta[218] and Acharya Vagbhatta[219] following regimen should be followed after administration of *Nasya*. Patient in lying position is asked to count up to 100 *matra* i.e. approximately 2 minutes.

- After administration of *Nasya*, the feet, shoulders, palms and ears should be massaged. Again mild fomentation should be done on forehead, cheeks and neck. For pacifying *Vata dosha, Rasna churna* is rubbed on head.
- The patient is asked to expel out the drug which comes in oropharynx. Care should be taken that no portion of medicated oil is left behind[220].
- Medicated *Dhumpana* and *Gandusha* are advocated to expel out the residue mucous lodged in *Kantha*.
- Patient should be advised to stay in a windless place. A light meal and lukewarm water are advised. One should avoid dust, smoke, sunshine, hot bath, anger, riding, excessive intake fat and liquid diet[221].
- Acharya Charaka further says that the patient should avoid day sleep and should not use cold water for any purpose like pana, snana, etc.[222].

SAMYAKA YOGA, AYOGA AND *ATIYOGA* OF *NASYA KARMA*

After *Nasya karma* the symptoms of its *Samyaka yoga, Ayoga* and *Atiyoga* should be observed, which are being described here as under.

❖ *Samyak Yoga* :

The symptoms of adequate, *Nasya* according to *Acharya Charaka* are *Urah-shiro-laghava* (Feeling of lightness in chest and head), *Indriyavishuddhi* (sensorial proficiency), and *Srotovishuddhi* (cleansing of channels)[223]. In addition, *Acharya Sushruta* has described *Sukhaswapna-prabodhana* (good sleep and awakening), *Chitta-Indriya-prasannata* (mental and sensorial happiness) and *Vikaropashama* (Improvement). Besides these symptoms, proper respiration and sneezing have been described by *Acharya Vagbhatta*[224], as general symptoms of Samyaka Yoga of *Nasya Karma.*

Table No 10 - *Samyaka Yoga Lakshana*

Symptoms	**Ch.**	**Su.**	**As.H.**	**Sha.**	**B. P.**	**Ka.**
Urah Laghuta	+	-	-	-	+	-
Shiro Laghuta	+	+	-	-	-	-
Netra Laghuta	-		+	+	-	+
Laghuta	-		-	-	+	-
Srotovishuddhi	+	+	-	+	+	+
Swaravishuddhi	-		+	-	-	-
Vaktravishuddhi	-		+	-	-	-
Indriyaachchta-prasada	+	+	-	+	+	+
Netrateja Vriddhi	-		+	-	-	+
Chitta Prasada	-	+	-	+	+	+
Vikaropashama	-	+	-	+	+	-
Sukha Svapna Prabodha	-	+	+	-	-	-
Sukhachchvasa	-	+	-	-	-	-
Arati	-	-	-	-	-	-
Medha	-	-	-	-	-	-
Bala	-	-	-	-	-	-

❖ *Ayoga* :

If *Nasya* is not given in proper way or the dose is less, features of inadequate *Nasya* arise. which are - *Shirogaurava* (heaviness in head), *Galopalepa* (throat coated with mucus) and *Nishthivana* (excessive spitting)[225]. According to *Acharya Sushruta, Kandu* (Itching), *Upadeha* (feeling of wetness), *Guruta* (heaviness), *Srotasam Kapha Srava* (excess mucus secretion in channels) are the symptoms of *Hina Shuddhi*[226]. Vitiation of *vata*, dryness in *indriya*, no relief in the symptoms of the disease[227], dryness in mouth and nose[228] are other symptoms of *Ayoga* of *Nasya karma*.

Table No 11 - *Ayoga Lakshana*

Symptoms	**Ch.**	**Su.**	**As.H.**	**Sha.**	**B.P.**	**Ka.**
Shirogaurava & Dehagaurava	+	-	-	+	+	+
Galopalepa	+	-	-	-	-	-
Nishthivana	+	-	-	-	-	-
Kandu	-	+	+	+	+	-
Kaphapraseka	-	-	-	-	-	-
Upadeha	+	-	+	+	-	-
Rukshata	+	-	-	+	+	+
Vata Vaigunya	+	-	-	-	-	-
Srotoriktata	-	-	-	-	+	-
Srotasamkaphasrava	+	-	-	+	+	+
Nasashosha	-	+	-	-	-	-
Asyashosha	-	+	-	-	-	-
Akshistabdhata	-	+	-	-	-	-
Shiroshunyata	-	+	-	-	-	-
Vyadhi Vridhdhi	-	-	-	-	-	+

❖ *Atiyoga* :

According to *Acharya Charaka*, the general features of excessive *Nasya* are, feeling of *Arati* (uneasiness) and *Toda* (pricking like pain in the head, eyes, temporal region and ears)[229]. *Kapha Srava* (Salivation), *Shirahshula* (headache) and *Indriya Vibhrama* (confusion) are the symptoms of *Atiyoga* of *Nasya*[230]. *Mastulungagama,*

Vatavriddhi, Indriyavibhrama and *Shiroshunyata* (emptiness of head) are also the symptoms of *Atiyoga* of *Shirovirechana.*

Table No. 12 - *Atiyoga Lakshana*

Symptoms	Ch.	Su.	As.H.	Sha.	B.P.	Ka.
Shirogaurava	-	+	+	+	+	-
Shiroshunyata	-	+	-	+	+	-
Shirovedana	+	-	-	-	-	+
Netra Vedana	+	-	-	-	-	-
Shankhavedana	+	-	-	-	-	-
Suchitodavata Pida	+	-	-	-	-	-
Indriya Vibhrama	-	+	-	+	+	+
Mastulungagama	-	+	-	-	-	-
Snehapurna Srotasa	-	-	-	-	+	-
Karna Talu Upadeha	-	-	-	-	-	-
Vata Vriddhi	+	-	-	-	-	+
Kandu	-	+	-	-	-	-
Praseka	-	+	+	+	-	-
Pinasa	-	+	-	-	-	-
Aruchi	-	-	+	-	-	-
Deha Daurbalya	-	-	-	-	-	+
Unmada	-	-	-	-	-	-
Pitta Vriddhi	-	-	-	-	-	-
Hridaya Shula	-	-	-	-	-	-
Suryavarta Roga	-	-	-	-	-	-
Atripti	-	-	-	-	-	-

***Vyapad*:**

Vyapad (complication) after administration of *nasya* occurs in following conditions.

- If patient breaches the protocol to be followed after *Nasya karma.*
- On administration of *Nasya* in any contra-indicated condition.
- Due to technical failure by any means.

The complications occur through following two modes.

A) *Doshotklesha*: This should be managed by *Shodhana* and *Shamana chikitsa*.

B) *Doshakshaya*: This should be managed by *Brimhana chikitsa*[231].

Details about the complication along with the reasoning for their occurrence and treatment are as under:

If *nasya* is given in contraindicated conditions, then *Vyapad* can occur such as:

- When *Nasya* is administered to the patient just after lunch or who is suffering from indigestion than diseases like *Kasa, Shvasa, Chhardi, Pratishyaya* etc. may occur due to obstruction of channels situated in upper part of body.

- If *Nasya* is given in season in which it is contra-indicated for e.g. cloudy atmosphere, then there is possibility of occurrence of *Kapha roga* like *asthma*.

Treatment: In above-mentioned conditions treatment should be done with *Kapha Nashaka Upchara* like use of *Ushna, Tikshna Aushadha* and *Kapha Nashaka karma* [232]

- If *Nasya* is given in *Krisha* (emaciated), *Virikta* (patient who had taken *virechana*} *Aatura* (anxious), *Garbhini* (pregnant lady), *Vyayam klant* (exhausted with exercise) and a thirsty person then vitiation of *Vata dosha* takes place which may produce *vata-vikara.*

Treatment: In this condition, *Vatanashaka* treatment like *snehana, swedana, brimhana* should be specially done, pregnant lady should be treated with *ghrita* and milk[233].

- If *Nasya* is administered in a *madya pitta*, person having fever and in *shokabhitapta* then *Timir roga* may occur.

Treatment: *Ruksha, Sheeta, Lepa* and *Putpaka* should be applied.

***Vyapad* due to fallacies in procedure**

This can occur in following conditions -

- If the drug used for *Nasya* is very hot or cold.
- The dose is not proper i.e. very less or in excess quantity.
- If the posture is not proper i.e. patient has lowered his head more during *Nasya*.

In such conditions complications like *Trishna* and *Udgara* occur. Treatment should be done according to the disease.

If the patient faints at the time of *Nasya* he should be treated with sprinkling of water on *Lalata* and *Mukha*[234].

BENEFITS OF *NASYA*

Nasya, specifically *Pratimarsha nasya* is considered as '*Aajanma satmya*'[235]

Acharya Sushruta states that *Nasya* relives one from *urdwa jatru gata rogas* and brings about *vimalata in Indriyas.*[236]

Pratimarsha nasya when given in *pratah kala* is considered as *Manah prasadakara*.[237,238]

- Patient who regularly observes *Nasya Karma* does not become victim of diseases of eyes, ears and nose.
- His beard and hair do not turn gray.
- His hair doesn't fall but instead grows fast.
- Diseases like common cold, migraine, headache, facial paralysis, etc. can be alleviated.
- The joints, sinus, tendons and bones of his cranium becomes very strong.
- His face becomes cheerful and plump and his voice becomes mallow, firm and stentorian.
- Strength of all sense organs increases greatly.
- There will be no sudden invasion of disease in the upper parts (*Urdhva jatrugata*) of the body.
- He experiences delayed symptoms of old age[239].
- Disease of the supra clavicular region are cured in the person who practices *Nasya*.
- He gets clarity of senses, good smell of mouth and the strength of jaw, teeth, arms, chest, etc.
- He never suffers from the premature appearance of wrinkles, premature hair falling and *Vyanga*.

Method of preparation of *Anutaila*:[240]

वर्ष वर्षेऽणुतैलं च कालेषु त्रिषु ना चरेत्॥५६॥

प्रावृट्शरद्वसन्तेषु गतमेघे नभस्तले|

नस्यकर्म यथाकालं यो यथोक्तं निषेवते॥५७॥

न तस्य चक्षुर्न घ्राणं न श्रोत्रमुपहन्यते|

न स्युः श्वेता न कपिलाः केशाः श्मश्रूणि वा पुनः॥५८॥
न च केशाः प्रमुच्यन्त वर्धन्ते च विशेषतः|
मन्यास्तम्भः शिरःशूलमर्दितं हनुसङ्ग्रहः॥५९॥
पीनसार्धावभेदौ च शिरःकम्पश्च शाम्यति|
सिराः शिरःकपालानां सन्धयः स्नायुकण्डराः॥६०॥
नावनप्रीणिताश्चास्य लभन्तेऽभ्यधिकं बलम्|
मुखं प्रसन्नोपचितं स्वरः स्निग्धः स्थिरो महान्॥६१॥
सर्वेन्द्रियाणां वैमल्यं बलं भवति चाधिकम्|
न चास्य रोगाः सहसा प्रभवन्त्यूर्ध्वजत्रुजाः॥६२॥
जीर्यतश्चोत्तमाङ्गेष जरा न लभते बलम्|६३|

These drugs should be boiled hundreds of times of pure rain water (of the oil in quantity), till it is reduced to ten times of the oil (in quantity). The oil should be boiled in that decoction for ten times. At the final (that is the tenth) stage of boiling, equal quantity of goat's milk should be added to it. This is the recommended method for the preparation of *Anu Taila* which is useful for inhalation. The prescribed dosage of oil is half Pala or 24 ml (this is the quantity to be used in twenty-four hours).

Preparation method: [241]

- Take all pharmacopoeia grade ingredients.

- Wash, clean and dry the ingredients numbered 1 to 24 of the formulation composition, spray separately and pass through a 355 µm I.S. sieve (number 44 sieve) (kvatha dravya).

- Add water for decoction to kvatha dravya and let soak for 4 Hrs, reduce the volume to one tenth by heating and strain through a muslin cloth to obtain kvatha.

- Divide the kvatha into 10 equal parts and store it separately in airtight containers away from light and moisture.

- Wash, clean, dry drugs under ingredient number 26 (kalka dravya) of the formulation composition, spray separately and pass through an I.S. 180 µm (sieve number 85) to

obtain a fine powder. Transfer the powdered ingredients to a wet mill and grind with enough water to make a homogeneous mixture (kalka).

- Take the Tila taila murcchita in a stainless-steel container and heat it.

- Add kalka increments, mix well while adding a part of kvatha.

- Heat with constant stirring, maintaining the temperature between 500 and 900 ° C during the first hour of heating. Stop heating when the kalka separates at the bottom of the container into a loose paste (mridu paka lakshana) and when foam (phenodgama) appears on the oil. Let sit overnight.

- Repeat the process nine times a day, adding some kvatha. With a tenth kvatha, add Ajadugdha in the last paka. Constituents of Anutaialam:

- On the last day, constantly check the kalka rolling between the fingers. Stop heating when the kalka is easily rolled in a varti without sticking (madhyama paka lakshana) to the fingers and when foam (phenodgama) appears on the oil. Expose the varti and oil to the flames and confirm that there is no crackle indicating the absence of moisture.

- Filter while hot (about 800) through muslin and leave to cool.

The drugs used in the preparation are as follows: [242]

Table No. 13 – Drugs used in preparation of Anutaila

Sl. No.	Name of Drug	Latin Name	Synonyms	Family	Parts used	Pharmacological activities
01	*Jeevanti*	Leptadermia reticulata	*Shakashreshtha*	Asclepia	Root, leaf, fruit	The plant is stimulant, restorative and tonic. It is used in nasal and ear disorders.
02	*Jala*	Coleus vettiveroides	*Jala, Vari*	Lamiaceae	Entire plant	Ant emetic anti inflammatory, Digestive.

03	*Devadaru*	*Cedrus deodera*	*Devadaru, Bhadredaru, Surabhuruha*	Pipaceae	Bark, heartwood, oil, leaves, resin	Anti inflammatory, analgesic, anti pyretic.
04	*Jalada(Musta)*	*Cyperus rotundus* Piperaceae	*Musthaka, Varida, Ghana*	Piperaceae	Tuber	Anti inflammatory, anti pyretic, anti emetic, antimicrobial and smooth muscle relaxant.
05	*Twak*	*Cinnamomum zeylanica*	*Twak, Utkata*	Lauraceae	Stembark, oil	Anti microbial, Anti tubercular, Bronchodilator.
06	*Ushira*	*Vetiveria zizanoides*	*Ushira, Nalata, Amrunala, Sevya*	Graminae	Root	Anti pyretic, Cardiac tonic, anti toxic, diuretic.
07	*Sariva*	*Hemidesmus indicus*	*Sariva, Gopavalli, Krishodari*	Asclepiadaceae	Root, Leaf, Stem	appetiser, expectorant and tonic.
08	*Chandana*	*Santalum album*	*Chandana, Srikhand, Gandhasara, Malayaja*	Santalaceae	Heartwood, Oil	Antibacterial, antiviral antioxidant and antifungal.
09	*Daruharidra*	*Berberis aristata*	*Darvi, Katamkateri, Pachampacha*	Berberidaceae	Bark, root, stem, wood	Anti-fatigue, antipyretic, local anaesthetic, anti inflammatory.
10	*Yashthi madhu*	*Glycyrrhiza glabra*	*Yashtimadhu, Madhuka, Kleethaka,*	Fabaceae	Root	Anti viral, spasmolytic, anti inflammatory, anti microbial.

11	*Plava*	*Cyperus platystilis*	*Plava, Jala*	Cyperaceae	Tuber	Anti inflammatory, anti pyretic, anti emetic, antimicrobial and smooth muscle relaxant.
12	*Agaru*	*Aquilaria agallocha*	*Agaru, Loha, Krimija, Krimijagdha*	Thymaliaceae	Aromatic resinous wood, oil	Anti inflammatory, digestive, tonic.
13	*Shatavari*	*Asparagus racemosus*	*Shatavari, Shatamuli, Atirasa, Bahusuta.*	Liliaceae	Tuberous root	Antifungal, anti bacterial, gastric sedative.
14	*Pundrahwa*	*Saccharum officinarum*	-	Graminae	Mula, Swarasa	Anti inflammatory, Diuretic, Tonic
15	*Bilva*	*Aegle marmelos*	*Bilwa, Sriphala, Malura, Sadaphala*	Rutaceae	Root, Leaf, Fruit, Bark	Antiviral, anti emetic, anti-inflammatory, analgesic, antipyretic.
16	*Utpala*	*Nymphea stellata*	-	Numphaceae	Rhizome, Flower, Seeds, wholeplant	Anti-inflammatory, antipyretic, Anti emetic.
17	*Bruhati*	*Solanum indicum*	*Bruhati, Kshudrabhantaki, Simhi*	Solanaceae	Root, Fruit	Analgesic, Antipyretic, Bronchodilator.
18	*Kantakari*	*Solanum surattense*	*Kantakari, Dusparsha, Kshudra, Vyaghri*	Solanaceae	Whole plant, Root, Fruit	Expectorant, Bronchodilator, Anti pyretic, Analgesic.

19	*Shallaki*	*Boswellia serrata*	*Shallaki, Susrava, Gajabakshya*	Burseraceae	Bark, Gum resin	Anti-inflammatory, sedative and analgesic, Antibacterial, and anti fungal.
20	*Prishniparni*	*Uraria Picta*	*Prithak parni, Kalashi, Guha, Chitraparni*	Fabaceae	Root, Leaf, Pod	Antiviral, Anti microbial, Anti pyretic and Bronchodilator.
21	*Shaliparni*	*Desmodium gangetium*	*Shalaparni, Vidarigandha, Amshumati*	Fabaceae	Root, Whole plant	Anti-inflammatory, anti pyretic, anti fungal and bronchodilator
22	*Vidanga*	*Embelia ribes*	*Vidanga, Krimigha, Chitra tandula*	Myrsinaceae	Fruit root	Analgesic, Antimicrobial, Antifungal.
23	*Patra*	*Cinnamomum tamala*	-	Lauraceae	Leaf, stem bark, oil	Anti-inflammatory, anti oxidant, antimicrobial.
24	*Ela*	*Elettaria cardamomum*	*Ela, Triputa, Truti, Dravidi*	Zingiberaceae	Seeds	Bronchodilator, Expectorant, Digestive and Anti microbial
25	*Renuka*	*Vitex negundo*	*Nirgundi, Sindhavara, Renuka*	Verbenaceae	Root, Bark, Leaf, flower, seeds	Anti-inflammatory, anti bacterial, analgesic, anti histaminic and antispasmodic
26	*Kamala*	*Nelumbo nucifera*	*Kamala, Varija, Padma*	Nelumbonaceae	Whole plant, Stamens (Kamala kesara)	Anti pyretic, Antiemetic, Tonic, Anti Microbial.
27	*Bala*	*Abutilon indicum*	*Bala, Kamkatika*	Malvaceae	Bark, Root, Seed, Leaf	Root yielded non drying oil which showed significant analgesic activity

Table No. 14 - Rasa Panchaka, Doshaghnata and Karma:

Sl No	Name of Drug	Rasa	Guna	Virya	Vipaka	Doshaghnata	Karma
1	*Jeevanti*	*Madhura*	*Laghu, Snigdha*	*Sheeta*	*Madhura*	*Tridosha Shamaka, especially vata pitta shamaka*	*Tridoshahara, Anulamana, Kaphanissaraka, Jwaraghna, Balya, Rasayana, Kasahara, Soshahara, Chakshushya*
2	*Jala*	*Tikta, Madhura*	*Laghu, Snigdha*	*Sheeta*	*Madhura*	*Vata Pitta Shamana*	*Deepana, Pachana, Chardinigrahana*
3	*Devadar*	*Tikta*	*Laghu, Snigdha*	*Ushna*	*Katu*	*Kapha Vata hara*	*Deepana, Kashara, Swasahara, Jwarahara, Sophahara, Peenasa Nashana, Kaphanissaraka, Sleshma Putihara*
4	*Jalada (Mustha)*	*Tikta, Katu Kashaya*	*Laghu, Ruksha*	*Sheeta*	*Katu*	*Kapha Pitta Shamak*	*Sothahara, Lekhana, Kasahara, Shwasahara, Jwaraghna, Deepana, Pachana, Balya*
5	*Twak*	*Katu, Tikta Madhura*	*Laghu, Tikshna, Ruksha*	*Ushna*	*Katu*	*Vata Pittahara*	*Vedanasthapana, Deepana, Pachana, Vatanulomana, Kasahara, Swasahara, Peenasanashana, Mukhadourgandha Nashana*
6	*Ushira*	*Tikta Madhura*	*Laghu, Ruksha*	*Sheeta*	*Katu*	*Kapha Pitta Shamak*	*Jwarahara, Kasahara, Pachana, Kaphanissaraka Angamarda Prashamana*
7	*Sariva*	*Madhura Tikta*	*Guru, Snigdha*	*Sheeta*	*Madhura*	*Tridosha Shamana*	*Rochana, Deepana, Pachana, Anulomana,*

							Shothahara, Kaphaghna, Jwaraghna, Rasayana
8	*Chandana*	*Madhura Tikta*	*Laghu, Ruksha*	*Sheeta*	*Katu*	*Kapha Pitta Shamak*	*Durgandhahara, Kaphanissaraka, Sleshmaputihara, Jwaraghna, Shirashulahara*
9	*Daru Haridra*	*Tikta, Kashaya*	*Laghu, Ruksha*	*Ushna*	*Katu*	*Kapha Pitta Shamak*	*Sothahara, Vedanasthapana, Deepana, Kaphaghna, Jwarahara, Vishamajwara Prathibandhaka*
10	*Yashtimadhu*	*Madhura*	*Guru, Snigdha*	*Sheeta*	*Madhura*	*Vata Pitta Shamaka*	*Vedanasthapana, Sothahara, Chardinigraha, Vatanulomana, Kaphanissaraka, Kantya, Jwaraghna, Jeevaniya, Rasayana, Balya*
11	*Plava*	*Tikta, Katu, Kashaya*	*Laghu, Ruksha*	*Sheeta*	*Katu*	*Kapha Pitta Shamak*	*Sothahara, Lekhana, Kasahara, Shwasahara, Jwaraghna, Deepana, Pachana, Balya*
12	*Agaru*	*Katu, Tikta*	*Laghu, Ruksha, Tikshna*	*Ushna*	*Katu*	*Vata Kapha Hara*	*Rasayana, Vedanasthapana, Mugha daurgandhanashana, Deepana, Pachana, Anulomana, Balya*
13	*Shatavari*	*Madhura, Tikta*	*Guru, Snigdha*	*Sheeta*	*Madhura*	*Vata Pitta Shamaka*	*Vedanasthapana, Rasayana, Sothahara, Balya*
14	*Pundrahwa*	*Madhura*	*Guru Snigdha*	*Sheeta*	*Madhura*	*Vata Pitta Shamana*	*Kaphanissaraka, Balya, Kasa Shwasahara*
15	*Bilwa*	*Kashaya, Tikta*	*Laghu, Ruksha*	*Ushna*	*Katu*	*Kapha Vata Shamaka*	*Sothahara, Vedanasthapana, Deepana, Pachana, Kaphaghna, Jwaraghna*
16	*Utpala*	*Madhura, Kashaya,*	*Laghu, Snigdha,*	*Sheeta*	*Madhura*	*Kapha Pittahara*	*Chardighna, Rakthapittahara, Jwaraghna*

		Tikta	*Picchila*			*(Tridoshahara)*	
17	*Brihati*	*Katu, Tikta*	*Laghu, Ruksa, Tikshna*	*Ushna*	*Katu*	*Kapha Vata Shamaka*	*Vedanasthapana, Deepana, Pachana, Kaphaghna, Jwarahara, Kasa Swasahara*
18	*Kantakari*	*Katu, Tikta*	*Laghu, Ruksha, Tikshna*	*Ushna*	*Katu*	*Kapha Vatahara*	*Vedanasthapana, Sothahara, Deepana, Pachana, Kasahara, Kantya, Jwaraghna*
19	*Shallaki*	*Kashaya, Tikta, Madhura*	*Laghu, Ruksha*	*Ushna*	*Katu*	*Kapha Pitta Shamana*	*Sothahara, Vedanasthapana, Durgandhanashana, Vatanulomana, Kaphanissaraka, Deepana, Pachana, Jwarghna, Sleshmaputihara*
20	*Prishni Parni*	*Madhura, Tikta*	*Laghu, Snigdha*	*Ushna*	*Madhura*	*Tridoshashamana*	*Vatahara, Deepana, Anulomana, Sothahara, Kaphanissaraka, Balya, Jwaraghna*
21	*Shalaparni*	*Madhura, Tikta*	*Guru, Snigha*	*Ushna*	*Madhura*	*Tridoshashamana*	*Deepana, Anulomna, Kaphanissaraka, Jwaraghna, Rasayana.*
22	*Vidanga*	*Katu, Kashaya*	*Laghu, Ruksha, Tikshna*	*Ushna*	*Katu*	*Kapha Vata Shamaka*	*Shulaghna, Sirovirechana, Deepana, Pachana, Anulomana, Rasayana and useful in Jirna Prathishyaya.*
23	*Patra*	*Katu, Tikta, Madhura*	*Laghu, Ruksha, Tikshna*	*Ushna*	*Katu*	*Kapha Vata Shamana*	*Mukha Sodhana, Sirovirechana, Deepana, Aruchihara, Kasa Shwasahara*
24	*Ela*	*Katu Madhura*	*Laghu Ruksha*	*Sheeta*	*Madhura*	*Tridoshahara*	*Mukha sodhana, Durgandhanashana, Chardinigrahana, Rochana, Deepana, Pachana,*

							Anulomana, Kaphanissaraka, Balya
25	*Renuka*	*Katu*	*Laghu, Ruksha*	*Ushna*	*Katu*	*Kapha Vata Shamaka*	*Vedanasthapana, Sothahara, Deepana, Jwaraghna, Vishamajwaraprathibandhaka, Balya, Rasayana*
26	*Kamala*	*Kashaya, Madhura, Tikta*	*Laghu, Snigdha, Picchila*	*Sheeta*	*Madhura*	*Kapha Vata Shamaka*	*Jwaraghna, Chardinigrahana, Balya*
27	*Bala*	*Madhura*	*Picchila, Snigdha, Laghu*	*Sheeta*	*Madhura*	*Vata Pitta Shamana*	*Vatahara, Rasayana, Vedanasthapana, Kasahara*
28	*Varsha Jala*	*Avyakta Rasa*	*Laghu*	*Sheeta*	*Madhura*	*Pitta Sahamaka*	*Jeevana, Tarpana, Hridya, Buddhivardhaka*
29	*Tila Taila*	*Madhura, Kashaya and Tikta*	*Snigdha, Tikshna, Vyavayi, Ushna, Sara*	*Ushna*	*Madhura*	*Vatahara*	*Vatashamaka*
30	*Ajadugdha*	*Madhura*	*Laghu*	*Sheeta*	*Madhura*	*Vatahara*	*Yakshmahara, Jwarahara, Swasahara, Raktapitta prashamana*

Brahmi Taila[243, 242]

The *kalka dravyas* include *Brahmi* and *Amalaki* and *Tila taila* is taken for oil base, and oil is prepared by *taila paka vidhi*. *Mrudu taila* is taken up for *nasya*.

Ingredients:

- *Brahmi*
- *Amalaki* (Emblica officinalis)
- *Tila Taila* (Seasum indicium).

Table No 15 - Drugs of Brahmi taila

	Brahmi	**Amalaki**
Latin Name	Bacopa monnieri (Linn) Pennell	Phylanthus emblica Linn., Emblica officinalis Goertn
Synonyms	*Kapootavanka, Somavalli, Saraswati*	
Family	Scrophulariaceae	Euphorbiaceae
Parts used	*Panchanga*	*Phala, Beeja.*

Table No 16 - *Rasa Panchaka, Doshaghnata* and *Karma*

Name of Drug	***Brahmi***	***Amalaki***	***Tilataila***
Rasa	*Tikta, Kashaya & Madhura*	*Aamla & Madhura*	*Madhura, Kashaya and Tikta*
Guna	*Laghu, Sheetala*	*Sheetala, Ruksha and Kashaya*	*Snigdha, Tikshna, Vyavayi, Ushna, Sara*
Virya	*Sheeta*	*Sheeta*	*Ushna*
Vipaka	*Madhura*	*Madhura*	*Madhura*
Doshaghnata		*Tridosha hara*	*Vatahara*
Karma	*Saraka, Medhavardhaka, Aayuvardhaka, Rasayana, Swarya, Smruti vardhaka.*	*Vrushya, Rasayana,*	*Vatashamaka*
Rogaghnata	*Kushtha, Pandu, Prameha, Rakta vikara, Kasa, Visha, Shotha, Jwara.*	*Rakta pitta, Prameha*	

MATERIALS AND METHODS

The materials and methods of the research work carried out in the study are as follows:

Materials used:

The materials used are categorized in to -

1. Literary Review
2. Clinical study

Collection of materials:

Literary Review: The references were collected from various Ayurvedic classics and other ancient texts. They were revived and analyzed.

Clinical study:

A. Level : It was an Out Patient Department level study.

B. Center for the study: The center for study was taken at Sri Sri College of Ayurvedic Sciences and Research, Bengaluru.

C. Number of groups: The patients were categorized in to two groups.

D. Sample size: The samples / patients were divided into two groups, in which each group consisted of 54 patients each.

E. Duration of the study: The duration of the study was 3 months.

F. Schedule of the therapy & Research Design:

It was a randomized comparative clinical trial conducted in two groups, each group consisting of 54 patients.

Group A: *Brahmi taila Pratimarsha nasya*

Group B: *Anutaila Pratimarsha nasya*

G. Follow – up:

1. After 1st month of starting treatment.
2. After 2nd month of starting treatment
3. After 3rd month of starting treatment

H. Diagnostic and Assessment criteria: The scales used in the study are:

- Hamilton's rating scale for Anxiety neurosis and
- Clinical Global impression (CGI) scale for severity and improvement.

J. Source of Drugs:. The Raw materials and the finished product were procured from a GMP certified company, M/S Pavaman Pharmaceuticals Pct. Ltd, located in Bijapur, Karnataka, India; with the manufacturing License No.AUS 895.

K. Source of data: The patients were procured for the study from OPD of Sri Sri College of Ayurvedic sciences and Research, Bengaluru.

Sample size:

The Assumptions for calculations:

The Precision = 5.00 %

The Prevalence = 5.00 %

The size of the Population = 7563477 (Bengaluru)

95% Confidence Interval specified limits [0%-10%]

- These limits equal prevalence plus or minus precision.

The estimated sample size was found to be:

n = **73**

But the size of the sample was rounded off to 100. But extra subjects were taken for trial in each category to consider the cover up for the 'lost to follow-up' cases. So totally **108** cases were recorded (**54** in each group)

Research methodology – The methodology used in the current study was - 'Randomized comparative clinical trial method' and Judgment sampling method.

The patients were first identified through Judgment sampling method wherein the patients were scanned for the inclusion criteria and then the willing patients were *randomly allocated in the two groups* for further comparative trial.

Hypothesis:

H_0: The Pratimarsha Nasya (Brahmi Taila And Anutaila) is not effective in management Of Generalized Anxiety Disorder (GAD)

H_1: The Pratimarsha Nasya (Brahmi Taila And Anutaila) is effective in management Of Generalized Anxiety Disorder (GAD)

Inclusion Criteria

1. The candidates between 18-50 years of age and of both sex were considered for study.

2. The candidates presenting the cardinal features of GAD (Restlessness or sense of keyed-up or on edge, being easily tired or fatigued, Difficulty in concentrating or mind going blank, Touchiness or irritability, Muscle tension, Disturbed Sleep) were considered.

3. Newly diagnosed cases (not older than 3 months).

4. Ambulatory and co-operative patients were considered and informed consent was taken.

Exclusion Criteria

1. The cases having severe interference with concentration and communication were not considered.

2. The patients depending on medicines for GAD were avoided for the study.

3. Patients with systemic diseases like Hypertension, Diabetes, and Hyperthyroidism etc were not considered.

Assessment Criteria: Routine examination and Assessment

A clinical and social history was taken. The patients were assessed on the basis of Hamilton's anxiety rating scale, and Clinical Global impression (CGI) scale.

Clinical Global impression (CGI) scale (Annexure I)

The complete CGI -Clinical Global Impression Scale has three different global measures. These are designed to rate the effectiveness of a particular treatment under study:

- CGI-S – this scale helps in assessing Illness Severity.
- CGI- C - this scale helps in assessing Global Improvement or Change.
- Efficacy Index or Therapeutic Response.

Thus, the name CGI is the general name for two scales:

- CGI –Severity scale (CGI-S) and
- CGI –Change scale (CGI-C).

The CGI-C scale measures the change in the patient's clinical status from a specific point in time Using a 7-point scale, which ranges from - 1 as in = very much improved, to 7 as in = very much worse, and a score of 4 indicating = no change.

Type: Clinician-rated scale.

Main indications: Designed to assess global severity of illness and change in the clinical condition over time.

Time period covered by scale: Current clinical state.

Time required for completing the rating: 1-2 minutes after a clinical interview.

Hamilton rating scale (Annexure II):

It is a clinician-administered assessment scale. It measures the psychic and somatic anxiety symptoms, which are rated on a scale of mild to severe.

The symptoms are as follows:

- Anxious
- Respiratory symptoms
- Tension
- Fears
- Insomnia
- Intellectual (cognitive)
- Depressed mood
- Behavior at interview
- Somatic (muscular) and Somatic (sensory)
- C.V. symptoms
- G.I.symptoms
- Genitourinary symptoms
- Autonomic symptoms

Scoring:

None	0
Mild	1
Moderate	2
Severe	3
Severe / grossly disabling	4

Statistical analysis

Statistical results of **Brahmi Taila** in Group A and Group B patients in **Anu Taila** before and after treatment

Total 108 patients were registered in this study. Out of that all 108 patients were studied in this project. 54 patients were in group A while 54 were in B group. Each patient was observed thoroughly and noted neatly. The observations are recorded and necessary charts and graphs were made.

The data recorded are presented under the following headings:

1. Demographic data
2. Specific data related to disease of individual group
3. Results obtained for individual group

1. DEMOGRAPHIC DATA:

DISTRIBUTION OF PATIENTS BASED ON GENDER

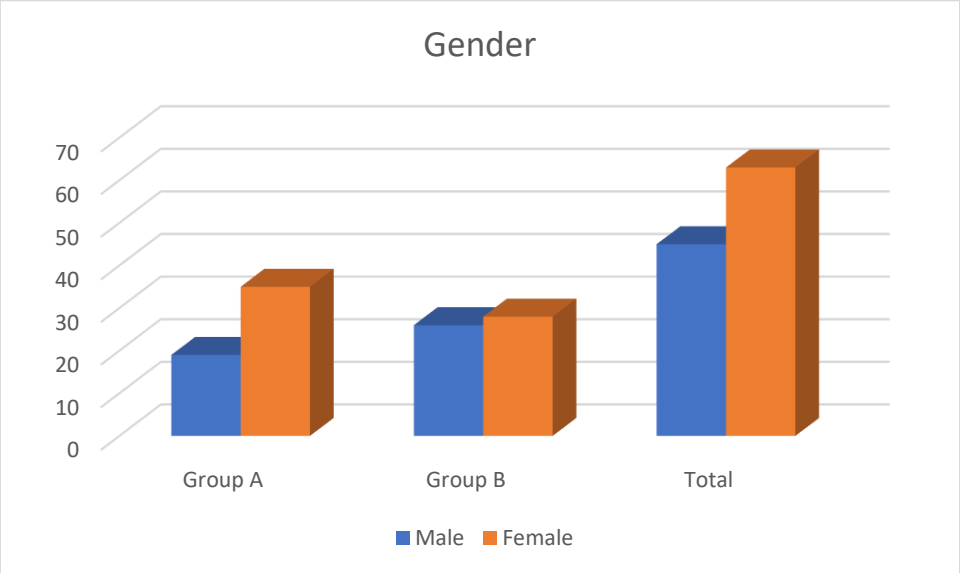
Table No. 17 Distribution of Patients Based on Gender

Gender wise: Out of 108 patients in group A and Group B, 63 patients were female (i.e., 58%) and 45 patients were male (42%).

In the Group A- 19 patients were males contributing to 35% and 35 were females i.e, 65%. In the Group B, 26 were males i.e, 48% and 28 were females i.e, 52%.

Gender	No. of Patients and Percentage					
	Group A		Group B		Total	
MALE	19	35.19%	26	48.15%	45	41.67%
FEMALE	35	64.81%	28	51.85%	63	58.33%

Chart no 03 - Incidence of Gender



DISTRIBUTION OF PATIENTS BASED ON AGE:

Table No. - 18 Distribution of Patients Based on Age

Age in years	No. of Patients and Percentage					
	Group A		Group B		Total	
20-30	15	27.78%	11	20.37%	26	24.07%
31-40	27	50.00%	27	50.00%	54	50.00%
41-50	12	22.22%	16	29.63%	28	25.93%

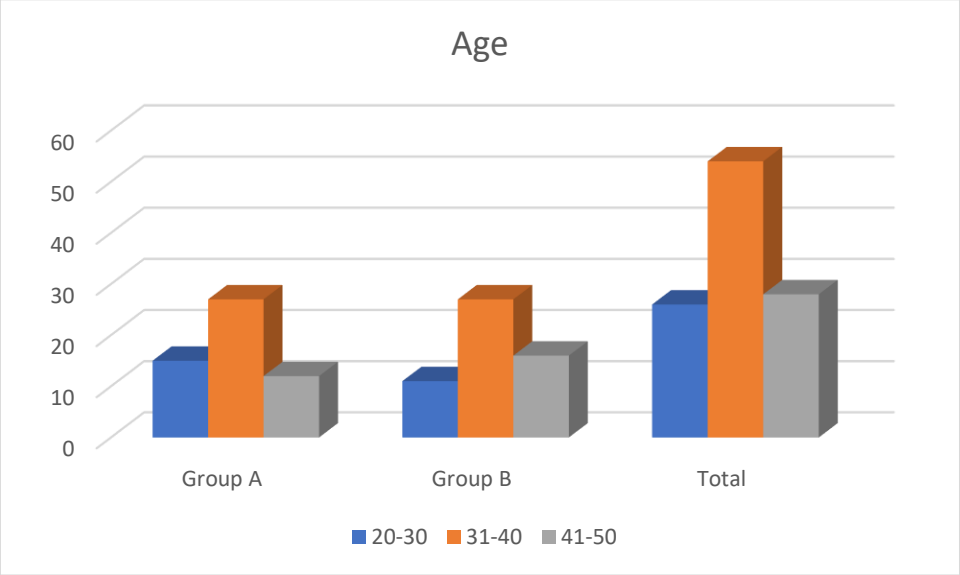
Age wise: Out of total 108 patients in group A and group B, maximum patients were in age Group 31-40 years. They were 50%. Group wise division: They were 50% and 50% respectively in A and B Group.

In the present study, among a total of 108 patients, it was observed that a maximum of 56 patients were in the age group of 30-40 years contributing to 52% of the total patients recruited. 31 patients were of the age group 40-50 years and 21 patients were from 20-30 years age group which accounted to 29% and 19% respectively.

In Group A- 12 patients i.e. 22% were of the age group 20-30 years, 29 patients i.e. 54% were of the age group 30-40 years, and 13 patients i.e. 24% were of 40-50 years of age.

In Group B, 9 patients i.e. 17% were of the age group 20-30 years, 27 patients i.e. 50% were of the age group 30-40 years, and 18 patients i.e. 33% were of 40-50 years of age.

Chart no 04 - Incidence of age



DISTRIBUTION OF PATIENTS BASED ON OCCUPATION:

Table No. – 19 Distribution of Patients Based on Occupation

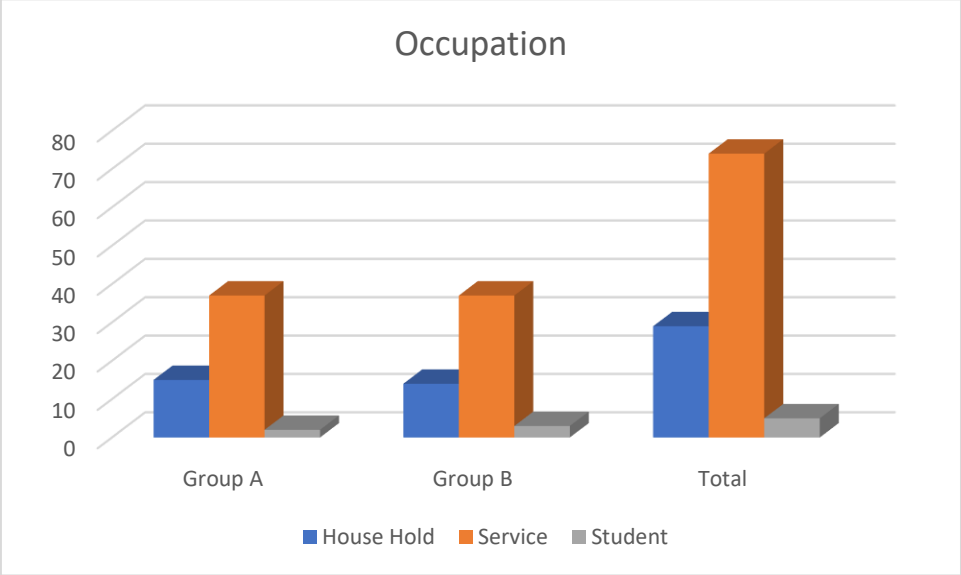
Occupation	No. of Patients and Percentage					
	Group A		Group B		Total	
House Hold	15	27.78%	14	25.93%	29	26.85%
Service	37	68.52%	37	68.52%	74	68.52%
Student	2	3.70%	3	5.56%	5	4.63%

74 patients were in service contributing to 69%, and 29 patients were housemakers, 5 patients were students accounting to 27% and 5% respectively amongst 108 patients. In Group A, 15 patients were Home makers (Household), 2 Students, 37 were in service, contributing to 28%, 4%, and 69% respectively. In Group B, 14 patients were Home makers (Household), 6 Students, 37 were in service contributing to 26%, 5%, and 69% respectively.

Out of total 108 patients in group A and Group B, maximum patients occupation are Service (68.52%).

Group wise division: In, Group A 68.52% and in Group B is 68.52%.

Chart no 05 - Incidence of Occupation



DISTRIBUTION OF PATIENTS BASED ON KULA VRITTANTA:

Table No. 20 Distribution of Patients Based on Kula Vrittanta:

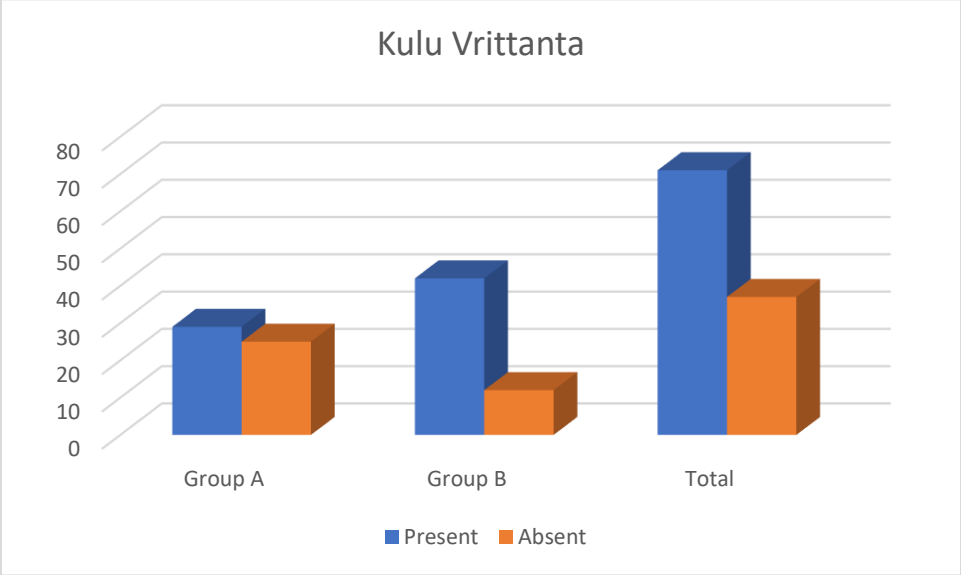
Kula Vrittanta	No. of Patients and Percentage					
	Group A		Group B		Total	
Present	29	53.70%	42	77.78%	71	65.74%
Absent	25	46.30%	12	22.22%	37	34.26%

Out of total 108 patients in Group A and Group B, maximum patients' Kula Vrittanta were Present ie: 71 (65.74%).

Group wise: In, Group A, maximum patients Kula Vrittanta were Present e ie: (53.70%).

In, Group B, maximum patients Kula Vrittanta were Present ie: (77.78%).

Chart no 06- Incidence of Kula Vrittanta



DISTRIBUTION OF PATIENTS BASED BY WORK/EDUCATION STRESS:

Table No. 21 Distribution of Patients Based on Nidana:

Hetu	**Group A**	**%**	**Group B**	**%**	**Total**	**%**
Stress-Work	40	74	42	78	82	76
Stress-Family	43	80	32	59	75	69
Stress-Finance	26	48	28	52	54	50

Totally 82 (76%) patients had work related stress, 75 (69%) patients had family related stress and 54 (50%) had finance related stress.

In Group A 40 (74%) patients of work stress, 43(80%) patients of family related stress and 26 (48%) had finance related stress.

In Group B 42 (78%) patients of work stress, 32(59%) patients of family related stress and 28 (52%) had finance related stress.

DISTRIBUTION OF PATIENTS BASED BY WORK/EDUCATION STRESS:

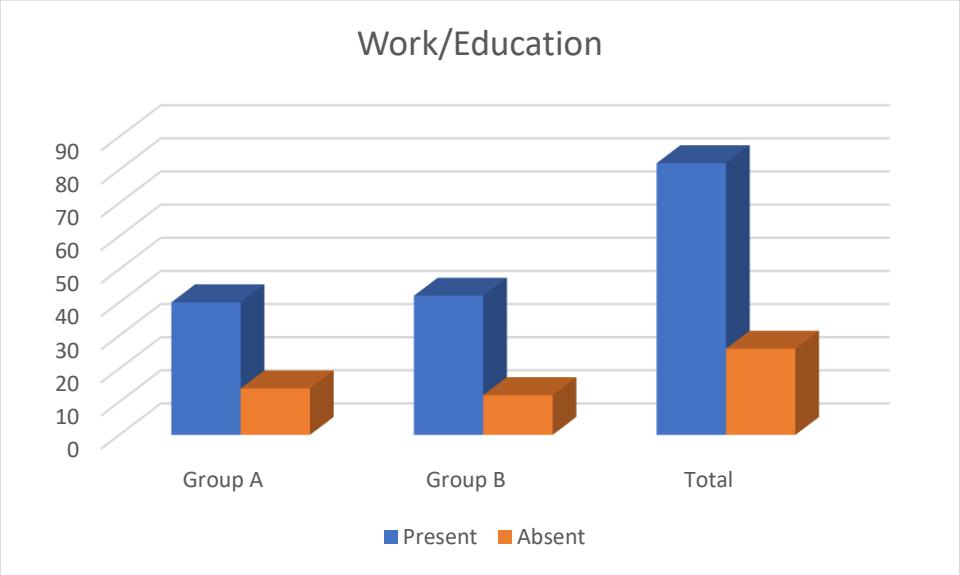
Table No. 22 Distribution of Patients Based on Work/Education stress:

Work/Education	No. of Patients and Percentage					
	Group A		Group B		Total	
Present	4	74.07	42	77.	82	75.93
Absent	1	25.93	12	22.	26	24.07

In the study as a total 108 patients, 82 patients Work/Education stress was Present (75.93%).

Among the 54 patients in group A, 40 patients Work/Education stress was present (74.07%). Among the 54 patients in group B, 42 patients Work/Education stress was present (77.78%).

Chart no 07 - Incidence of Work/Education related stress



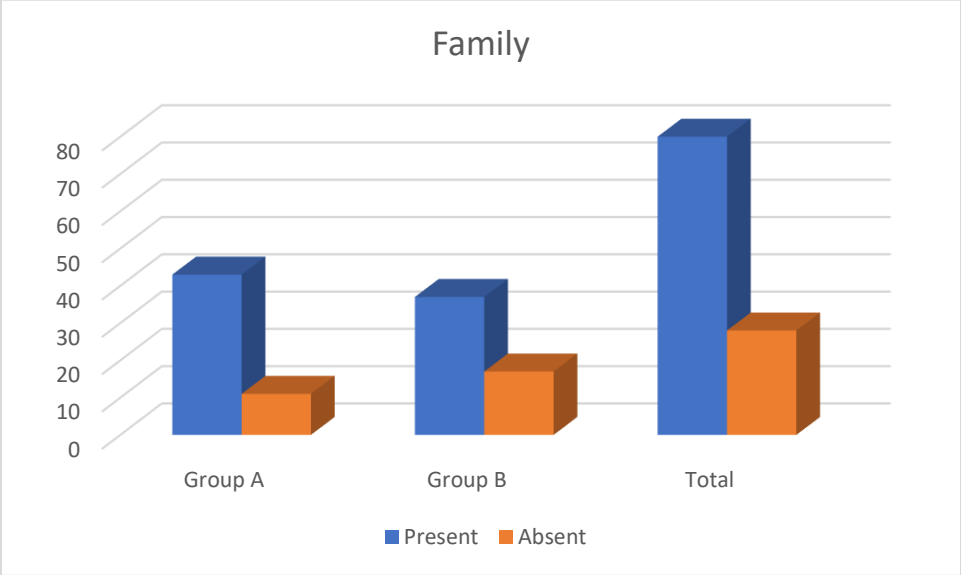
DISTRIBUTION OF PATIENTS BASED BY FAMILY:

Table No 23 Showing distribution of patients by Family stress:

Family	No. of Patients and Percentage					
	Group A		Group B		Total	
Present	43	79.63%	37	68.52%	80	74.07%
Absent	11	20.3	17	31.4	28	25.9

Out of total 108 patients in Group A and Group B, maximum patients **Family** were Present (74.07%). Group wise division: In, Group A, they were 79.63% and in Group B they were 68.52%.

Graph no 08 - showing distribution of patients by Family stress



Totally 82 (76%) patients had work related stress, 75 (69%) patients had family related stress and 54 (50%) had finance related stress.

In Group A 40 (74%) patients of work stress, 43(80%) patients of family related stress and 26 (48%) had finance related stress.

In Group B 42 (78%) patients of work stress, 32(59%) patients of family related stress and 28 (52%) had finance related stress.

DISTRIBUTION OF PATIENTS BASED BY FINANCIAL STRESS

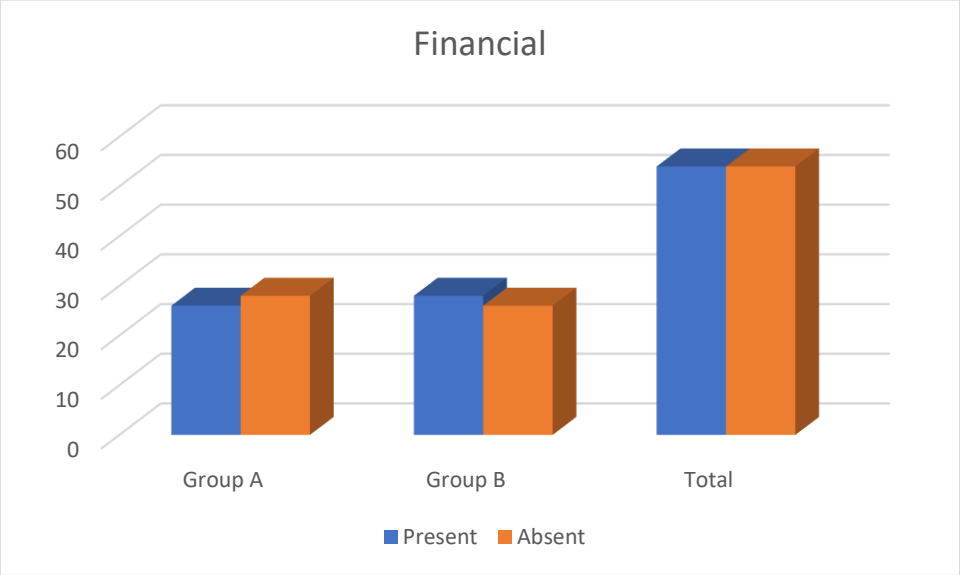
Table No 24 Showing distribution of patients by Financial stress:

Financial	No. of Patients and Percentage					
	Group A		Group B		Total	
Present	26	48.1	28	51.8	54	50.0
Absent	28	51.8	26	48.1	54	50.0

Out of total 108 patients in Group A and Group B, maximum patients **Financial stress** were Present and absent (50%).

Group wise division: In, Group A, they were 48.15% and in Group B they were 51.85%.

Graph no 09 - showing distribution of patients by Financial stress



DISTRIBUTION OF PATIENTS BASED BY PRAKRUTI

Table No 25 Showing distribution of patients by Prakruti:

Prakruti	No. of Patients and Percentage					
	Group A		Group B		Total	
Vatapitta	19	35.1	19	35.1	38	35.1
Pittakaph	7	12.9	5	9.26	12	11.1
Vata	9	16.6	8	14.8	17	15.7
Vatapitta	5	9.26	4	7.41	9	8.33
Kaphavat	4	7.41	10	18.5	14	12.9
Pitta	8	14.8	6	11.1	14	12.9
Kapha	2	3.70	2	3.70	4	3.70

Out of total 108 patients in Group A and Group B, maximum patients **Prakruti** were vata pitta (35.19%).

Group wise division: In, Group A, they were 35.19% and in Group B they were 35.19%.

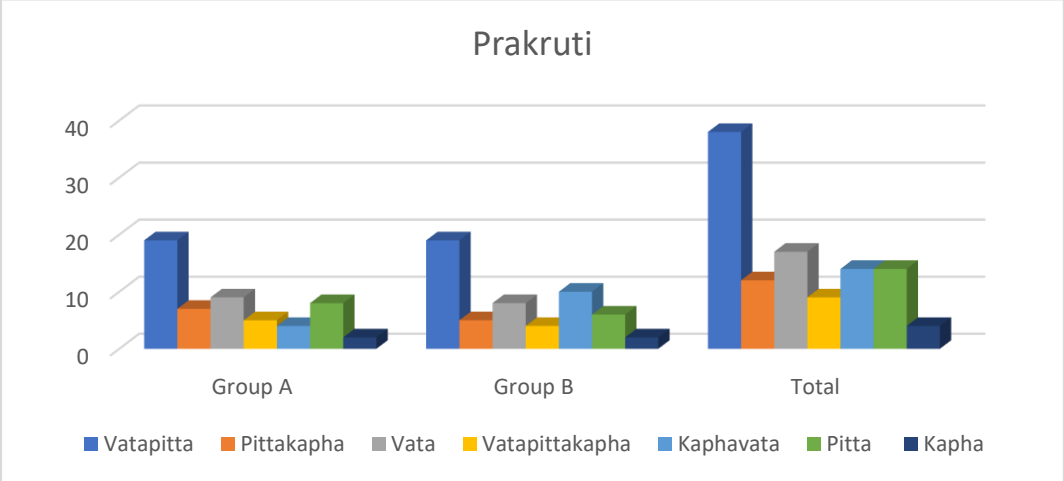
Among 108 patients, it was observed that, majorly 38 patients had Vata-Pitta Prakruti adding to 35%, and 14 patients had Vata-Kapha, 11 patients had Pitta-Kapha, 21 patients had Vata, 16 patients had Pitta, 4 patients had Kapha, and 4 patients had Sama prakruti (VPK), accounting to 13%, 10%, 19%, 15%, 4% and 4% respectively.

In Group A 19 ie 35% patients were of Vata-Pitta prakriti, 4 ie 7%, patients were of Vata-Kapha prakriti, 7 ie, 13% patients were of Pitta-Kapha prakriti, 11 ie 20% patients were of V prakriti, 9 ie, 17%patients were of P prakriti, 2 ie, 4% patients were of K prakriti and 2 ie, 4% patients were of Sama prakruti.

In Group B, 19 ie, 35% patients were of Vata-Pitta prakriti, 10 ie,19%

patients were of Vata-Kapha prakriti, 4 ie, 7% patients were of Pitta-Kapha prakriti, 10 ie 19% patients were of Vata prakriti, 7 ie, 13% patients were of Pitta prakriti, 2 ie, 4% patients were of Kapha prakriti and 2 ie, 4% patients were of Sama prakruti.

Graph no 10 - showing distribution of patients by Prakruti



DISTRIBUTION OF PATIENTS BASED BY DOSHA

Table No 26 Showing distribution of patients by Dosha prakopa:

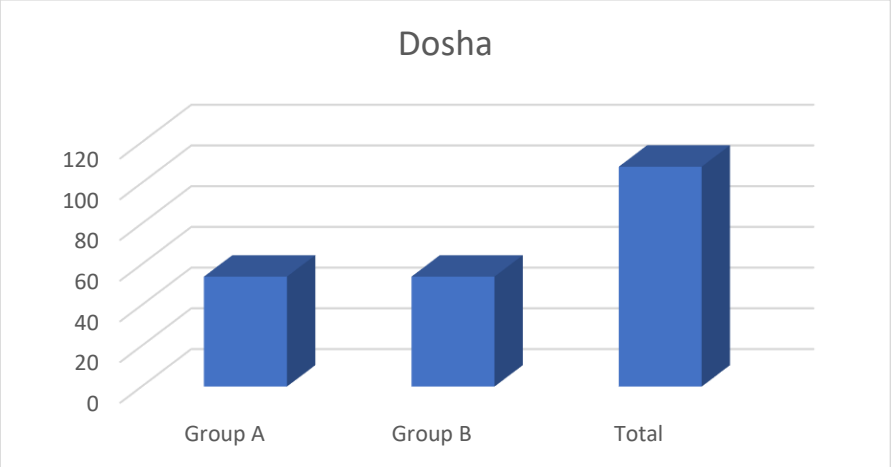
Dosha	**No. of Patients and Percentage**					
	Group A		**Group B**		**Total**	
Vata	54	100.	54	100.	108	100.

Out of total 108 patients in Group A and Group B, maximum patients **Dosha prakopa** were Vata (100%)

Group wise division: In, Group A, they were 100% and in Group B they

were 100%.

Graph no 11 - showing distribution of patients by Dosha



DISTRIBUTION OF PATIENTS BASED BY LAKSHANAS

Table No 27 Showing distribution of patients by Lakshanas :

Lakshanas	No. of Patients and Percentage											
	Group A				Group B				Total			
	Present	%	Absent	%	Present	%	Absent	%	Present	%	Absent	%
L 1	39	72.22%	15	27.78%	22	40.74%	32	59.26%	61	56.48%	47	43.52%
L 2	23	42.59%	31	57.41%	28	51.85%	26	48.15%	51	47.22%	57	52.78%
L 3	24	44.44%	30	55.56%	33	61.11%	21	38.89%	57	52.78%	51	47.22%
L 4	40	74.07%	14	25.93%	38	70.37%	16	29.63%	78	72.22%	30	27.78%
L 5	27	50.00%	27	50.00%	18	33.33%	36	66.67%	45	41.67%	63	58.33%
L 6	32	59.26%	22	40.74%	36	66.67%	18	33.33%	68	62.96%	40	37.04%

L1 – Restlessness, L2 – Fatigue, L3 - Difficulty in concentration, L4 – Irritability, L5 - Muscle tension, L6 - Sleep disturbance

Out of total 108 patients in Group A and Group B, maximum patients Lakshanas, L 4 was found Present maximum (72.22%).

Group wise division: In, Group A, they were 74.07% and in Group B

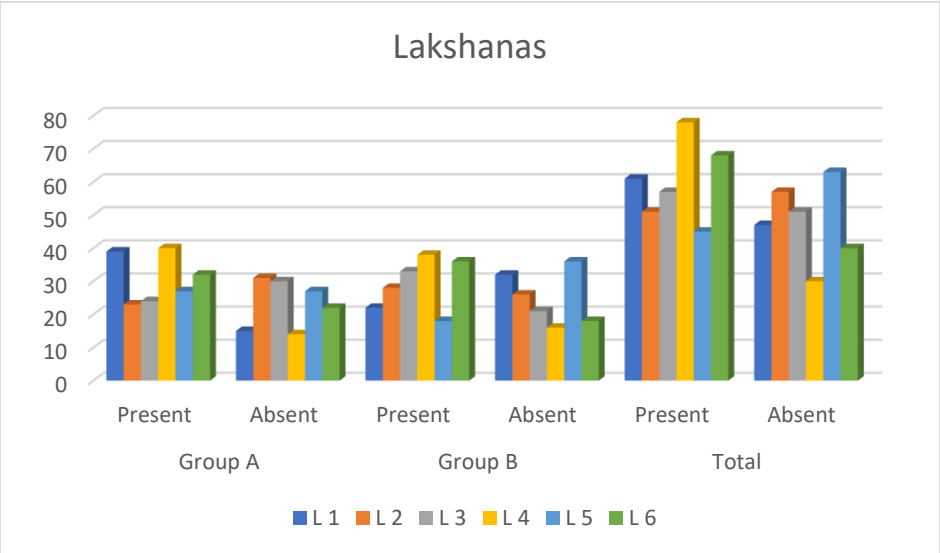
they were 70.37%.

Among the 108 patients, at total of 60 patients i.e. 56% had the symptom of restlessness. 51 patients i.e. 47% expressed feeling of fatigue, 57 patients i.e. 53% had difficulty in concentrating; 78 patients i.e. 72 % had irritability as a symptom; 48 patients i.e. 44% had increased muscle tension and 68 patients i.e. 63% had sleep disturbance.

In Group A, 38 patients i.e. 70% had the symptom of restlessness. 23 patients i.e. 43% expressed feeling of fatigue, 24 patients i.e. 44% had difficulty in concentrating; 40 patients i.e. 74 % had irritability as a symptom; 27 patients i.e. 50% had increased muscle tension and 32 patients i.e. 59% had sleep disturbance.

In Group B, 22 patients i.e. 41% had the symptom of restlessness. 28 patients i.e. 52% expressed feeling of fatigue, 33 patients i.e. 61% had difficulty in concentrating; 38 patients i.e. 70 % had irritability as a symptom; 21 patients i.e. 39% had increased muscle tension and 36 patients i.e. 67% had sleep disturbance.

Graph no 12 - showing distribution of patients by Lakshanas



RESULTS

Effects of Brahmi Taila (Group-A)

Table No. 28 - Effect of HAM in GAD

Symptom	GROUP A								
	Mean score				%	S.D (±)	S.E (±)	Wilcoxon Z Value	p value
	B T			BT-AT					
HAM	17.17	AT 30th Day	14.70	2.47	14.35	2.611	0.359	5.34	<0.05
		AT 60th Day	9.70	7.47	43.47	3.172	0.436	6.33	<0.05
		AT 90th Day	6.72	10.44	60.84	2.696	0.370	6.39	<0.05

Effect on HAM-A

This study consisting of 54 patients of (disease name) with **HAM** revealed the result of it as shown in the table No 28

. Statistical analysis showed that the mean score which was 17.17 in before treatment, was reduced to 14.70 the 30th Day and reduced to 6.72 in 90th Day with 60.84% changes, and there is a statistically significant change. (P<0.05).

Results are graphically represented in Graph No 13

Effects of Anu Taila (Group-B)

Table No. 29 Effect of HAM in GAD

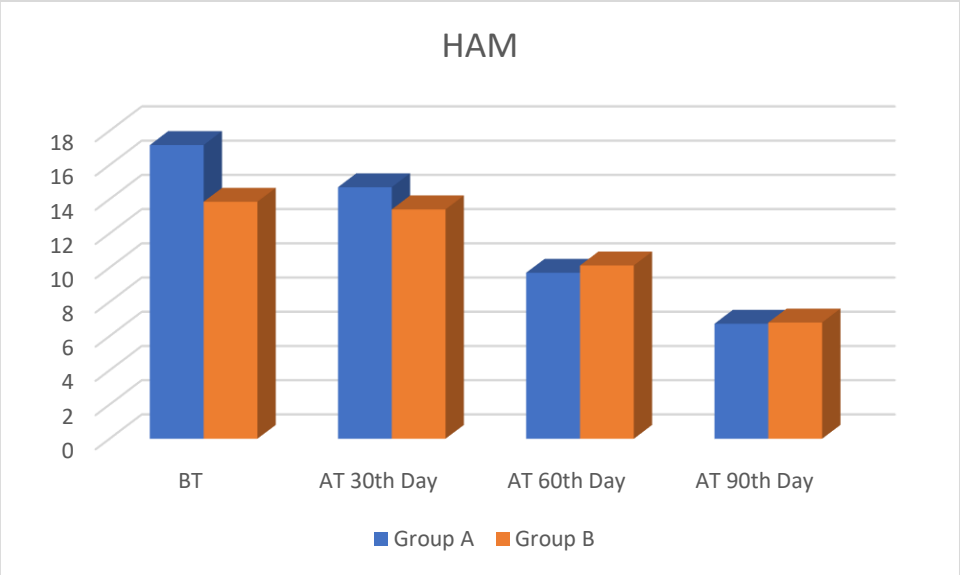
Symptom	GROUP B								
	Mean score				%	S.D (±)	S.E (±)	Wilcoxon Z Value	p value
	B T			BT-AT					
HAM	13.85	AT 30th Day	13.41	0.44	3.21	0.945	0.130	3.29	<0.05
		AT 60th Day	10.13	3.72	26.87	3.012	0.414	6.03	<0.05
		AT 90th Day	6.80	7.05	50.94	3.037	0.417	6.39	<0.05

Effect on HAM-A:

This study consisting of 54 patients of (disease name) with **HAM-A** revealed the result of it as shown in the table No 29

Statistical analysis showed that the mean score which was 13.85 in before treatment, was reduced to 13.41 the 30th Day and reduced to 6.80 in 90th Day with 50.94% changes, and there is a statistically significant change. (P<0.05)

Graph no 13 - Results are graphically represented



Effects of Brahmi Taila (Group-A)

Table No. 30 Effect of CGI in GAD (Group-A)

Symptom	GROUP A							
	Mean score			%	S.D (±)	S.E (±)	Wilcoxon Z Value	P value
	B T	AT	BT-AT					
CGI	3.54	2.22	1.32	37.17	0.797	0.109	5.77	<0.05

Effect on CGI

This study consisting of 54 patients of (disease name) with **CGI** revealed the result of it as shown in the table No 30

. Statistical analysis showed that the mean score which was 3.54 in before treatment, was reduced to 2.22 with 37.17% changes, and there is a statistically significant change. (P<0.05)

Results are graphically represented in figure No 14

Effects of Anutaila (Group-B)

Table No. 31 Effect of CGI in GAD

Symptom	GROUP B							
	Mean score			%	S.D (±)	S.E (±)	Wilcoxon Z Value	P value
	B T	AT	BT-AT					
CGI	3.28	2.67	0.61	18.64	0.811	0.111	4.19	<0.05

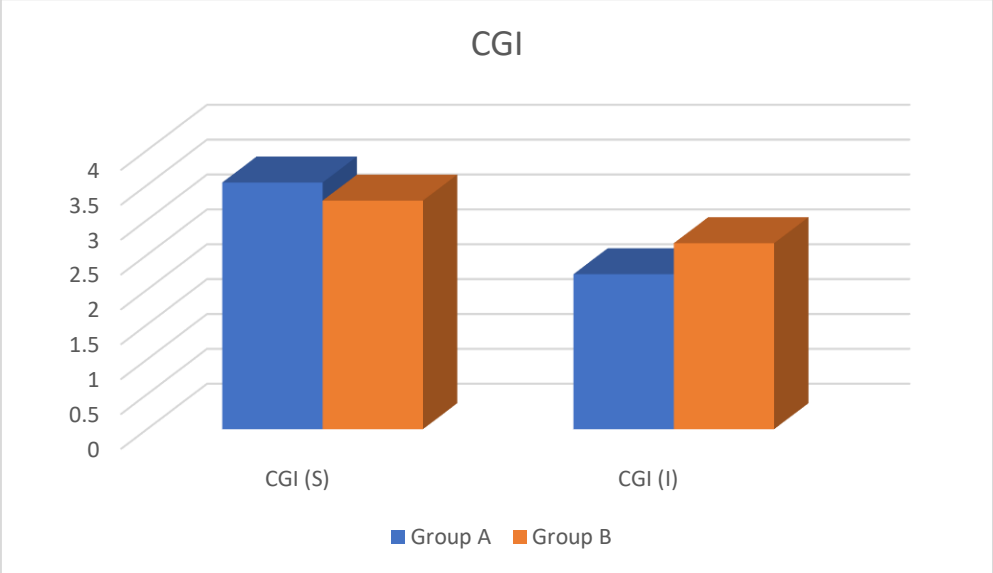
Effect on CGI

This study consisting of 54 patients of (disease name) with **CGI** revealed the result of it as shown in the table No 31

. Statistical analysis showed that the mean score which was 3.28 in before treatment, was reduced to 2.67 with 18.64% changes, and there is a statistically significant change. (P<0.05)

Results are graphically represented in figure No 14

Graph no 14 – CGI Results are graphically represented

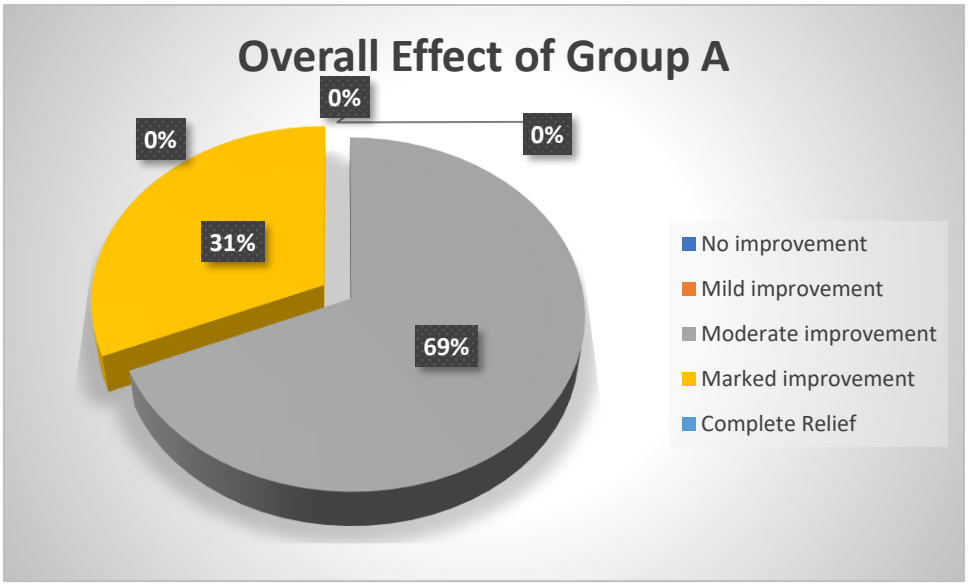


ASSESSMENT OF TOTAL EFFECT OF THERAPY

Table No. 32 Overall effect of Group-A

EFFECT OF TREATMENT IN GROUP - A		
Class	**Grading**	**No of patients**
0%	No improvement	0
1–30 %	Mild improvement	0
31 – 60%	Moderate improvement	37
61 – 99 %	Marked improvement	17
100%	Complete Relief	0

Chart no 15 Overall effect - Result on Group A



ASSESSMENT OF TOTAL EFFECT OF THERAPY

Table No. 33 Overall effect of Group-B

EFFECT OF TREATMENT IN GROUP - B		
Class	**Grading**	**No of patients**
0%	No improvement	0
1–30 %	Mild improvement	8
31 – 60%	Moderate improvement	36
61 – 99 %	Marked improvement	10
100%	Complete Relief	0

Chart no 16 Over all effect - Result on Group B

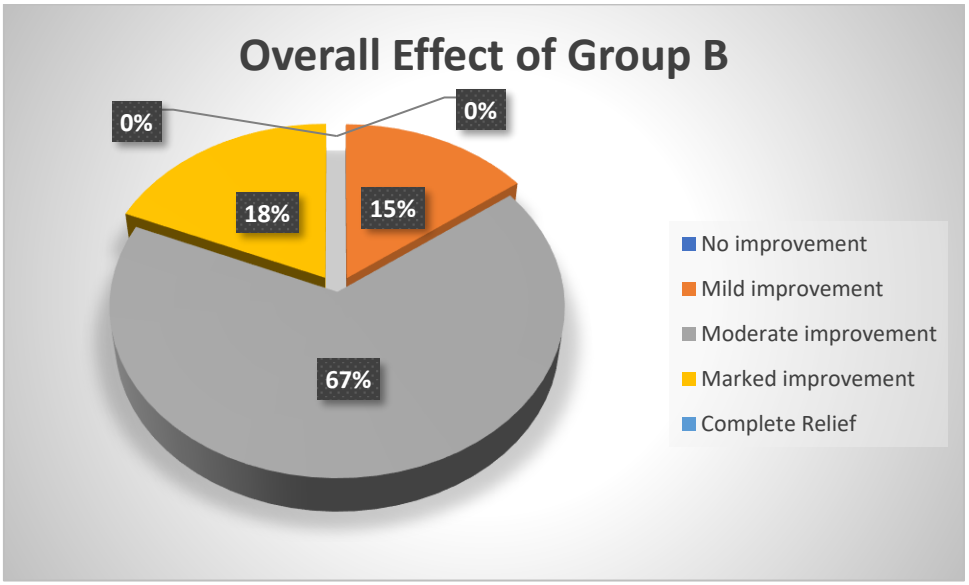
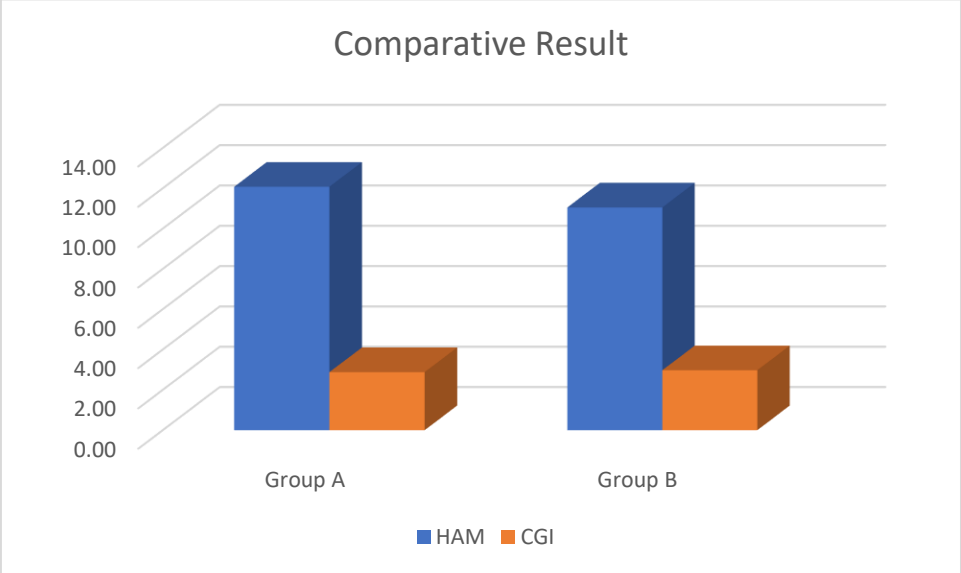


Table No.34 Comparative results of Group-A and Group-B

Signs and Symptoms	Group A (Mean Score)	Group B (Mean Score)	S.D (±)	S.E (±)	U Value	Mann Whitney Z Value	P Value	Ramarks
HAM	12.07	11.05	4.410	0.606	1015	2.71	<0.05	S
CGI	2.88	2.97	0.424	0.058	1246	1.29	>0.05	NS

Graph no 17 Comparative results of Group A and Group B



Comparative analysis of the overall effect of the treatments in both the groups was done by statistically with Mann Whitney Test. The test shows that the treatment is statistically significant in Group A when compared to Group B. Group A overall result is 56.67% and Group B overall result is 43.94%.

Swastha

It is the nature of our body that it tries to maintain the *swastha* or healthy state, naturally from birth. When the three *doshas* remain in a balanced state, then the result is that, the person achieves a balanced constitution leading to attractive appearance, good muscle strength and ultimately tranquil state of mind.

If we follow the guidelines given by Aaptas, the good health can be maintained until death. For this, one must intelligently follow all the rules established according to *Ayurvedic* science. Only then will a person enjoy an optimal lifespan of 100 years without contracting any disease. one will also gain recognition in society, friendship with people, honour and wealth because you have the energy and the ability to achieve all goals in life.

The purpose of this system is to prevent disease, heal the sick and preserve life. This can be summarized as follows:

- *Swasthasya swasthya rakshanam* – to protect health and prolong life

- *Aturasya vikar prashamanamcha* – to remove diseases of the body.

Both aim to promote health at three levels: mental, physical and spiritual.

Samadosha

The doshas, namely *vata*, *pitta* and *kapha*, must be in a balanced state to keep a person healthy. When the balance of the doshas is disturbed, either worsened or diminished (vitiated), it results in to a state of *Dosha Vaishamya* occurs, called disease.

Samagni

To keep an individual in good health, both *koshtagni* (digestive fire) and *dhatuagni* (tissue enzymes) must be in proper state. When the *agni* is of lower quality (*Mandagni*), it will cause many diseases ("*Rogaha Sarvepi Mande Agnou*"). It is well known that the health of an individual depends on the adequate strength of the digestive power.

***Sama dhatu-mala-kriya* (balanced state with reference to dhatus, malas and functions of body)**

According to *Ayurveda*, there are seven *Dhatus*, namely *Rasa*, *Rakta*, *Mamsa*, *Medas*, *Asthi*, *Majja* and *Shukra*. And three feces or *Malas* - *purisa* (feces), *Mutra* (urine), *Sweda* (sweat). The *dhatus* of the body must function properly as well as the *Malas* of the body.

Prasanna atmendriya manaha

In Ayurveda, special importance has been given to the functions of the sensory and motor organs and the mind. When these are unbalanced and not performing their functions properly, it will lead to a condition called 'dis-ease'. Even when everything is working properly, bodily activities should not vitiate (diminish) the sense and motor organs and the mind. The state of mental health becomes more important than the physical health of a person.

Mental health

Defining mental health:

Several steps are necessary to define positive mental health. The first step is to notice that the "average" is not healthy; always includes mixing with healthy the amount of psychopathology prevalent in the population. For example, in the general population, having an "average" weight or eyesight might unhealthy. Step two to discuss mental health understands the caveat that health sometimes depends on geography, culture and time in history. The third step is to clarify whether one is discussing a trait or a condition. Who is in better physical health: an Olympic miler disabled by a simple but temporary ankle sprain (status) or a type 1 diabetic (trait) with temporarily normal blood sugar? In intercultural studies, these differences become particularly important. At first glance, an Indian mystic in a state of trance may look like someone with catatonic schizophrenia, but the mystic doesn't look like a schizophrenic person over time. The fourth and most important step is to appreciate the double danger of "Pollution by ideals". Competitiveness and scrupulous cleanliness may be healthy in one culture and viewed as a personality disorder in another. Also, if mental health is "good", what is it

for? Me or society? To "integrate" or for creativity? For happiness or survival? And who should be the judge? There are many factors to consider.

Models of mental health

There are six different empirical approaches to mental health. -

- First, mental health can be conceptualized as above normal and a mental state that is objectively desirable, as in Sigmund Freud's definition of mental health which is the capacity to work and to love.
- Second, from the viewpoint of healthy adult development, mental health can be conceptualized as maturity.
- Third, mental health can be conceptualized in terms of positive psychology—as epitomized by the presence of multiple human strengths.
- Fourth, mental health can be conceptualized as emotional intelligence and successful object relations.
- Fifth, mental health can be conceptualized as subjective well-being—a mental state that is subjectively experienced as happy, contented, and desired.
- Sixth, mental health can be conceptualized as resilience, as the capacity for successful adaptation and homeostasis. [244]

Mental Health as Subjective Well-Being

Positive mental health doesn't just mean being a joy to others; subjective well-being must also be experienced. Long before mankind considered the definitions of mental health, it reflected on the criteria of subjective happiness. For example, objective social support is hardly successful if, subjectively, the individual cannot feel loved. Thus, the capacity for subjective well-being becomes an important model of mental health. Subjective well-being is never categorical. Healthy blood pressure is the objective absence of hypotension and hypertension, but happiness is less neutral. Subjective well-being is not only the absence of misery, but the presence of positive satisfaction. However, while happiness is an essential dimension of mental health, it is often viewed with ambivalence. If, over the centuries, philosophers have sometimes regarded happiness as the greatest good, psychologists and psychiatrists seem to have ignored it.

Subjective happiness can have maladaptive and adaptive facets. The search for happiness can appear selfish, narcissistic, superficial, and banal. Pleasures can come easily and be soon gone. Happiness is often based on illusion or on dissociative states.

Illusionary happiness is seen in the character structure associated with bipolar and dissociative disorders. Ill-suited happiness can bring temporary happiness, but it has no hanging power. In the Study of Adult Development, scaled measures of "happiness" had little predictive power and, often, insignificant association with other subjective and objective measures of contentment. [245]

Stress and Mental diseases

It has been implicitly assumed that mental health can be defined as the antonym for mental illness. In other words, mental health was the absence of psychopathology and was synonymous with normality. Achieving mental health by reducing the severe pathological signs and symptoms of illness is also the definition of the mental health model. In fact, viewing mental health simply as the absence of mental illness is at the centre of much of the mental health policy. Major epidemiological studies of the past half century have also focused on people with mental illness, not on healthy people.[244] Perhaps no area of the brain is more ambiguous in its evolutionary heritage or more crucial to mental health than our prefrontal cortex. The prefrontal cortex is responsible for estimating rewards and punishments and plays a fundamental role in adapting and regulating our emotional response to new situations. Therefore, the prefrontal lobes are deeply involved in emotional, "moral" and "spiritual" life. From an evolutionary standpoint, human frontal lobes are no different from chimpanzees in terms of the number of neurons. Rather, it is the white matter of the frontal lobe (the connectivity between neurons via myelinated fibers) that explains the larger frontal lobes in humans. This connectivity to the limbic system emphasizes its "executive" function, which includes the ability to delay gratification, understand symbolic language and, most importantly, *establish a temporal sequence*. By connecting the memory of the past with the "memory of the future", the frontal lobes establish predictable causes and effects for Homo sapiens. Surgical or traumatic removal of the ventromedial prefrontal cortex can turn a conscientious and responsible adult into a moral shake without any further evidence of intellectual disability. The insula is another part of the limbic system that is only just beginning to be understood.

Now, the insula is a gyrus (medial cortical) situated in between the amygdala and the frontal lobe. The brain has no sensation; humans only feel emotion in their body. This insula helps bring those gut feelings back to consciousness: the pain in sorrow, the warmth in love, and the tension in the gut due to fear, all flow to consciousness through the insula. Both the anterior limbic cingulate and the insula appear to be active in positive emotions of humour, trust and empathy. The higher apes are distinguished from other mammals by a special neuronal component called a spindle cell. Humans have 20 times more spindle cells than chimpanzees or gorillas (adult chimpanzees are said to have an average of 7,000 spindle cells; human new-borns have four times as many; and human adults have nearly 200,000 spindle cells) . Monkeys and other mammals, with the possible exception of whales and elephants, are completely lacking in these unique cells. These large cigar-shaped or "von Economo" spindle neurons seem to be at the heart of the governance of social emotions and moral judgment. The spindle cells may have helped great apes and humans integrate their mammalian limbic systems with their expanding neocortices. Spindle cells are found more in the anterior cingulate cortex, prefrontal cortex, and insula. More recently, scientists have found a special group of "mirror neurons" that reside in the insula and the anterior cingulate. These neurons are more developed in humans than in primates and appear to mediate empathy or the experience of "feeling" the emotions towards others.[246]

Studies observing Sustained Family Interactions reveal that the most important aspect of healthy child development, adolescent development, and marital harmony is how the partners or parents respond to each other's emotions. The situations like ignoring majour events or behaviours, punishing, and being bullied or belittled for how another person is feeling, etc are synonymous with disaster.

It is noted that the children of emotionally sensitive parents deal with their own emotions better and are more effective at calming themselves down when upset. These children even exhibit lower levels of stress hormones and other physiological indicators of emotional arousal. There are now many relationship-management-exercises are available that help couples, business leaders, and diplomats[247] become more proficient at conflict resolution and negotiation. Over the past decade, there has also been a growing effort to teach schoolchildren basic emotional and social skills, sometimes referred to as “emotional literacy”. The relevance of these advances in psychology to psychiatry includes teaching the identification and differentiation between emotions in

eating disorders and teaching anger modulation and finding creative solutions to social problems of behaviour disorders. [248]

GAD

The phenomenon of Anxiety [249] is as old as humanity. Anxiety is currently a central explanatory concept in most theories of personality and psychopathology. Consider the term "anxiety". Anxiety comes from the Latin word anxietas which means experience of anger. Anxiety is characterized by an intense and unpleasant emotional state associated with danger, which can be internal or external. To perform well or achieve a goal, it takes a moderate amount of anxiety to anticipate and grasp the consequences of a decision or behaviour. In fact, anxiety is an essential basic self-protection reaction. It is characterized by an intense and unpleasant state, associated with an undefined threat to the physical and psychological ego. Subjectively, the patient uses words such as tense, panic, terrified, nervous, nervous, hurt, and apprehended. Anxiety doesn't necessarily have a negative connotation. It has its own advantages. Anxiety plays an important role in shaping behaviours. The anxiety that generates tension is essential to life, almost necessary like hunger and thirst. Without this ability, individuals would not have the ability to recognize and respond defensively to various incidents in many ways throughout life. Anxiety, therefore, a necessary evil.

Definition

An anxiety state can be defined in terms of the intensity of the subjective feeling of tension, apprehension, nervousness and worry that the individual experiences at any given time and the increased activity of the autonomic nervous system that accompanies it.

Normal and abnormal anxiety

Anxiety can be a powerful motivator. At low levels, it can produce more attention and better performance. Anxiety can be a positive adaptive response because it becomes maladaptive when it is constant regardless of motor stress. Normal anxiety becomes pathological when it causes significant subjective distress and / or impaired functioning of the individual.

Intrapsychic conflict or prolonged confused state of mind, too might lead to anxiety.

Generalized anxiety disorder is characterized by a pattern of frequent and persistent worry and anxiety that is disproportionate to the impact of the event or circumstance that is the subject of the worry. The distinction between generalized anxiety disorder and normal anxiety is emphasized by the use of the word "excessive" in the criteria and the specification that the symptoms cause distress or significant impairment.[250]

Persistence of anxiety

At a low level, anxiety isn't a bad thing. In fact, the hormonal response to anxiety has evolved as a benefit because it helps humans respond to dangers. Evolutionary medicine researchers believe that this adaptation enables humans to realize that a potential threat exists and to act accordingly to ensure the best chance of protection. In fact, people with low levels of anxiety have been shown to have a higher risk of death than those with medium levels. Indeed, the absence of fear can lead to injury or death.[251] In addition, patients with anxiety and depression have lower morbidity than those with depression alone.[252] Increased vigilance, faster preparation to action and less chance of threat failure. [252] In nature, vulnerable people, such as those who are injured or pregnant, have a lower anxiety response threshold, which makes them more alert.[252] This demonstrates a long evolutionary history of the anxiety response.

Evolutionary mismatch

High rates of anxiety have been theorized as a reaction to how the social environment has changed since the Paleolithic era. For example, in the Stone Age there was more skin-to-skin contact and more manipulation of babies by their mothers, strategies that reduce anxiety. [251] Additionally, there are more interactions with outsiders today than interactions only between tight-knit tribes. Researchers postulate that the lack of constant social interaction, especially in the formative years, is one of the main causes of high rates of anxiety. Many current cases are likely to be the result of developmental mismatch, which has been specifically referred to as "psychopathological mismatch". In evolutionary terms, a mismatch occurs when an individual possesses traits that have been adapted to an environment that differs from the individual's current environment. For example, while an anxiety response may have evolved to help in life-threatening situations, for highly sensitized people in Westernized cultures, just hearing bad news can elicit a strong reaction. [253] An evolutionary perspective may provide information on alternatives to current methods of clinical treatment of anxiety disorders. Just knowing that some anxiety is beneficial can alleviate some of the panic associated with

minor ailments. Some researchers believe that in theory, anxiety can be mediated by reducing a patient's sense of vulnerability and then changing their assessment of the situation. [253]

A fifth edition of the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders was published in 2013 called DSM-5. Contains official nomenclature used by psychiatrists and other mental health professionals in the United States;

Sometimes, anxiety can be intellectualized as a normal adaptive response, especially to threat that prepares the body for flight or combat. However, people who seem to worry about almost everything are likely to suffer from generalized anxiety disorder.

Generalized anxiety disorder is defined as excessive anxiety and preoccupation with various events or activities on most days for at least 6 months. Anxiety is difficult to control and is associated with somatic symptoms, such as muscle tension, irritability, trouble sleeping, and restlessness. Anxiety does not focus on characteristics of another disorder, it is not caused by substance use or a general medical condition, and it does not occur only during a psychiatric or mood disorder. Anxiety is difficult to control, is subjectively distressing, and causes disturbance in important areas of a person's life.[254]

Etiology

The cause of generalized anxiety disorder is unknown. As currently defined, generalized anxiety disorder likely affects a heterogeneous group of people. Perhaps because some degree of anxiety is normal and adaptive, it is difficult to differentiate normal anxiety from pathological anxiety and to differentiate causal biological factors from psychosocial factors. Biological and psychological factors are likely to work together.

Psychosocial Factors

The two main schools of thought on psychosocial factors that lead to the development of generalized anxiety disorder are the cognitive-behavioral school and the psychoanalytic school. According to the cognitive-behavioral school, patients with generalized anxiety disorder respond to perceived dangers incorrectly and inaccurately. Inaccuracy is generated by selective attention to negative details of the environment, by distortions in information processing, and by an overly negative view of a person's ability to cope. The psychoanalytic school hypothesizes that anxiety is a symptom of

unresolved unconscious conflicts. Sigmund Freud first presented this psychological theory in 1909 with his description of Little Hans; Before that, Freud had conceptualized anxiety as having a physiological basis.[255]

Course and prognosis

The age of onset is difficult to specify; most patients with the disorder report being anxious for as long as they can remember. Patients are usually reported to a doctor in their 20s, although the first contact with a doctor can be at almost any age. Only a third of patients with generalized anxiety disorders seek psychiatric treatment. Many are turning to general practitioners, internists, cardiologists, pulmonologists or gastroenterologists, seeking treatment for the somatic component of the disease. Due to the high incidence of co-morbid mental disorders in patients with generalized anxiety disorder, the clinical course and prognosis of the disorder are difficult to predict. However, there is some evidence that life events are associated with the development of generalized anxiety disorder: the occurrence of multiple negative life events significantly increases the likelihood of the disorder developing. By definition, generalized anxiety disorder is a chronic illness that can last a lifetime.[256]

Treatment

The most effective treatment of generalized anxiety disorder is probably one that combines multiple approaches like psychotherapeutic, pharmaco-therapeutic, and supportive approaches. The treatment may take a significant amount of time and patience for the involved clinicians, whether the clinician is a psychiatrist, a family practitioner, or another specialist.

Psychotherapy

The major psychotherapeutic approaches to generalized anxiety disorder are said to be cognitive behavioural, supportive, and insight oriented. Data are still limited on the relative merits of those approaches, although some studies have examined cognitive-behavioural techniques, which seem to have both short-term and long-term efficacy.[257] There is still a room for different modalities to be implemented.

Pharmacotherapy

The decision to prescribe an anxiolytic medicine to patients with generalized anxiety disorder should rarely be made on the first visit. Because of the long-term nature of the disorder, a treatment plan must be carefully thought out to suit the requirement of the

patient. The three major drugs considered for the treatment of generalized anxiety disorder are benzodiazepines, the SSRIs, buspirone (BuSpar), and venlafaxine (Effexor). There are other drugs that may be useful, like the tricyclic drugs (e.g., imipramine [Tofranil]), antihistamines, and the βadrenergic antagonists (e.g., propranolol [Inderal])[258]

Prevention

Focus is increasing on preventive aspect of anxiety disorders.[259] There is tentative evidence to support the successful use of cognitive behaviour therapy[259] and mindfulness or yoga therapies.[260,261]

Chittodwega

A brief review of earlier works helps in understanding not only the concept of the disease as a whole but also the changing perspective about *Chittodvega* in modern times. An effort to list out the information on *Manasika Roga* in general which indicate towards the condition similar to *chittodwega* from the classics of *Ayurveda,* especially from the major trio i.e form the texts of *Acharya Charaka, Acharya Sushruta and Acharya Vagbhata*.

Nidana

Elaborate information specifically about *Chittodvega* is not seen in *Ayurvedic* classics, but is mentioned as a condition/state under mental disorders. Hence, finding a specific *nidana* which is responsible for *Chittodvega* is essential in this context. But the common *nidanas* for any mental disorders are explained in detail, and the same can be reviewed.

1. *Upadha*
2. *Agantuja*
3. *Shareera Avastha*
4. *Ahara- Vihara*
5. *Vata Dosha*

1. *Upadha*: The desires form a part of '*Kama'* included in *purushartha chatushthaya*, and are the encouragement for any person to move ahead in life. But

when these desires cross the limit of reasoning and can't be fulfilled, it will lead to derangement in emotions and manifestation of such conditions as *chittodvega*.

2. *Agantuja***:** The 'extrinsic' factors influencing body include causes like *abhichara, abhishapa, abhishanga* and *abhighata*. Some of which have a direct influence on mind and others may have indirect effect.

3. *Ahara- Vihara*: *Ahara* and *vihara* play a vital role in health as well as disease. As proper *ahara* is conductive to a healthy state; improper *ahara* leads to a disease state. As all the things are said to be basically formed by *pancha mahabhuta*, the food we consume has the representations of our body and even mind, and hence the categorization of *satvika, tamasika* and *rajasika* food explains the effect the respective type of food has on our mind.

The *Vihara*- Improper following of *charyas, Sadvritta* and improper indulgence in *vega,* influence the mind and render it susceptible to various mental fluctuations.

In *nidanas* from the category of *Vihara,* the famous trio is - *Prajnaparadha, Parinama* and *Asatmendriyartha samyoga*.

Prajnaparadha is impairment of intellect, will or memory. The vitiated *doshas* cause obstruction in the memory of *samskaras* and thus lead to actions of sinful *Karmas*. *Parinama* on the other hand is the fruit of *karma* which has ripened in due course of time.

As *Prajnaparadha* and *Parinama* are more related with *Karma, Asatmendriyartha samyoga* is in relation to *Indriyas*. When the interaction between the *Indriya* and its *Artha* is un-natural (*Hina-Mithya-Ati yoga*) it leads to aggravation of physical as well as mental disorders.

5. *Vata Dosha*: The etiological factors of vitiation of *Prana, Udana* and *Vyana Vayu* not only affect the physical activities, but also mental activities too. The above symptoms are commonly seen in majority of anxiety disorders including Chittodvega.

Samprapti

Acharya Charaka specifies that the diseases having less descriptions, can be understood by observing *Trividha Bodhya Sangraha*. [262]

In the same way *samprapti* of *chittodvega* can be constructed based on the *samprapti ghatakas* observed.

The *samprapti* of *chittodvega* can be elaborated considering the multifactorial theory of *nidana* of *Chittodvega* as stated earlier. All of which can be broadly classified under both *Nija* and *Agantuja nidanas*.

The *Nija doshas* might initiate the disease process through the route of vitiating *hrudaya* (where *manas* is situated), whereas *agantuja nidanas* will affect through the route of *indriyas.*

These various *nidanas*, therefor pave way for possibility of two *sampraptis*.

- One where the *doshas* affect *hrudaya* and hence vitiate *manas*.
- Second where the doshas vitiate *manas* through the route of *Indriyas*.

Apart from these *nidanas*, other risk factors like *Kulaja Vrttanta*, persons predominant of *Vata Dosha*, *Rajasika Prakrti* and *Alpa Satva*, etc increase the vulnerability in predisposing *Chittodvega* and play a major role.

When a person having *Alpa Satva* indulges in *Prajnaparadha*, or is afflicted by *Manobhighata* of a recurrent nature or is under continued stress[263] It initiates the disease process by resulting in an imbalance of *Manasa doshas* predominantly *Rajo dosha* and also *Shareerika doshas* mainly *Vata*. At this stage, patient exhibits an exaggerated response to emotions thus leading to disturbed state of mind.

An emotion like *Udvega* is a common response to the happenings of life but persons having *Satva Sara* or *Pravara Sara* can resist the ill effects of such an emotion as they are seen unmoved even by severe afflictions due to the predominance of *Satva* quality. These persons having *Satva* as the essence are endowed with character such as *Mahotsaha* (courageous), *Dhirata* (Resolute) and *Tyakta Visada* (Free from grief)[265] and they have a control over their emotions. Hence, the emotions become only a transient phenomenon and do not result in any long effect in these people. On the other hand, when a person having *Alpa Satva* indulges in *Prajnaparadha*, or is afflicted by *Manobhighata* of a recurrent nature or is under stress (*Bhuyo Manobhighata)*[266]. It initiates the disease process by resulting an imbalance of *Manasa dosa* predominantly

Rajas and also *Shareerika dosha,* predominantly *Vata*. At this stage, patient exhibits an exaggerated response to emotional disturbances.

This phase of *Chittodvega* can be considered as *Sanchayavastha*. Here, *Prajnaparada* is caused due to the non-remembrance or improper memory of the earlier incidents. Hence, re-establishing the memory of the previous situations is necessary. Memory is the glue that binds our mental life, which create dispositions and influence how we behave.

When the abnormality of the *Manasa Dosha* continues to exist for a longer duration, they further reach the *Prakopavastha* in which certain psychic symptoms develop.

When the psychic responses continue for a prolonged period, they start influencing the *Shareerika doshas*. The *doshas* especially *Vata*. The *Shareerika dosa* mainly involved is *Vata* because of the following reasons –

1. *Rajas*, the predominant *dosa* which gets involved in *Chittodvega* has direct relationship with *Vata*.

2. ……. प्रवर्तकश्चेष्टानामुच्चावचानां, नियन्ता प्रणेता च मनसः ……..*Vata* is considered as the controller and promoter of mind[264].

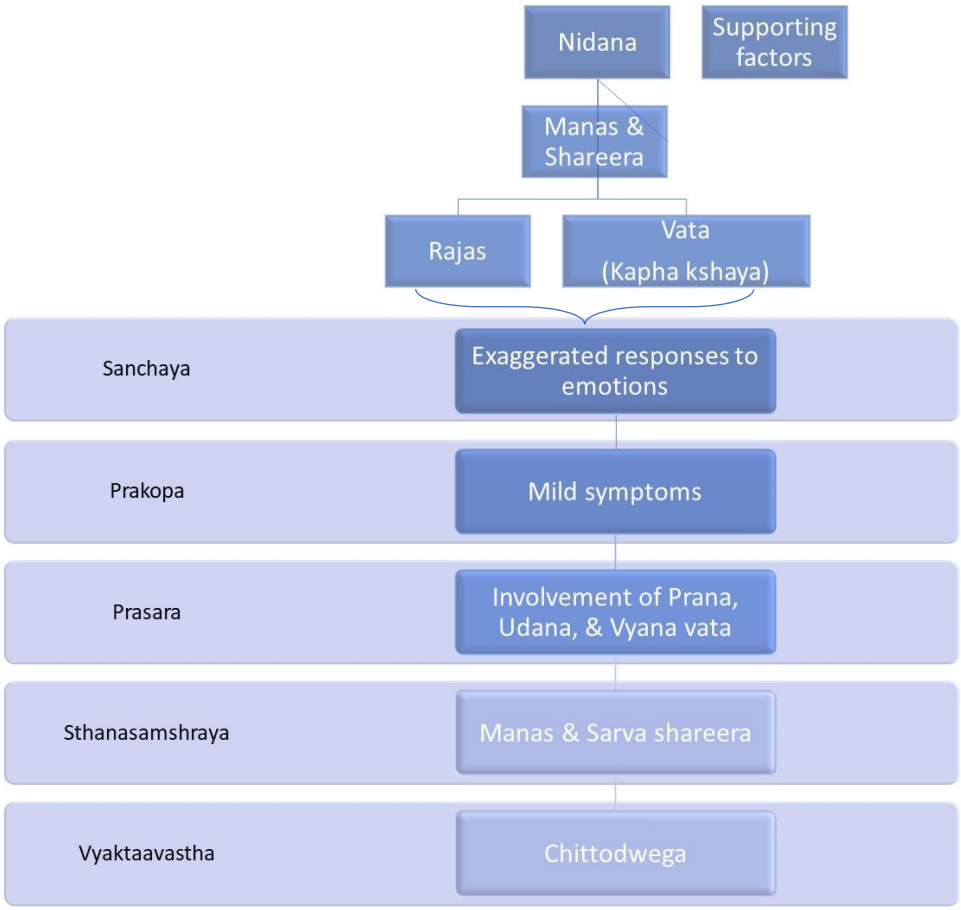
Out of the five subtypes of *Vata*, particularly *Pranavata*, *Udanavata* and *Vyanavata* get vitiated.

This condition where *manasa doshas* extend and affects *shareerika doshas* and both *shareerika* and *Manasa doshas* involve and vitiate each other can be called as the *Prasaravastha*. The combined effect of vitiated *Shareerika* and *Manasa doshas* affect *Hridaya*, *Manovaha Srotas* and Vulnerable *Dhatus* and *Srotas* resulting in *Sthanasamshraya* of the disease in *Manas* and also *Sarva Shareera,* hence the physical symptoms.

When the disease is expressed in its full-blown form, *Vyaktavastha* is reached. In this phase, the symptoms become predominant than before and attain chronicity. The disease becomes chronic and disabling as *Manasa dosha* and *Saririka doshas* potentiate each other in a vitiated state, resulting in formation of a vicious circle.

Manifestation of *Unmada*, *Atattvabhinivesa* etc., are the later stages of *Chittodvega*.

Chart No. 18: Probable Samprapti development chart:



The *Sancayavastha* and *Prakopavastha* of *Chittodvega* can be collectively called psychic phase of disease. The *Shareerika dosha* which is mainly involved is *Vata* because of the following reasons. Firstly *Rajas*, the predominant *Mano dosha* involved in *Chittodvega* has direct relationship with *Vata*. Added to this, *Vata* is also considered as the controller and promoter of mind.[267] Out of the five subtypes of *Vata*, particularly *Pranavata*, *Udanavata* and *Vyanavata* get vitiated predominantly. The predominance of *Rajas* and *Vata* further more leading to *Hrasa* of *Satva* and *Klesa Sahana Sakti* (Ability to cope up with stress). In the context of *Chittodvega* the main variety of *Kapha* which declines is *Tarpaka Kapha* resulting in the undernourishment of *Indriyas*. The *Kapha Ksaya* further more results in the decline of *Satvaguna*.

The stage of disease where both *Saririka* and *Manasa dosha* are involved and vitiate each other can be called as the *Prasaravastha* (Psychoneurotic phase). The combined effect of vitiated *Manasa* dosha affect *Hrdaya*, *Manovaha Srotas* and Vulnerable Dhatus and *Srotas Saririka* and resulting in *Sthanasamsraya* of the disease.

The stage of *Sthanasamsraya* in *Chittodvega* can also be called as the Psychosomatic phase.

As the disease becomes chronic and disabling as *Manasa dosa* and *Saririka dosha* potentiate each other in a vitiated state, resulting in vicious circle. Manifestation of *Unmada, Atattvabhinivesa* are the later stages of *Chittodvega*.

Chikitsa

One who is desirous of his own well-being should take appropriate treatment while the disease is in its initial stages.[268] *Acharya Sushruta* has included *charyas* like *dinacharya* and *rutucharya* in the context of '*Anagataabadha pratishedha'* which is placed strategically in *chikitisa shtana*. This shows the importance of *charyas* in maintenance of health as well as its crucial role in treatment.

Dinacharya when followed on a regular basis bestows one with long and healthy life (*hitaayu*/ *sukhayu*). Similarly, when a person suffers with an ailment as a result of stressed and altered lifestyle, the best treatment can be simple corrective measures and constant following of *charyas*. We can also include *dravyas* which have beneficial effects according to the ailment under examination.

Acharyas advocate on *trividha chikitsa* for any kind of diseases, especially *satvavajaya chikitsa* for mental ailments. But we do see that our day to day actions have a strong effect on our thinking and thus influence our mind. Hence *charya* also play an important role in *chikitsa*.

Nasya, when administered as *chikitsa*, will ensure a continued long-term medication and helps to check the progression of the disease as well as control of symptoms through improved health of the seat of the *manas* i.e. *shiras*.

Rajas is the main reason behind the condition of GAD and is represented by *vata dosha* in body. *Nasya* with a *singdha dravya* will facilitate the control of *vata* in a better way in comparison with any other *dravya*. Thus, it can be noticed that *taila nasy*a has an edge over the other *nasya dravyas*.

Nasya

Nose is an organ of olfaction and plays its vital role in respiratory system. There is also another distinct feature of it being connected to the brain. Thus *Ayurveda* scholars have mentioned '*nasa hi shiraso dvaram'* [269]i.e. nose is gate way to head.

तत्र चक्षुः श्रोत्रं घ्राणं रसनं स्पर्शनमिति पञ्चेन्द्रियाणि॥८॥…….

In Ayurvedic classics, *nasa* has been considered as *jnanendriya* (cognitive sense organ). *Acharya Charaka* has enumerated the following characteristics for *Nasa*.[270]

Indria	*-Ghranendria* (Sense faculty for smell)
Indria Artha	*-Gandha* (Sense objects)
Indria Dravya	*-Prithvi* (Material constituents of sense faculty)
Indria buddhi	*-Gandha jnana* (Smell Perception)
Indria adhishthana	*-Nasa* (Sense organ for smell)

Sushruta, while highlighting the *Indriya pancha panchaka* (which can be referred to Sensory System) reckoned *Panchaabhibhuta Dhamanis* (i.e.; the sense faculties perceive objects which are dominated by particular *Mahabhoota* qualities). This phenomenon tells *Gandha jnana* (the perception of smell), when the artha- *Gandha* (object for smell) is perceived by *Nasa Indriya* (nose) through *Panchaabhibhuta dhamanis*. These *dhamanis* (neurons) are specific and which can be considered for olfactory receptors/neurons necessary for the smell. These *dhamanis* are porous structures, which perceive the objects **[271]**. These can be considered for the ciliary bed/the trans-neural area of the Nasal mucosa where absorption of the drug takes place.

Also, we find reference of maintenance of the above functions with the help of medications/ procedures/routine practices.

Medicines or medicated oils administered through the nose are known as *Nasya*. -

"*Nasa Grahyam yadaushadham tad nasyam"*. **[272]**

Synonyms of *Nasya*

Amongst the various synonyms of *Nasya Karma, Shirovirechana, Shirovireka* and Murdha *virechana* are suggestive of elimination of *Doshas* from the *Shira* or parts

situated above the clavicle, whereas the terms *Nastaha* and *Navana* indicate site of administration.

Historical background of Nasya

We find profuse mentioning of '*Nasa'* in Vedas as '*Indriya'* or one among various '*Chidra Dwara'* of body. Even the placement of *Nasa* in *shiras* is also specified along with the information that it has two *chidras* (nostrils).

The procedure of *nasya* is found mentioned in many contexts in *Vedas*, the scope of which extends from *Nasya* being explained as the pathway in expelling *doshas* to the route of administration of life saving medications. This shows that the procedure was very popular and was practiced in all its glory. Samhita kala was the period of documentation, where in the detailed elucidation of the importance, methodology, indications, contra-indications, drugs used and the benefits etc, are cited in detail.

Classification of *Nasya*

Acharya Charaka gives clarity in classifying *Nasya* by categorizing them. Whereas, other opinions stick to one particular type of classification based on its applicability in their further explanations.

It is clear from descriptions that the following types of classification of *Nasya Karma* are available in *Ayurvedic* literature.

- Based on the pharmacological actions viz. *Rechana, Tarpana* etc.
- Based on the preparation of drug and the method of its application e.g.
  - *Dhmapana* (Powder is blowed)
  - *Avapida* (Extracted Juice is used)
  - *Dhuma* (Smoking through nose)
- And based on the part of drug used. E.g. *patra*, *pushpa*, etc.

Apart from classification on above basis other criteria are also described as follows :

- According to preparation e.g. *Avapida nasya* which indicates the use of expressed juice for administration.
- According to the dose to be administered into the nostrils e.g. *marsha* and *pratimarsha*.

Navana Nasya this is the variety where in the installation of lipid based medication is done. To achieve rapid diffusion through nasal mucosa the lipid soluble drugs are preferred as the mucosal cilia are lipophilic in action.

The two sub classifications, *Snehana* & *Shodhana* have differences in dosage and are based on the effect desired. *Snehana Nasya* does nourishment while *Shodhana* cleanses the *doshas*. The timings of *Nasya* administration seems to be based on the visibility of sun.

Avapeedaka Nasya is aqueous extraction based *Nasya*. Which has a stimulating effect rather than nourishment or cleansing.

Dhmapana Nasya has a powder based medicine, used mainly for *Shiro Rogas*. It has a stimulating and cleansing effect.

Aacharya Sushruta considers *Dhuma* also as a sub category of *Nasya*, & is inhaling medicated smoke as the administration of drug enters through the nose. However, *Dhuma* is one such method of drug administration which does not involve any contact between the physical drug and the target site/organ. This ensures maximum prevention from micro-contamination.

The different forms of *Nasya* e.g. *churna* (powder), *sneha* (unctuous substance), *kvatha* (decoction) *e.t.c.* acts through diverse mechanisms, mainly through vascular and neural path in the body. Nasal drug absorption mainly depends on the physiological conditions of the nose and also physico-chemical properties of drugs. Ancient *Ayurveda* scholars have considered various factors which influence nasal drug absorption and accordingly have detailed the procedure of *Nasya* for maximum absorption of nasal drug.

Pratimarsha Nasya

The *nasya* which is included in the *dinacharya*, with the virtue of its multidimensional benefits, and ease of administration is *Pratimarsha*

Pratimarsha Nasya is a very innocent procedure, it never produces any complication and by its virtue, checks any disease process [274]

Procedure: The index finger is dipped in the appropriate *Sneha*, in this case, either *Brahmi taila* or *Anutaila* up to 2 phalanges depth, and then oil is allowed to drop from the finger in to each of the nostrils. Two drops should be administered in each nostril.

The advantage of *pratimarsha nasya* lies in the following:

1. Minimal dose (two drops) which doesn't cause much discomfort

2. Continued protection and desired effect can be observed, without any adverse effects.
3. is flexible enough in terms of timings options, place, and environmental conditions.

The only disadvantage is that, as the dose is very minimal, it can't be used in *ati vruddhavastha* of *dosha* as it is not able to take out the *pravruddha dosha.*

Timings-seasons- dose

For administering *nasya,* the timings can be fixed in many ways like *dosha* wise preferable time of the day or season wise time of the day, etc., For *Vataja* diseases, the best timings are said to be mornings or evenings.
It can be observed that the timing is majorly based on the visibility and mildness of sun, *sadharanata* of environment, and *dosha avastha*.
Shrangadhara mentions that *nasya* can be administered even at night if required. The 14 timings for *pratimarsha nasya* give it an added advantage of selecting options based on *dosha*, disease, etc.
Dose: *Hina Madhyama and Uttama matra.*

Indications and contra indications Indications:

Nasya is indicated both for physical and mental diseases or conditions. Physical conditions mainly include *Shirorogas, Galarogas, Visha,* etc diseases and many of the *Vataja* disorders which involve *shiras*.

Apart from diseases of physique, majority of mental diseases are also involved, even extreme emotions like *krodha, bhaya, chitta vikara, Vyakulata*, etc states are also indicated for *nasya*. *Pratimarsha nasya* on the other hand is indicated in in any age, any season, even in unsuitable time & season i.e. in *Varsha* and *Durdina*, and also majority of contraindicated conditions for other types of *nasya*.

Contraindications:

Some special conditions have been mentioned where *Nasya* should not be administered, otherwise various complications may occur. In general, in all patients
Nasya should not be administered on *Durdina* (Rainy day) or in *Anrutu* (*Viparita Kala*).

There are very few contraindications for *Pratimarsha Nasya*, such as: *Dushta Pratishyaya*, *Krimija Shiroroga*, *Badhirya*, *Bahudosha* , *Madhyapi*, and *Utklishta Doshas*. – Contraindication in such persons is because the *Sneha Matra* is quite insufficient to eliminate *Doshas* or do *Kriminashana* and already aggravated *Doshas* may get vitiated further [274]

Karma – Purva, pradhana, paschat

***Purva Karma* (Pre-Procedural Measures)**

Importance of the *Purva karma* in *Nasya karma* is to facilitate for drug absorption through Nasal neurons and paranasal sinuses. In this, the repeated *Paanitala swedana* (fomentation by rubbing of palms) causes an impact on blood circulation to head. The Vasodilation of the surface of the face is said to facilitate the drug absorption in a better way. Another aspect of *Purva karma* is, the posture given during *Nasya karma.* It has its relevancy in two ways:

1) It creates a clear path way in channels of nasal cavity and Naso-pharynx, for the drug to travel.
2) The drug administered will reach the upper part of the Nasal cavity and thus helps in stimulating the olfactory neurons and other structures.

***Pradhana Karma* (Main-Procedural Measures)**

The drug when administered should remain in the Nasal cavity for a certain period. Due to the environment created by *Purva karma*, in the *Pradhana karma* the drug has a better chance of adsorption, especially in the air sinuses, as well as providing sufficient time for stimulating olfactory neurons and the structures around.

घ्राणश्रोत्राक्षिजिह्वासन्तर्पणीनां सिराणां मध्ये सिरासन्निपातः शृङ्गाटकानि.....

Classics have mentioned the *Shringataka Marma*, an area where there is an association present between the *Ghrana* (nasal), *Akshi* (visual), *Shrotra* (auditory), *Jiwha* (lingual) and *Siras* (nerves and vessels) [275].

Acharya Charaka says the *sneha pradhana Navana Dravya* (lipid processed herbal drug), gets absorbed in the *Shringataka* region[276].

The researcher's reference above indicates that lipid-soluble drugs are absorbed much more efficiently through the nasal mucosa.

Acharya Indu mentioned the exact *sthana* of the *Shringataka Marma*

***Paschat Karma* (Post-Procedural Measures)**

Absorption of the drug is also facilitated by the Paschat karma followed during the procedure. This starts with the action of massage over the following regions of face: frontal, temporal, maxillary, mastoid, and also of neck. After drug administration, when the drug reaches the distal ends of the airways, the patient is asked for *Nishthivana Kriya* (spits out the drug).The medicine should reach on the both sides of the throat; otherwise the drug adsorption doesn't occur in the *siras* properly[277].

The drug used for *Navana/Marsha* is processed with *sneha paka vidhi* till *Mrudu paka* attains. This also has the relevancy in facilitating the stimulation as well as the absorption of the drug

In human small particles of size 0.5 to 1.0μm tend to deposit in a naso pharynx. These particles become finer through undergoing *Mrudu paka*, which may facilitate the drug absorption at the level of the Naso pharynx.

The duration of the *Nasya karma* course varies from 7-21 days. It differs for each classification of *Nasya karma*. It takes many days for the medicine to work and get the symptoms you need. Because of the of the drug continuous stimulation to the olfactory neurons should facilitate the stimulation of the higher centre (i.e., to the olfactory bulb). Once this area is stimulated, then this stimulation is continued to the parts of Amygdala, Hypothalamus, to the parts of Basal Ganglia and to the brain stem also. This whole system is called the limbic system, which controls emotional, visceral somatic reactions, changes in behaviour, motivation, biological rhythms, and respiratory, circulatory, and endocrine changes.

Other factors:

Lipid form of medicine facilitates drug absorption- Maximum *kalpas* used for *nasya* are prepared in lipid base. This facilitates the absorption of medicine through mucous membrane and capillaries. According to pharmaceutical research, lipid soluble drugs diffuse easily by dissolving in lipoid matrix of membrane. A more lipid soluble drug can attain a higher concentration in the respective membrane and diffuses quickly. Lipid soluble drugs pass easily across the surface of the complete capillary endothelium.

Effect of position of patient on drug absorption- In *Ayurveda*, position of patient is given as supine with head tilted. Due to this position, drug molecules come in contact with olfactory mucosa which is the pathway for medicine. This is also proved by pharmacological studies.

Surface area for drug absorption- It is considered that larger the surface area more will be absorption. Presence of arrangement of the conchae and meatuses helps in increased surface area in internal part of the nose. Ideally drug doses should be divided in half and each nostril receives half the dose, which doubles the surface area. This is the same as described in *Ayurveda* classics.

Effect of form of medicine- Administration of medicine is described in the form of drops. Current studies indicate that drops spread more extensively than spray, powder etc.

Effect of *paschat karma*- According to *Ayurveda*, after giving *nasya* patient should receive *tapasweda*, *mardana*, *dhuma* and *kavala*. It increases efficacy of the treatment as well as removes remaining *doshas*. Modern studies also proved that application of heat and muscular exercise accelerates drug absorption through vascular path by increasing blood flow.

Mode of action of *Nasya*.

Background for *Nasya*:

- In *Charaka Samhita*, *nasya* is mentioned as best treatment for *shiroroga* because drug introduced through it enters *uttamanga (*~brain) and removes morbid *doshas* responsible for diseases. For explaining how *nasya* removes *doshas*, example of *munja* & *ishika* is given in commentary of *chakrapani*. According to *chakrapani* the *nasya dravya*, administered, enters into head and draws out exclusively morbid *doshas.*

- *Acharya Gangadhara Roy* provides different opinions in his commentary. He states that the medicine *administered as nasya* enters into *shiras* and removes *doshas* which are adherent to *majjapeshi*.

- In *Sushruta Samhita*, *'mastulungagam*' (leakage of *mastulunga* through nose) is symptom mentioned in *atiyoga* (excess activity) of *virechana nasya*. It states that there is a pathway-relation between nose and brain.

- In *Ashtanga Hridaya*, *nasa* is described as gateway (opening) for head. So, drug administered through it goes to head and destroys the diseases appearing in that region. Therefore, *nasya* is a special treatment for *urdhvajatrugata vyadhi*. In *Ashtanga Sangraha* too, nose is mentioned as entrance gate for head.

- Medicine introduced through *nasa* reaches *Shringataka marma* and all channels of eye, ear and removes morbid *doshas*. *Acharya Sushruta* has referred to *Shringataka*

marma as a *Sira marma* which is present in the middle of the confluence of *siras*, and is supplying nourishment to the structures of nose, ears, eyes & tongue.

- Thus, *nasya* is the best treatment for *shirorogas* as it goes faster to target organ and also it bypasses the first metabolism.

- Lipid soluble substances have greater affinity for passive absorption through the cell walls of nasal mucosa. Further, drug absorption can be enhanced by local massage and fomentation.[278]

Mode: *Nasya* given will stimulate the nerves and also gets absorbed through the mucous membrane, enters *Shrungataka marma* and affects the manas travelling through the *Indriya -pranavaha srotas*. Thus calming it down and inducing *vimalata* and *prasada* in *Indriyas* and intern *Manas*, - leading to more stable state of mind, and hence helping in control of *Chittodwega*. The continued administration of the same procedure will lead to established benefits and remission of *Chittodwega*.

Timing of *Nasya*:

Out of 14 *kalas* for *Pratimarsha nasya*, the first one (after getting up in morning) is considered as *manah prasadakara*.

The respective time is when the *hrudaya kamala* opens up and the body is getting activated and is ready to receive the external stimulus. Any impressions during this time will have a prominent impact. As the *Muhurta* for getting up in morning is also *Brahma muhurta*, it highlights the speciality of influence on the various aspects of *medha* and *smruti*. The *kala* is also *vata kala*, hence the stimulation to the faculties carrying mind is more impactful.

That is why the morning (*Prathama kala*) time administration of *nasya* has added benefit in this condition.

Role of Dravya taila

Anutaila

The term *Anu* is indicative of *Sukshma*. Thus *anutaila* is a preparation in which the *Taila* becomes fortified with herbs which in turn are converted to minutest form through its special method of preparation. Thus it acquires a quality of *sukshmata* which can penetrate minutest *srotas*.

When considered the drugs used in the preparation, most of them are *Rasayanas* and *tridoshaghna*, especially *vata hara*.

Because of its versatile properties, *anutaila* is recommended for routine usage for *nasya* by many of the acharyas confirming the beneficial effects on *shiras*. This property of *anutaila* was incorporated in the current study to bring about a positive change in the mental status and establish normalcy.

Brahmi Taila

Along with the above benefits of oil based *nasya dravya*, *Brahmi taila* is *medhavardhaka, rasayana* and *smruti vardhaka*. *Nasya* of this *taila* will not only give the benefits of the *karma*, but also impart the benefits of *Brahmi, Amalaki* and *Sneha*. *Brahmi taila* can improve the *smriti* of the patient and thus can help prevent the *prajnyaparadha*.

Discussion on Methods

Level of study:

The symptoms of GAD in its *poorvaroopavastha* are not much severe and do not require continuous monitoring and stay in the hospital. Therefore, the study was undertaken on OPD basis.

Grouping:

The grouping was made on based on the fact that efficacy of *Nasya karma* was to be studied as a part of *dinacharya*, the well-established medicine explained for *pratimarsha nasya*. Also, the medicine explained in the same context,- '*anu taila*' was selected.

As the condition was related to mental health, the well - known drug of choice which is also a *rasayana* and hence fit to be administered on daily basis, - *brahmi taila* was selected.

Therefore, subjects of group A were administered *brahmi taila* and subjects of group B were administered *anutaila*.

Both groups had common procedure of *pratimarsha nasya*, but only the medicine administered varied for each group viz., *Anu-taila* and *Brahmi taila*.

Sample size:

The two groups consisted of 54 patients each, totaling to 108 patients. The sample was derived using the software package *Rhosoft* as n= 73 (Assumptions:

Precision = 5.00 %

Prevalence = 5.00 %

Population size = 7563477 (Bengaluru)

95% Confidence Interval specified limits [0%-10%]

(These limits equal prevalence plus or minus precision)

Estimated sample size:

n = 73

Hence, to round off the number to the nearest higher number, the groups were intended to have 50+ patients in each group.

Duration of the study was restricted to 3 months. As the research was for a procedure of *dinacharya*, the patients were followed till three months for procedure of *Pratimarsha Nasya*. Currently majority of patients are continuing the process of *Pratimarsha Nasya* till date. The follow up was fixed once every month so as to keep the patient's condition under observation and also to keep the patient motivated.

Research Design used was 'Randomized comparative clinical trial method' and Judgment sampling method.

The patients were first identified through Judgment sampling method wherein the patients were scanned for the inclusion criteria and then the willing patients were *randomly allocated in the two groups* for further comparative trial, each group consisting of 50+ patients.

The patients were selected from OPD of Sri Sri College of Ayurvedic Sciences and Research, Bengaluru on the basis of judgmental sampling and then were randomly distributed in each group through lottery method. (Picked serial numbers were assigned to the respective groups) The follow-up was kept during the treatment after every month so as to ensure the continuity of administration of *nasya*.

Diagnostic and Assessment criteria was taken up through two scales - Hamilton's rating scale for Anxiety neurosis and Clinical Global impression (CGI) scale for severity and improvement, along with general examination to ensure proper fulfilment of inclusion criteria.

Hamilton's rating scale for Anxiety neurosis:

The HAM-A was one of the earliest rating scales, which was developed to measure the severity of anxiety symptoms and is still used till date in many researches and clinics. The scale has 14 items, each defined by a list of symptoms. It measures both psychological anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints linked to anxiety).

Scoring:

Each item is scored on a scale from 0 (not present) to 4 (severe), with a total score between 0 and 56, where <17 indicates mild severity, 18-24 mild to moderate, and 25–30 moderates to severe.[279]

Clinical Global impression (CGI):

Among the most widely used brief assessment tools in psychiatry, the CGI is an observer-rated 3-point scale that measures disease severity (CGIS), overall change or improvement (CGIC) and therapeutic response. The disease severity and instrument improvement sections are used more frequently than the therapeutic response section in clinical and research settings.

Scoring:

CGI is rated on a 7-point scale, with a disease severity scale using a response range from 1 (normal) to 7 (among the most seriously ill patients). CGIC scores range from 1 (much better) to 7 (much worse). Treatment response ratings will have to be taking in to account, both therapeutic efficacy and treatment-related adverse events. These range from 0 (marked improvement and no side effects) and 4 (unchanged or worse). Each component of the CGI is given a separate rating; the instrument does not yield a global score.[280]

Inclusion Criteria:

The age between 18-50 years of either sex were considered as this is the age group which has multiple reasons for stress induction, and are in need of a preventive modality.

Newly diagnosed cases (3 months) were taken up for study as this is a preventive modality and aims at primary prevention rather than curative. Ambulatory and cooperative patients were included because the treatment duration extended for 3 months and the patient's continuity for procedure had to be ensured.

Exclusion Criteria

Severe cases having interference with concentration and communication was excluded as it was difficult to convey the motive of the research and also the patients required established medication and therapies.

Patients depending on any other medicines for GAD were also excluded as the intended research was on prevention of GAD rather than treatment.

Patients with systemic diseases like Hypertension, Diabetes and Hyperthyroidism were also excluded to avoid the influence of the disease or its medication on the research topic and also to maintain uniformity in research population.

Discussion on Observations and Results:

In this study 108 patients identified with symptoms of GAD and fulfilling the inclusion criteria were selected for the clinical trial by judgmental sampling method.

The patients were then randomly divided in 2 groups, comprising of 54 patients each.

The data recorded are presented under the following headings:

1. Demographic data
2. Specific data related to disease of individual group
3. Results obtained for individual group

1. Demographic data Age:

The observations showed that maximum patients were from the age group of 30-40 years of age which may be due to increased stress level of work, family, finance, etc., and decreased coping ability.

Gender:

In this study group, females were found to be more affected than males. This may be the result of balancing the work and family life.

Occupation:

Maximum number of the patients were either in some kind of service, they undergo more mental strain rather than physical strain which may be key factors in precipitating the *Cittodvega*.

Prakruti:

Maximum i.e. 47.7% patients were of *Vata – Pitta*, and *Vata Prakruti*. Mainly *Vata* along with Pitta are main provocative *Doshas* which help in *samprapti* of *Cittodvega*. Thus, it can be said that *Vata* and *Vata– Pitta Prakruti* people are more prone to *Cittodvega*. In the same way, it can be said that *Sama prakruti* patients are less prone to *chittodvega*.

Hetu:

The *hetu* was targeted on identifying the stress inducing factors and were grossly classified in to work, family, and finance stress. It was observed that work and family stress gained upper hand which might depend on the fact that man is a social animal

and he depends on his companions for fulfillment of his emotional needs. When these needs are not met with, the mental balance gets disturbed, which may lead to conditions like *chittodvega.*

2. Specific data related to disease of individual group Symptoms:

In the study group Irritability and restlessness symptoms were found to be more common than other symptoms. These two symptoms actually contribute towards the core meaning of *chitodvega*.

The next highest number of patients suffered from natural consequence of sleep disturbance due to increased mental activity and inability to relax which later results in to increased muscle tension and body pain, which intern results in to fatigue. In addition to these symptoms there's reduced concentrating power. Thus we can actually see the development of the condition into a full-fledged disease.

HAM-A scale:

The scale shows a positive impact of treatment through reduction in number of severe cases from 3 to zero, and reduction of moderate cases from 16 to 1 and as a corollary mild cases increased from 35 to 53 patients in group A i.e. *Brahmi taila pratimarsha nasya*. also 3 severe cases to 0 and 5 moderate cases to 1 and also increase in number of mild cases from 46 to 53 in group B i.e. *Anu taila pratimarsha nasya*.

3. Results related data for individual group

CGI wilcoxan

The test used here is Wilcoxon's signed rank test. It is a non-parametric test. It is usually used when comparing two related samples (also paired samples, or repeated measures on a single sample) to assess whether the mean ranges of the given population differ. (that is, it is a test of paired differences).

In both groups there was significant difference between CGI-S and CGI- I, which showed that there was much improvement after administering PN for three months. Between the groups

It was observed that there is not much difference between the Clinical Global Impression- Severity score and Improvement score between group A & group B.

Even though there was good difference between before and after treatment in each of the groups, there was not much difference between the two groups. This information actually indicates that there are other factors playing.

Fredman test

It is one way Anova for non-parametric data. It will find the variation within the group, between the group and total variation.

Here the mean ranks are reducing from day 30 to day 60 to day 90 in both groups. It can be inferred that there is improvement in symptoms associated with HAM-A scale.

Man Whitney U- test

We used the Mann Whitney test to - Determine whether the population medians of two groups differ. When we considered HAM – A score of out-come of day 90 of two groups, there was not much difference between the groups. Hence it can be said that both populations show similar changes. Although group A showed slightly better result than group B, but there is no significant difference.

Wilkoxen for HAM- A

As explained above, the Wilcoxon's signed rank test is a non-parametric test. When compared difference in the scores of before treatment and after treatment of HAM-A of group A and group B, there is difference with the significance level of 0.000 indicating positive changes in the score.

CONCLUSION

- To achieve the state of health, one has to follow few rules and regulations explained in Ayurveda, which include Dinacharya, Rutucharya, Sadvritta, Dharaneeya- Adharaneeya vegas, Rutushodhana and the rules pertaining to Ahara. The diseases arising from non-following of these charyas and rules can be treated by restarting following the rules with some changes in materials used such as Pratimarsha Nasya in charya as a treatment, which the study aimed.
- The treatment given in the form of any charya, especially Dinacharya, will ensure a continuous dose of medicine in a safe way for long term which will not harm the patient with any side effects.
- The demographic data suggested that the majority of patients were in the age group between 30 to 40 years and females. The VataPitta prakruti seemed more common than others. The patients also suggested work or family related stress to be more common amoung them.
- The patients taken for study mostly had mild symptoms and were not yet initiated on any other form of medication. Most of them did not even know about their condition till diagnosed. It was observed that there was significant difference found in the scores of before treatment and after treatment in HAM-A (A clinician-administered assessment of psychic and somatic anxiety symptoms, which are rated in severity from mild to severe) of group A and also in group B with significance level of 0.000. As the patients were asked to continue Nasya, the second follow up showed that the beneficial effect was continued for majority of patients, and hence it can be said that the procedure of pratimarsha nasya may prove helpful in not only controlling the disease progress, but it may also pave the way for the effective and non-invasive techniques in the treatment of GAD, when started in early stages.
- The difference between CGI –S & CGI –I (Designed to assess global severity of illness and change in the clinical condition over time) of group A and Group B was found to be highly significant with significance level of 0.000. Hence, the Null Hypothesis (H0) was rejected and Research Hypothesis (H1) was accepted. However, it was

noticed that there was not much difference between the Clinical Global Impression- Severity score and Improvement score between group A & group B, which shows that, Pratimarsha Nasya as a procedure of Dinacharya is highly effective in the management of Generalized anxiety disorder.

- Though, Brahmi Taila was seen to be more effective as Mana prasadakara by the virtue of its properties, it was not reflected statistically to be effective in GAD in comparison with Anu taila pratimarsha nasya.
- Therefore, the Role of Taila Pratimarsha Nasya in management of GAD, especially the new cases which have not yet been initiated on other forms of medicine, is established.

SUMMARY

Treatment administered in the form of any charya, especially Dinacharya, will ensure a continuous dose of the drug in a safe long-term way that will not harm the patient with side effects, hence an attempt was made to incorporate the Nasya charya as a part of treatment.

The study involved 108 patients identified with symptoms of GAD, of which 54 subjects were classified as group A and received Pratimarsha Nasya drops with Brahmi Taila drug. 54 subjects were classified in group B and received Pratimarsha Nasya drops with Anu Taila drug.

Research Design taken up was randomized comparative clinical trial conducted in two groups, each group consisting of 50+ patients. The patients were selected from OPD of Sri Sri College of Ayurvedic Sciences and Research, Bengaluru on the basis of judgmental sampling and then were randomly distributed in each group through lottery method.

A clinical and social history was taken. The patients were assessed on the basis of Hamilton's anxiety rating scale (HAM-A), and Clinical Global impression (CGI) scale.

The difference between CGI –S & CGI –I of group A and Group B was found to be highly significant with significance level of 0.000.

It can be said that the pratimarsha nasya procedure may be useful not only to control progression of disease, but it can also pave the way for effective and non-invasive techniques in the treatment of GAD, when implemented at an early stage.

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ABBREVIATIONS

- च.सं. – Charaka Samhita
- सु.सं. – Sushruta Samhita
- अ.सं. – Ashtaanga Sangraha
- अ.हृ. – Ashtaanga Hrudaya
- भे.सं. – Bhela Samhita
- का.सं – Kaashyapa Samhita
- हा.सं. – Haareeta Samhita
- यो.र. – Yoga Ratnaakara
- भा.प्र. – Bhaava Prakaasha
- शा.सं. – Shaarangadhara Samhita
- मा.नि. – Maadhava Nidaana
- भै.र. – Bhaishajya Ratnaavali
- श.क.द्रु. – Shabda Kalpa Druma
- सू – Sutra Sthaana
- नि – Nidaana Sthaana
- वि – Vimaana Sthaana
- चि – Chikitsaa Sthaana
- GAD – Generalized Anxiety Disorder
- Su. - Sushruta
- Ch. - Charaka
- As.H - Asthanga Hrudaya
- Ka. - Kashyapa
- Sha. - Sharangadhara
- Su. - Sutra
- Chi. - Chikitsa
- Si. - Siddhi
- Utt. - Uttara

Introduction:

By definition, Swastha is, -

Samadoshah samagnischa samadhatu-mala-kriyah I

Prasanna-atmendriya manah swastha ityabhidhiyate II [1]

- a state of balance between the factors like - *Dosha, Agni, Dhatu, Mala,* leading to a proper functioning (*Sama kriya*), which, in long run leads to *Prasannata* of - *Atma,* - *Indriya,* and –*Manas*. Even though 'Dalhana' states that the term 'Atma' in the second line indicates '*Samanaska* Shareera", still we find that Manas is separately quoted. This might be to indicate the independent existence of Manas. WHO also substantiates this view in its definition of health – *Health is the state of complete physical, **mental**, and social wellbeing, and not merely absence of disease or infirmity.*[2] To achieve the state of health, one has to follow few rules and regulations explained in Ayurveda, which include – *Dinacharya, Rhutucharya, Sadvrutta, Dharaneeya-Adharaneeya vegas, Rutushodhana,* etc, and the rules pertaining to Ahara.

Even though one becomes familiar with the concept of health, the maintenance part is specially the difficult one. One of the major reasons among the hindrances to health, which is easily overlooked, is the 'Stress'. 'Stress' has become inevitable in the day to day scenario of man. One can either take it positively and overcome, or succumb to it. Our Acharyas recommended following of *Dinacharya, Sadvrutta* and *Dharaneeya vegas*, so as to avoid the negative effect of stress. These rules were formed to maintain the balance between man and his environment (social aspect), and the internal balance of man himself (mental aspect). *The environment plays an important part in forming a link between the agent of the disease and the host.* Dinacharya plays an important role in controlling the environment (external and internal). As its definition goes – ***Dine dine charya dinacharya I***… i.e, it refers to the activities carried out on a regular bases. *Pratimarsha* nasya is one such procedure in dinacharya, which should be practiced regularly.

Generalized anxiety disorder (**GAD**) is an excessive anxiety and worry about several events or activities for a majority of days during at least a 6-month period. This excessive worry often interferes with daily functioning, as individuals suffering GAD typically anticipate disaster, and are overly concerned about everyday matters such as health issues, money, death, family problems, Friendship problems, Interpersonal relationship problems or work difficulties

Anxiety is prolonged by uncertainty, and therefore it is important to set out a clear plan of treatment. Patients with recent onset anxiety need no more than counseling, but the more severe and persistent cases usually require additional cognitive or behavioral or drug treatment. ***Pratimarsha Nasya*** not only ensures the continued medication, but provides strength to Shiras. Hence the topic is taken up for study.

Review of literature:

Nasya is one of the *dinacharya* procedures, which can be explained in simple terms as follows – *Nasayam praneeyamanam aushadham nasyam II* [3](Ast. sam. su 29/3)

Nasya, and specifically ***Pratimarsha*** nasya is considered as '*Aajanma satmya*'[4] (Ast. sam. su 29/22)

Sushruta states that Nasya relives one from urdwa jatru gata rogas and brings about *vimalata in Indriyas.*[5] (Su Chi 40/54)

Pratimarsha nasya when given in *pratah kala* is considered as *Manah prasadakara*. [6,7](Ast san 29/29, Su Chi 40/52)

Generalized anxiety disorder[8] is defined as- *'The anxiety disorder that is characterized by excessive, uncontrollable and often irrational worries about everyday things that is disproportionate to the actual source of worry.'* worry is associated with somatic symptoms such as muscle tension, etc. The anxiety is difficult to control and is subjectively distressing and produces impairment in important areas of a person's life.

Chittodwega can be correlated with **generalized anxiety disorder** on the basis of following considerations. The etymology of Chittodvega clearly highlights the anxious status of mind.

The term Chittodvega[9] (Ch. Vi. 6/5) is taken to be a construction of two terms – Chitta + Udvega, meaning 'The anxious state of mind', depicting the condition of anxiety.

Ayurvedic herbs like Brahmi, fulfill the requirements of a safe drug in the treatment of Chittodwega. Here a clinical trial is planned to evaluate their efficacy in GAD.

Brahmi Taila [10] is considered to be Saumya and Sheetala, It is Buddhi vardhaka and Kesha vardhaka. It is known to increase the strength of mind the power of eyes.

Anutaila is one of the best medicines advocated for Pratimarsha nasya.

Scope/need for study:

- *Epidemiological transition explains the increasing prevalence.* Research on psychiatric epidemiology shows that mental disorders are becoming common.
- Patients having mixed anxiety-depressive disorder are at significantly increased risk of developing full-blown depression or anxiety.
- In addition to coexisting with depression, research shows that GAD often coexists with substance abuse or other conditions associated with stress, such as irritable bowel syndrome

- *The current study may prove helpful in controlling the disease progress leading to some of the prominent systemic disorders which accounts for the higher mortality rate in India.*
- *Also, it may pave the way for the effective and non-invasive techniques in the treatment of GAD.*
- As a secondary prevention, the treatment procedures may lead to *arrest the development of the disease and reversibility of the pathogenesis*.

Aim & objective of the study:

- To compare the effect of Brahmi taila pratimarsha nasya and Anu-taila pratimarsha nasya in management of generalized anxiety disorder.

MATERIALS AND METHODS:

A. Level of the study: O.P.D

B. Center for the study: Sri Sri College of Ayurvedic Sciences and Research, Bangalore

C. Number of groups: Two groups

D. **Sample size:** The clinical trial is conducted in two groups, each group consisting of 50 patients.

E. Duration of the study: 3 months.

F. Schedule of the therapy & Research Design**:**

It is a randomized comparative clinical trial conducted in two groups, each group consisting of 50 patients.

Group A: Brahmi taila Pratimarsha nasya

Group B: Anutaila Pratimarsha nasya

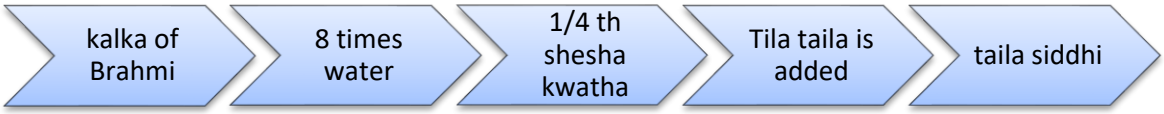
G. **Follow – up:**

1. After 1st month of starting treatment.
2. After 2nd month of starting treatment.
3. After 3rd month of starting treatment.

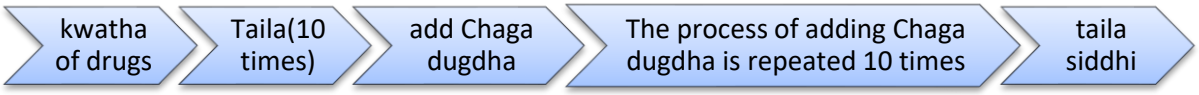
H. **Diagnostic and Assessment criteria:** Hamilton's rating scale for Anxiety neurosis and Clinical Global impression (CGI) scale.

***I.* Drugs:**

1. Brahmi taila.[10]



2. Anutaila[9]



***J.* Source of Drugs:** Trial drugs will be prepared from reputed pharmacy. The Raw materials and the finished product standardization will be procured from a GMP certified company.

***K.* Source of data:** The patients will be selected from OPD of Sri Sri College of Ayurvedic sciences and Research, Bangalore.

Sample size: (In consultation with statistician)

Assumptions:

Precision = 5.00 %

Prevalence = 5.00 %

Population size = 7563477 (Bangalore)

95% Confidence Interval specified limits [0% -- 10%]

(These limits equal prevalence plus or minus precision)

Estimated sample size:

n = **73**

Research methodology – The methodology used will be 'Randomized comparative clinical trial'.

Procedure of Nasya:

1 The patient is made to lie in supine position; the head should be 'Pralambita' or lowered down. The lower limbs should be kept slightly higher.

2 The patient should take mild abhyanga to face.

3 The lukewarm medicine is administered in the patient's nostrils one after other.[11] (Ch. Si 9/92-102).

4 The patient should take mild swedana to face, and rest for about two minutes.

5 The patient is instructed properly for the dos and don'ts after the procedure.

Inclusion Criteria

1. The age between 18-50 years of either sex will be considered.
2. Presence of cardinal features of GAD *(Restlessness or feeling keyed up or on edge, Being easily fatigued, Difficulty concentrating or mind going blank, Irritability, Muscle tension, Sleep disturbance).*
3. Newly diagnosed cases (3 months).
4. Ambulatory and co-operative patients with informed consent.

Exclusion Criteria

1. Sever cases having interference with concentration and communication.
2. Patients depending on any other medicines for GAD.
3. Patients with systemic diseases like Hypertension, Diabetes, and Hyperthyroidism etc.

Assessment Criteria: Routine examination and Assessment

A detailed clinical and social history will be taken. The patients will be assessed on the basis of Hamilton's anxiety rating scale, and Clinical Global impression (CGI) scale.

Clinical Global impression (CGI) scale (Annexure I)

The complete CGI -Clinical Global Impression Scale consists of three different global measures designed to rate the effectiveness of a particular treatment:

. CGI-S assessing Illness Severity.

. CGI- C assessing Global Improvement or Change.

. Efficacy Index or Therapeutic Response.

Thus, is the CGI is the general name for two scales:

.CGI –Severity scale (CGI-S) and

.CGI –Change scale (CGI-C).

The CGI-C scale measures the change in the patient's clinical status from a specific point in time Using a 7-point scale, ranging from - 1 (very much improved) to 7 (very much worse), with a score of 4 indicating no change

Type: Clinician-rated scale.

Main indications: Designed to assess global severity of illness and change in the clinical condition over time.

Time period covered by scale: Current clinical state.

Time required for completing the rating: 1-2 minutes after a clinical interview.

Hamilton rating scale (Annexure II):

1. Anxious 2.Tension 3.Fears 4.Insomnia 5.Intellectual (cognitive)
6. Depressed mood 7.Somatic (muscular) 8.Somatic (sensory)
9. C.V. symptoms 10. Respiratory symptoms 11.G.I.symptoms
12. Genitourinary symptoms 13. Autonomic symptoms 14. Behavior at interview

Scoring: None - 0

Mild- 1

Moderate- 2

Severe - 3

Severe / grossly disabling- 4

Statistical analysis:

Scoring will be given to the Clinical parameters, Clinical Global impression Hamilton's anxiety rating scale and the improvement will be assessed based on the statistical methods.

The data collected will be subjected to statistical analysis through Chi-square test.

Ethical clearance: Ethical clearance will be taken from the Ethical committee.

Result assessment:

Results will be assessed based on the observations, the improvement in Ayurvedic clinical features, and Hamilton's rating scale.

Discussion:

Discussion will be based on the literary research made on the concepts, observations and the results obtained.

Conclusion:

The conclusion of the study will be drawn based upon the response to the treatment and discussion.

Review of previous work done:

1. Patel Ratna (2002) – 'A comparative study on the role of medhya ghrita administered by nasya and oral route in the management of vatika shirah shola (tension heahache).

2. Hetal Dave (2006) – 'A comparative study on the role of medhya rasayana yoga & dashamoola kwatha dhara in management of vatika shirahshoola (tension headache) - Jamnagar (Kayachikitsa).

3. Parsania Sanjay C. (2001) – 'A Clinical study on the role of jala-dhara & Shankapushpi (Convolvulus Pluricaulis chois.) in the management of Chittodvega (Anxiety disorders) – Jamnagar (Kayachikitsa)

4. Ahir Yogita U. (2005) – Clinico-experimental study of Kushmandadi ghruta in ***generalized anxiety disorder*** WSRT ***Chittodvega***. - Jamnagar (Kayachikitsa)

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2. Park's texebook of Preventive and Social medicine by K.Park, published by Banarasidas Bhanot publishers, Jabalpur, 18th edition 2005.
3. Astanga Sangraha by Vagbhata with shasilekha commentary translated by prof. K R Srikantha murthy published by choukhamba orientalia, Varanasi, 8th edition 2004
4. Astanga Sangraha by Vagbhata with shasilekha commentary translated by prof. K R Srikantha murthy published by choukhamba orientalia, Varanasi, 8th edition 2004
5. Sushruta Samhita with Nibandha Sangraha commentary by Dalhana Acharya Published by choukamba orientalia, Varanasi, 6th edition: 1997.
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8. A short textbook of Psychiatry by Niraj Ahuja, New-Delhi, Jaypee publications 6th edition. page no 96
9. Charaka Samhita with the commentary 'Ayurveda dipika' by Chakrapanidatta published by choukhamba Surabharati prakashana, Varanasi, 4th edition.
10. Ayurveda Sara Samgraha, published by 'Baidyanath Ayurved Bhavan' Nagpur, Maharashtra.
11. Charaka Samhita with the commentary 'Ayurveda dipika' by Chakrapanidatta, Siddhisthana9/92-102, published by choukhamba Surabharati prakashana, Varanasi, 4th edition.
12. Charaka Samhita with the commentary 'Ayurveda dipika' by Chakrapanidatta,Vimanasthana - 4/8, published by choukhamba Surabharati prakashana, Varanasi, 4th edition.

Signature of the Scholar

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"A Comparative Study Of Brahmi Taila And Anutaila Pratimarsha Nasya In Management Of Generalized Anxiety Disorder (Gad)"

ರೋಗಿಯ ಒಪ್ಪಿಗೆ ಪತ್ರ

ರೋಗಿಯ ಹೆಸರು----------

ವೈದ್ಯರ ಹೆಸರು----------

ಸಂಸ್ಥೆಯ ಹೆಸರು----------

ನಾನು ---------- ಇ ಪತ್ರದಲ್ಲಿರುವ ಮಾಹಿತಿಯನ್ನು ಓದಿರುತ್ತೇನೆ/ ತಿಳಿದುಕೊಂಡಿರುತ್ತೇನೆ. ನಾನು ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳಿ ಉತ್ತರ ಪಡೆದುಕೊಂಡಿರುತ್ತೇನೆ. ಈ ಕೆಳಗಿನ ಚಿಕಿತ್ಸೆಗೆ ನನ್ನ ಸಂಪೂರ್ಣ ಒಪ್ಪಿಗೆಯನ್ನು ಕೊಡುತ್ತಿದ್ದೇನೆ."

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೧. ನಾನು ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳಿ ಉತ್ತರ ಪಡೆದುಕೊಂಡಿರುತ್ತೇನೆ. ಈ ಚಿಕಿತ್ಸೆಗೆ ನನ್ನ ಸಂಪೂರ್ಣ ಒಪ್ಪಿಗೆಯನ್ನು ಕೊಡುತ್ತಿದ್ದೇನೆ.

೨.ನನಗೆ ಒಪ್ಪಿಗೆಪತ್ರದ ಬಗ್ಗೆ ವಿವರಿಸಲಾಗಿದೆ.

೩. ನನಗೆ ಚಿಕಿತ್ಸೆ ಬಗ್ಗೆ ವಿವರಿಸಲಾಗಿದೆ.

೪.ಸಂಶೋಧಕರು ನನಗೆ ನನ್ನ ಜವಾಬ್ದಾರಿಗಳನ್ನು ತಿಳಿಸಿದ್ದಾರೆ.

೫.ನನಗೆ ಈ ಚಿಕಿತ್ಸೆಯಿಂದಾಗಬಹುದಾದ ತೊಂದರೆಗಳನ್ನು ತಿಳಿಸಿದ್ದಾರೆ.

೬.ನಾನು ಈವರೆಗಿನ ಒಳಗೊಂಡಿರುವ ಎಲ್ಲಾ ಚಿಕಿತ್ಸೆಯ ವಿವರಗಳನ್ನು ಸಂಶೋಧಕರಿಗೆ ತಿಳಿಸಿದ್ದೇನೆ. (ಆಯುರ್ವೆದ, ಅಲೋಪಥಿ, ಹೋಮಿಯೊಪತಿ ಮತ್ತು ಇನ್ನಿತರೆ ಚಿಕಿತ್ಸೆಗಳು)

೭.ನಾನು ಈ ಚಿಕಿತ್ಸೆಯ ಮಧ್ಯದಲ್ಲಿ ಯಾವುದಾದರು ತೊಂದರೆಗೆ ಒಳಗಾದಲ್ಲಿ ತುರ್ತಾಗಿ ವೈದ್ಯರನ್ನು ಸಂಪರ್ಕಿಸುತ್ತೇನೆ.

೮.ನನ್ನ ಮಾಹಿತಿಯನ್ನು ಸಂಶೋಧನೆಯಲ್ಲಿ ಉಪಯೋಗಿಸಿದರೂ , ನನ್ನ ಗುರುತನ್ನು ಗುಪ್ತವಾಗಿಡಬೇಕು.

೯. ಚಿಕಿತ್ಸೆಯ ಫಲಿತಾಂಶ ಮತ್ತು ದುಷ್ಪರಿಣಾಮಗಳ ಬಗ್ಗೆ ನನ್ನ ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳಿಗೂ ಸಮಾಧಾನಕರ ಉತ್ತರಗಳು ಸಿಕ್ಕಿವೆ.

ಈ ಒಪ್ಪಿಗೆ ಪತ್ರದ ಮೇಲೆ ರುಜು ಹಾಕುವ ಮುಖಾಂತರ , ಚಿಕಿತ್ಸೆಯ ಎಲ್ಲಾ ಕ್ರಮಗಳನ್ನು ನನಗೆ ವಿವರಿಸಲಾಗಿದೆ ಮತ್ತು ಈ ಚಿಕಿತ್ಸೆಗೆ ನನ್ನ ಸಂಪೂರ್ಣ ಒಪ್ಪಿಗೆಯನ್ನು ಕೊಡುತ್ತಿದ್ದೇನೆ. ಈ ಒಪ್ಪಿಗೆ ಪತ್ರದ ಒಂದು ಪ್ರತಿಯನ್ನು ನಾನು ಪಡೆದುಕೊಂಡಿರುತ್ತೇನೆ.

ರೋಗಿಯ ಸಹಿ

ಹೆಸರು

ಸ್ಥಳ: ದಿನಾಂಕ
ಸಮಯ

"A Comparative Study Of Brahmi Taila And Anutaila Pratimarsha Nasya In Management Of Generalized Anxiety Disorder (Gad)"

FORMAT OF PATIENT CONSENT FORM

Name of the Patient : _____

Name of the Physician: _____

Name of the Institution:_____

The Informed Consent

I,_____, have read the information in this form (or it has been read to me). I was free to ask any questions and they have been answered. I am over 18 years of age, exercising my free power of choice, hereby give my consent to be included as a patient for "_____"

1. I have read and understood this consent form and the information provided to me.
2. I have had the consent document explained to me.
3. I have been explained about the nature of the treatment.
4. My resposibilities have been explained to me by the investigator.
5. I have been advised about the risks associated with the treatment(s)
6. I have informed the physician of all the treatments I am taking or have taken in the past month(s) including allopath, ayurvedic, homeopathic or any household treatments.
7. I agree to cooperate with the physician and I will inform him/her immediately if I suffer unusual symptoms.
8. My identity will be kept confidential if my data is publicly presented.
9. I have had my questions answered to my satisfaction regarding expected results as well as unwanted effects of the procedure(s) / medication(s).

By signing this consent form, I attest that the information given in this documentation has been clearly explained to me and apparently understood by me. I will be given a copy of this consent document.

Pateint's sign : _____

Name : _____

Place : _____ Date : _____ Time : _____

"A Comparative Study Of Brahmi Taila And Anutaila Pratimarsha Nasya In Management Of Generalized Anxiety Disorder (Gad)"

Guide: Dr.MedhaKulkarni **Ph.D.Scholar:** Dr.N.B.Hiremath.

Patient Information

01. Name : **Sl.No :**

OPD No.:

02. Age :

03. Gender :

04. Religion :

Hindu		Muslim		Christian		Others	

05. Occupation :

Household		Student		Service		Labor		Sedentary	

06. Economic Status :

Poor		Middle class		Higher class	

07. Date :

08. Address **Telephone No.:**

1. Pradhana vedana:
(chief complaints)

2. Adhyatana vyadhivruttanta:
(history of present illness)

Chikitsa vruttanta: (treatment history)

3. **Kula vruttanta:**
(family history)
4. **Purva vyadhivruttanta:**
(past history)
5. Samanya pareeksha:
(general examination)

Pulse

Body temperature

Blood pressure

Respiratory rate

6. ASTHAVIDHA PAREEKSHA

Nadi	Mala
Mutra	Jivha
Shabda	Sparsha
Druk	Akruti

7. DASHAVIDHA PAREEKSHA:

Prakrutitah	Satwatah
Vikrutithah	Satmyatah
Sarathah	Aharashaktithah
Vyayam Shaktitah	Samhanana
Pramanathah	Vayatah

8. **INVESTIGATIONS**
9. NIDANA PANCHAKA
a. Hetu
b. Purvarupa
c. Rupa

d. Pratyatma Rupa
e. Upashaya
f. Samprapti Ghataka

Dosha	Dooshya
Rogamarga	Srotas
Srotodushtiprakara	Vyaktasthana
Agni	Koshta

g. Samprapti

10. TREATMENT:
11. SIDE EFFECTS:

HAMILTON ANXIETY RATING SCALE (HAM-A)

1. **Anxious mood (**This item covers the emotional condition of uncertainty about the future, ranging from worry, insecurity, irritability and apprehension to overpowering dread.**)**

0	The patient is neither more nor less insecure or irritable than usual.				
1	Doubtful whether the patient is more insecure or irritable than usual.				
2	The patient expresses more clearly to be in a state of anxiety, apprehension or irritability, which he may find difficult to control. However, the worrying still is about minor matters and thus without influence on the patient's daily life.				
3	At times the anxiety or insecurity is more difficult to control because the worrying is about major injuries or harms which might occur in the future, which has occasionally interfered with the patient's daily life.				
4	The feeling of dread is present so often that it markedly interferes with the patient's daily life.				

2. **Tension** (This item includes inability to relax, nervousness, bodily tensions, trembling and restless fatigue.)

0	The patient is neither more nor less tense than usual				
1	The patient seems somewhat more nervous and tense than usual.				
2	Patient expresses clearly unable to relax and full of inner unrest, which he finds difficult to control, but it is still without influence on the patient's daily life.				
3	The inner unrest and nervousness is so intense or frequent that it occasionally interferes with the patient's daily work.				
4	Tensions and unrest interfere with the patient's life and work at all times.				

3. **Fears (**This item includes fear of being in a crowd, of animals, of being in public places, of being alone, of traffic, of strangers, of dark etc. It is important to note whether there has been more phobic anxiety during the present episode than usual.)

0	Not present.				
1	Doubtful whether present.				
2	The patient experiences phobic anxiety but is able to fight it.				
3	It is difficult to fight or overcome the phobic anxiety, which thus to some extent interferes with the patient's daily life and work.				

4	The phobic anxiety clearly interferes with the patient's daily life and work.				

4. Insomnia (This item covers the patient's subjective experience of sleep duration and sleep depth during the three preceding nights. Note: Administration of hypnotics or sedatives is disregarded)

0	Usual sleep duration and sleep depth				
1	Sleep duration is doubtfully or slightly reduced (e.g. due to difficulties falling asleep), but no change in sleep depth.				
2	Sleep depth is also reduced, sleep being more superficial. Sleep as a whole is somewhat disturbed.				
3	Sleep duration and sleep depth is markedly changed. Sleep periods total only a few hours per 24 hours.				
4	Sleep depth is so shallow that the patient speaks of short periods of slumber or dozing, but no real sleep.				

5. Difficulties in concentration and memory (This item covers difficulties in concentration, making decision about everyday matters, and memory)

0	The patient has neither more nor less difficulty in concentration and/or memory that usual.				
1	Doubtful whether the patient has difficulty in concentration and/or memory.				
2	Even with a major effort it is difficult for the patient to concentrate on his daily routine work.				
3	The patient has pronounced difficulties with concentration, memory, or decision making, e.g. in reading a newspaper article or watching a television program to the end.				
4	During the interview the patient shows difficulty in concentration, memory or decision making.				

6. Depressed mood (This item covers both the verbal and the non-verbal communication of sadness, depression, despondency, helplessness and hopelessness)

0	Not present.				
1	Doubtful whether the patient is more despondent or sad than usual, or is only vaguely so.				
2	The patient is more clearly concerned with unpleasant experiences, although he still lacks helplessness or hopelessness.				
3	The patient shows clear non-verbal signs of depression and/or hopelessness.				

4	The patient remarks on despondency and helplessness or the non-verbal signs dominate the interview and the patient cannot be distracted.				

7. General somatic symptoms: Muscular (Symptoms of weakness, stiffness, soreness or real pain, more or less diffusely localized in the muscles, such as jaw ache or neck ache.)

0	The patient is neither more nor less sore or stiff in the muscles than usual.				
1	The patient seems somewhat more stiff or sore in the muscles than usual.				
2	The symptoms have the character of pain.				
3	Muscle pain interferes to some extent with the patient's daily work and life.				
4	Muscle pain is present most of the time and clearly interferes with the patient's daily work and life.				

8. General somatic symptoms: Sensory (This item includes increased fatigability and weakness or real functional disturbances of the senses, including tinnitus, blurring of vision, hot and cold flashes and prickling sensations)

0	Not present.				
1	Doubtful whether the patient's indications of symptoms are more pronounced than usual				
2	The sensations of pressure reach the character of buzzing in the ears, visual disturbances and prickling or itching sensations in the skin.				
3	The generalized sensory symptoms interfere to some extent with the patient's daily life and work.				
4	The generalized sensory symptoms are present most of the time and clearly interfere with the patient's daily life and work.				

9. Cardiovascular symptoms (This item includes tachycardia, palpitations, oppression, chest pain, throbbing in the blood vessels, and feelings of faintness.)

0	Not present.				
1	Doubtful whether present.				
2	Cardiovascular symptoms are present, but the patient can still control them.				

3	The patient has occasional difficulty controlling the cardiovascular symptoms, which thus to some extent interfere with his daily life and work.				
4	Cardiovascular symptoms are present most of the time and clearly interfere with the patient's daily life and work.				

10. Respiratory symptoms (Feelings of constriction or contraction in throat or chest, dyspnea or choking sensations and sighing respiration)

0	Not present.				
1	Doubtful whether present.				
2	Respiratory symptoms are present, but the patient can still control them.				
3	The patient has occasional difficulty controlling the respiratory symptoms, which thus to some extent interfere with his daily life and work.				
4	Respiratory symptoms are present most of the time and clearly interfere with the patient's daily life and work.				

11. Gastro-intestinal symptoms (This item covers difficulties in swallowing, "sinking" sensation in stomach, dyspepsia (heartburn or burning sensation in the stomach, abdominal pains related to meals, fullness, nausea and vomiting), abdominal rumbling and diarrhea.)

0	Not present.				
1	Doubtful whether present (or doubtful whether different from usual).				
2	One or more gastro-intestinal symptoms are present, but the patient can still control them.				
3	The patient has occasional difficulty controlling the gastro-intestinal symptoms, which to some extent interfere with his daily life and work.				
4	The gastro-intestinal symptoms are present most of the time and interfere clearly with the patient's daily life and work.				

12. Genito-urinary symptoms (This item includes non-organic or psychic symptoms such as frequent or more pressing passing of urine, menstrual irregularities, anorgasmia, dyspareunia, premature ejaculation, loss of erection.)

0	Not present.				
1	Doubtful whether present (or doubtful whether different from usual).				

2	One or more genito-urinary symptoms are present, but do not interfere with the patient's daily life and work.				
3	Occasionally, one or more genito-urinary symptoms are present to such a degree that they interfere to some extent with the patient's daily life and work.				
4	The genito-urinary symptoms are present most of the time and interfere clearly with the patient's daily life and work.				

13. Other autonomic symptoms (This item includes dryness of the mouth, blushing or pallor, sweating and dizziness)

0	Not present.				
1	Doubtful whether present.				
2	One or more autonomic symptoms are present, but they do not interfere with the patient's daily life and work.				
3	Occasionally, one or more autonomic symptoms are present to such a degree that they interfere to some extent with the patient's daily life and work.				
4	Autonomic symptoms are present most of the time and clearly interfere with the patient's daily life and work.				

14. Behavior during interview (The patient may appear tense, nervous, agitated, restless, tremulous, pale, hyperventilating or sweating during the interview. Based on such observations a global estimate is made.)

0	The patient does not appear anxious.				
1	It is doubtful whether the patient is anxious.				
2	The patient is moderately anxious.				
3	The patient is markedly anxious.				
4	Patient is overwhelmed by anxiety, for example with shaking and trembling all over.				

Total score :

Before Treatment	**1st follow up**	**2nd follow up**	**3rd follow up / After Treatment**

Signature of Guide Signature of Scholar

CLINICAL GLOBAL IMPRESSIONS SCALE

Introduction

CGI-Severity

The CGI is a GLOBAL assessment of:

- Current symptomatology
- Behavior
- Impact of illness on function
- Severity of illness is rated on a seven-point scale

(CGI-S) at baseline and all subsequent visits

1 Normal, not at all ill

2 Borderline mentally ill (Subtle or suspected pathology)

3 Mildly ill (Clearly established symptoms with minimal, if any, difficulty in social and occupational function)

4 Moderately ill (Overt symptomatology causing noticeable, but modest, functional impairment)

5 Marked ill (Intrusive symptomatology that distinctly impairs social/occupational function)

6 Severely ill (Disruptive pathology; behavior and function are frequently influenced by symptomatology and often requires supervision)

7 Extremely ill patients (Pathology drastically interferes in many life functions)

CGI-Improvement

CGI-I is a global rating of the change in clinical status since the start of the treatment.

Evaluation of change considers BOTH:

- Detectable symptomatic change from baseline
- Impact of that change on the clinical status of the subject (both behavior and function)

1 Very much improved

(Nearly all better; good level of functioning; minimal symptoms; represents a very substantial change)

2 Much improved

(Notably better with significant reduction of symptoms; increase in the level of functioning but some symptoms remain)

3 Minimally improved

(Slightly better with little or no clinically meaningful reduction of symptoms. Represents very little change in basic clinical status, level of care, or functional capacity)

4 No change

(Symptoms remain essentially unchanged)

5 Minimally worse

(Slightly worse but may not be clinically meaningful; may represent very little change in basic clinical status or functional capacity)

6 Much worse

(Clinically significant increase in symptoms and diminished functioning)

7 Very much worse

(Severe exacerbation of symptoms and loss of functioning)

HAMILTON ANXIETY RATING SCALE

(HAM-A)

Patient Information

Patient

Date Day Month Year Time Hour Min

Personal notes

1. Anxious mood

This item covers the emotional condition of uncertainty about the future, ranging from worry, insecurity, irritability and apprehension to overpowering dread.

0 – The patient is neither more nor less insecure or irritable than usual.

1 – Doubtful whether the patient is more insecure or irritable than usual.

2 – The patient expresses more clearly to be in a state of anxiety, apprehension or irritability, which he may find difficult to control. However, the worrying still is about minor matters and thus without influence on the patient's daily life.

3 – At times the anxiety or insecurity is more difficult to control because the worrying is about major injuries or harms which might occur in the future. which has occasionally interfered with the patient's daily life.

4 – The feeling of dread is present so often that it markedly interferes with the patient's daily life.

2. Tension

This item includes inability to relax, nervousness, bodily tensions, trembling and restless fatigue.

0 – The patient is neither more nor less tense than usual

1 – The patient seems somewhat more nervous and tense than usual.

2 – Patient expresses clearly unable to relax and full of inner unrest, which he finds difficult to control, but it is still without influence on the patient's daily life.

3 – The inner unrest and nervousness is so intense or frequent that it occasionally interferes with the patient's daily work.

4 – Tensions and unrest interfere with the patient's life and work at all times.

3. Fears

This item includes fear of being in a crowd, of animals, of being in public places, of being alone, of traffic, of strangers, of dark etc. It is important to note whether there has been more phobic anxiety during the present episode than usual.

0 – Not present.

1 – Doubtful whether present.

2 – The patient experiences phobic anxiety but is able to fight it.

3 – It is difficult to fight or overcome the phobic anxiety, which thus to some extent interferes with the patient's daily life and work.

4 – The phobic anxiety clearly interferes with the patient's daily life and work.

4. Insomnia

This item covers the patient's subjective experience of sleep duration and sleep depth during the three preceding nights. Note: Administration of hypnotics or sedatives is disregarded

0 – Usual sleep duration and sleep depth

1 – Sleep duration is doubtfully or slightly reduced (e.g. due to difficulties falling asleep), but no change in sleep depth.

2 – Sleep depth is also reduced, sleep being more superficial. Sleep as a whole is somewhat disturbed.

3 – Sleep duration and sleep depth is markedly changed. Sleep periods total only a few hours per 24 hours.

4 – Sleep depth is so shallow that the patient speaks of short periods of slumber or dozing, but no real sleep.

5. Difficulties in concentration and memory

This item covers difficulties in concentration, making decision about everyday matters, and memory

0 – The patient has neither more nor less difficulty in concentration and/or memory that usual.

1 – Doubtful whether the patient has difficulty in concentration and/or memory.

2 – Even with a major effort it is difficult for the patient to concentrate on his daily routine work.

3 – The patient has pronounced difficulties with concentration, memory, or decision making, e.g. in reading a newspaper article or watching a television program to the end.

4 – During the interview the patient shows difficulty in concentration, memory or decision making.

6. Depressed mood

This item covers both the verbal and the non-verbal communication of sadness, depression, despondency, helplessness and hopelessness

0 – Not present.

1 – Doubtful whether the patient is more despondent or sad than usual, or is only vaguely so.

2 – The patient is more clearly concerned with unpleasant experiences, although he still lacks helplessness or hopelessness.

3 – The patient shows clear non-verbal signs of depression and/or hopelessness.

4 – The patient remarks on despondency and helplessness or the non-verbal signs dominate the interview and the patient cannot be distracted.

7. General somatic symptoms: Muscular

Symptoms of weakness, stiffness, soreness or real pain, more or less diffusely localized in the muscles, such as jaw ache or neck ache.

0 – The patient is neither more nor less sore or stiff in the muscles than usual.

1 – The patient seems somewhat more stiff or sore in the muscles than usual.

2 – The symptoms have the character of pain.

3 – Muscle pain interferes to some extent with the patient's daily work and life.

4 - Muscle pain is present most of the time and clearly interferes with the patient's daily work and life.

8. General somatic symptoms: Sensory

This item includes increased fatigability and weakness or real functional disturbances of the senses, including tinnitus, blurring of vision, hot and cold flashes and prickling sensations

0 – Not present.

1 – Doubtful whether the patient's indications of symptoms are more pronounced than usual

2 – The sensations of pressure reach the character of buzzing in the ears, visual disturbances and prickling or itching sensations in the skin.

3 – The generalized sensory symptoms interfere to some extent with the patient's daily life and work.

4 – The generalized sensory symptoms are present most of the time and clearly interfere with the patient's daily life and work.

9. Cardiovascular symptoms

This item includes tachycardia, palpitations, oppression, chest pain, throbbing in the blood vessels, and feelings of faintness.

0 – Not present.

1 – Doubtful whether present.

2 – Cardiovascular symptoms are present, but the patient can still control them.

3 – The patient has occasional difficulty controlling the cardiovascular symptoms, which thus to some extent interfere with his daily life and work.

4 – Cardiovascular symptoms are present most of the time and clearly interfere with the patient's daily life and work.

10. Respiratory symptoms

Feelings of constriction or contraction in throat or chest, dyspnea or choking sensations and sighing respiration

0 – Not present.

1 – Doubtful whether present.

2 – Respiratory symptoms are present, but the patient can still control them.

3 – The patient has occasional difficulty controlling the respiratory symptoms, which thus to some extent interfere with his daily life and work.

4 – Respiratory symptoms are present most of the time and clearly interfere with the patient's daily life and work.

11. Gastro-intestinal symptoms

This item covers difficulties in swallowing, "sinking" sensation in stomach, dyspepsia (heartburn or burning sensation in the stomach, abdominal pains related to meals, fullness, nausea and vomiting), abdominal rumbling and diarrhea.

0 – Not present.

1 – Doubtful whether present (or doubtful whether different from usual).

2 – One or more gastro-intestinal symptoms are present, but the patient can still control them.

3 – The patient has occasional difficulty controlling the gastro-intestinal symptoms, which to some extent interfere with his daily life and work.

4 – The gastro-intestinal symptoms are present most of the time and interfere clearly with the patient's daily life and work.

12. Genito-urinary symptoms

This item includes non-organic or psychic symptoms such as frequent or more pressing passing of urine, menstrual irregularities, anorgasmia, dyspareunia, premature ejaculation, loss of erection.

0 – Not present.

1 – Doubtful whether present (or doubtful whether different from usual).

2 – One or more genito-urinary symptoms are present, but do not interfere with the patient's daily life and work.

3 – Occasionally, one or more genito-urinary symptoms are present to such a degree that they interfere to some extent with the patient's daily life and work.

4 – The genito-urinary symptoms are present most of the time and interfere clearly with the patient's daily life and work.

13. Other autonomic symptoms

This item includes dryness of the mouth, blushing or pallor, sweating and dizziness

0 – Not present.

1 – Doubtful whether present.

2 – One or more autonomic symptoms are present, but they do not interfere with the patient's daily life and work.

3 – Occasionally, one or more autonomic symptoms are present to such a degree that they interfere to some extent with the patient's daily life and work.

4 – Autonomic symptoms are present most of the time and clearly interfere with the patient's daily life and work.

14. Behavior during interview

The patient may appear tense, nervous, agitated, restless, tremulous, pale, hyperventilating or sweating during the interview. Based on such observations a global estimate is made.

0 – The patient does not appear anxious.

1 – It is doubtful whether the patient is anxious.

2 – The patient is moderately anxious.

3 – The patient is markedly anxious.

4 – Patient is overwhelmed by anxiety, for example with shaking and trembling all over.

Total score _____

HAM-A score level of anxiety

<17: mild

18 – 24: mild to moderate

25 – 30: moderate to severe

KEY TO MASTER CHART

Group A- Brahmi Taila Nasya (patients 1 to 54)

Group B- Anu Taila Nasya (patients 1 to 54)

Sl. No	Subject	Content	Numbers
1	Sex/Gender	Male	M
		Female	F
2	Hetu	Present	P
		Absent	A
3	Dosha	Vata	V
		Pitta	P
		Kapha	K
		Vata Pitta	VP
		Pitta Kapha	PK
		Kapha Vata	KV
		Vata Pitta Kaph	VPK
4	Lakshna-s	Restlessness	L1
		Fatigue	L2

		Difficulty in concentration	L3
		Irritability	L4
		Muscle tension	L5
		Sleep disturbance	L6
5	Hamilton rating scale for Anxiety	Hamilton rating scale for Anxiety (Before treatment)	HAM-A (B-T)
		Hamilton rating scale for Anxiety (first follow up)	HAM-A(1st) 30th Day
		Hamilton rating scale for Anxiety (Second follow up)	HAM-A(2nd) 60th day
		Hamilton rating scale for Anxiety (After treatment)	HAM-A(A-T) 90th Day
6	Clinical Global impression	Clinical Global impression – Severity scale	CGI (s)
		Clinical Global impression – improvement scale	CGI (I)

Group A- Brahmi Taila Nasya

Sl no	OPD No.	Name	Age	Gender	Occupation	Kula vrittanta	Hetu- Work/ Edu	Hetu -Family	Hetu-Financial	Prakruti	Dosha	L1	L2	L3	L4	L5	L6	HAM-A (B-T)	HAM-A(1st) 30th	HRS(2nd) 60th da	HAM-A(A-T)	CGI (s)	CGI (I)
1	56364	Bhavyashr	33	F	Service	Present	p	p	-	VP	Vata	P	A	p	p	A	A	22	21	14	11	4	2
2	80641	Sarayudev	36	f	House Hold	Present	-	p	-	VP	Vata	p	p	p	p	A	A	23	21	10	6	4	2
3	69777	Meenaxi	41	f	Service	Present	p	p	-	V	Vata	p	p	A	A	p	p	27	25	17	12	4	2
4	56930	Ashwath	49	m	Service	Present	p	p	-	P	Vata	A	p	p	p	A	p	27	26	15	13	4	2
5	43131	Anna Rao	38	m	Service	Absent	p	-	p	VPK	Vata	p	A	p	p	p	p	28	26	18	18	5	2
6	49634	Rushi	23	F	Student	Present	P	P	-	VP	Vata	A	P	A	P	A	P	17	17	12	9	4	2
7	51273	Shubha	28	f	Service	Present	p	-	-	VP	Vata	p	p	p	p	A	A	16	15	7	3	3	2
8	85648	Sneha	32	F	Service	Absent	P	P	P	P	Vata	P	A	A	P	P	A	16	11	10	7	3	3
9	63673	Gajalakshr	28	F	Service	Absent	P	P	-	KV	Vata	A	A	P	P	A	P	15	10	8	6	3	2
10	86273	Umamahe	50	F	House Hold	Present	-	P	-	P	Vata	P	A	A	A	P	P	18	15	9	7	4	2
11	45276	Ramachan	38	M	Service	Absent	P	P	P	VP	Vata	P	P	A	P	P	P	22	15	12	8	4	2
12	77572	Sanjitha	38	F	House Hold	Present	-	p	-	V	Vata	p	A	p	p	p	p	18	18	5	6	4	2
13	13032	Sandhya	39	F	House Hold	Absent	p	-	-	KV	Vata	p	p	A	p	p	A	17	15	10	7	4	2
14	87698	Gururaj	39	M	Service	Present	P	P	P	VP	Vata	P	A	A	P	P	P	19	18	11	8	4	2
15	88388	Prakash	30	m	Service	Present	p	p	p	V	Vata	p	A	p	A	A	A	16	10	6	2	3	2
16	75006	Murugan	27	m	Service	Present	p	-	p	VPK	Vata	p	p	A	A	A	p	17	14	5	5	4	2
17	88742	Rupali	42	f	House Hold	Absent	-	p	-	K	Vata	A	p	a	p	a	p	15	6	3	2	3	2
18	88832	Sandhya	34	f	Service	Absent	p	p	-	VP	Vata	A	A	p	p	A	A	17	16	14	9	4	3
19	77838	Vijayalaksl	45	f	House Hold	Absent	-	p	-	VP	Vata	p	A	p	p	A	p	14	14	10	6	3	3
20	60500	Kashibai	39	f	Service	Absent	p	p	-	V	Vata	p	p	p	A	A	A	17	15	11	4	4	2
21	47108	Damodar	40	m	Service	Present	p	-	p	KV	Vata	A	A	p	p	A	p	12	12	8	4	3	2
22	54309	Premamar	46	f	House Hold	Present	-	p	-	P	Vata	p	A	A	p	A	p	9	9	7	4	3	2
23	56646	Vimala	47	f	House Hold	Absent	-	p	-	VP	Vata	A	p	p	p	A	p	19	17	11	8	4	2
24	91307	Girish	38	m	Service	Absent	p	-	p	KV	Vata	A	p	A	p	A	p	14	13	8	5	3	2
25	91402	Rani	38	f	House Hold	Present	-	p	p	PK	Vata	p	p	A	A	p	A	14	14	9	7	3	3
26	86498	Padma	48	f	Service	Absent	p	p	-	PK	Vata	p	A	A	p	A	p	16	16	8	7	3	2
27	76606	Anamika	36	f	Service	Present	p	-	p	VP	Vata	A	A	p	p	p	p	13	14	9	6	3	2
28	93369	Srikanth M	31	m	Service	Absent	p	-	p	P	Vata	A	P	A	p	p	A	17	15	11	9	4	2
29	73237	S. Rangan	45	m	Service	Present	p	p	p	VP	Vata	p	p	A	A	p	A	13	15	10	8	3	3
30	55143	Suhas	25	m	Service	Absent	p	-	p	VPK	Vata	A	p	p	p	A	A	12	12	12	5	3	2
31	79285	Sindhu	26	f	House Hold	Present	-	p	-	VP	Vata	A	p	p	A	A	p	12	12	9	5	3	2
32	93518	Babu	40	m	Service	Absent	p	p	-	P	Vata	p	A	p	p	p	A	13	13	11	7	3	3
33	97008	Ashwath	40	m	Service	Present	P	P	P	V	Vata	P	A	A	P	P	P	19	18	11	8	4	2
34	97179	Bhavya	24	f	House Hold	Present	-	P	-	PK	Vata	P	A	A	A	P	P	18	15	9	7	4	2
35	97371	Geethamn	36	f	House Hold	Absent	-	P	-	P	Vata	P	A	A	A	P	P	18	15	9	7	4	2
36	97703	vanitha	35	f	Service	Absent	P	P	P	VP	Vata	P	P	A	P	P	P	22	15	12	8	4	2
37	95932	Jyothi	30	f	House Hold	Absent	-	p	-	K	Vata	p	A	p	p	p	p	18	18	5	6	4	2
38	98768	Nalini	27	f	Service	Present	p	-	-	VP	Vata	p	p	A	p	p	A	17	15	10	7	4	2
39	98888	Priyanka	23	f	Student	Absent	P	P	P	V	Vata	P	A	A	P	P	P	19	18	11	8	4	2
40	74824	jyothi J	36	f	Service	Present	p	p	p	P	Vata	p	A	p	A	A	A	16	10	6	2	3	2
41	83241	Teesha	36	f	Service	Absent	P	P	P	VP	Vata	P	A	A	P	P	P	19	18	11	8	4	2
42	78273	Hussain	34	m	House Hold	Present	-	p	-	VPK	Vata	A	p	a	p	a	p	15	6	3	2	3	2
43	100340	Deepak	36	m	Service	Absent	p	p	p	V	Vata	p	A	p	A	A	A	16	10	6	2	3	2
44	59222	Sharada	27	f	House Hold	Present	-	p	-	P	Vata	p	A	p	p	A	p	14	14	10	6	3	3
45	94437	Devaraj	25	m	Service	Present	p	p	-	VP	Vata	p	p	p	A	A	A	17	15	11	4	4	2
46	81010	Sarala	25	F	Service	Present	P	P	P	VP	Vata	P	A	A	P	P	A	16	11	10	7	3	3
47	70363	Trimurthy	47	m	Service	Present	p	p	-	V	Vata	A	A	p	p	A	A	17	16	14	9	4	3
48	101480	pratap	48	m	Service	Absent	p	-	p	PK	Vata	p	p	A	A	A	p	17	14	5	5	4	2
49	58911	Santosh	35	m	Service	Absent	P	P	P	PK	Vata	P	P	A	P	P	P	22	15	12	8	4	2
50	78038	Sandhya R	34	f	Service	Absent	P	P	P	VP	Vata	P	A	A	P	P	A	16	11	10	7	3	3
51	80218	Asha	37	f	Service	Present	P	P	P	V	Vata	P	A	A	P	P	A	16	11	10	7	3	3
52	60748	Aradhana	30	f	Service	Present	P	P	-	PK	Vata	A	A	P	P	A	P	15	10	8	6	3	2
53	68009	usha Kum	45	f	Service	Absent	P	P	P	PK	Vata	P	A	A	P	P	A	16	11	10	7	3	3
54	76925	Tanmaya	37	f	Service	Present	P	P	P	VP	Vata	P	A	A	P	P	P	19	18	11	8	3	2

F = Female
M = Male

P = Present

V = Vata
P =Pitta
K = Kapha
VP = Vata Pitta
PK = Pitta Kapha
KV = Kapha Vata
VPK = Vata Pitta Kapha

L = Lakshana

Group B- ANU Taila Nasya

Sl no	OPD No.	Name	Age	Gender	Occupatio	Kulavrutta	Hetu- Wo	Hetu -Fam	Hetu-Fina	Prakruti	Dosha	L1	L2	L3	L4	L5	L6	HAM-A (B-T)	HAM-A(1st) 3	HAM-A(2nd) 6	HAM-A(A-T) 9	CGI (s)	CGI (I)
55	94568	Rahul	26	M	Service	p	A	p	KV	vata	p	A	p	p	A	p	13	13	12	8	3	3
56	98795	Phanindra	38	M	Service	p	A	A	V	vata	p	A	A	A	p	p	15	15	11	9	3	3
57	7697	Mamatha	31	F	Service	p	p	A	VP	vata	p	A	A	p	A	A	18	18	14	11	4	3
58	73857	Mahendra	50	M	Service	p	A	p	VPK	vata	A	A	p	A	A	p	14	14	12	8	3	2
59	60168	Umesh	32	M	Service	p	A	A	VP	vata	A	p	A	p	p	A	14	14	11	6	4	2
60	99690	Sripadma	42	F	House hold	A	p	A	KV	vata	p	p	p	A	A	p	18	18	16	12	4	3
61	99980	Vishaleshv	31	M	Service	p	A	p	KV	vata	p	p	A	p	A	p	16	16	14	10	3	3
62	78603	Ajmera	42	F	Service	p	A	P	V	vata	p	p	A	A	p	p	14	13	11	8	3	3
63	77458	Ramanna	38	M	Service	p	p	A	P	vata	p	A	p	A	p	A	14	14	13	10	3	3
64	88908	Anuprame	42	M	Service	p	p	p	VPK	vata	P	P	A	P	A	P	11	9	7	3	3	2
65	100922	G Kokila	45	F	House hold	p	p	A	VP	vata	A	p	A	p	p	A	9	9	7	1	3	2
66	101429	Doddappa	50	M	Service	P	P	A	VP	vata	P	p	p	p	p	A	21	20	15	10	5	3
67	98046	Anushree	31	F	House hold	A	p	A	PK	vata	p	A	p	A	A	p	15	15	10	5	3	2
68	101677	Usha rani	50	F	House hold	A	p	p	VP	vata	A	A	p	p	A	p	17	14	12	9	4	3
69	101664	Trimurthy	40	M	Service	p	p	A	KV	vata	A	A	p	p	A	p	12	11	11	4	3	3
70	90057	Sumanth	32	M	Service	p	A	p	VP	vata	p	A	p	p	p	A	12	12	12	4	3	3
71	103739	Vinay	28	M	Service	p	A	A	VP	vata	A	p	p	A	A	p	13	13	10	8	3	3
72	90621	Krishnapp	48	M	Service	A	p	p	PK	vata	p	A	p	A	A	p	11	11	8	5	3	3
73	83274	M. Kalama	41	F	House hold	p	p	A	VPK	vata	A	A	A	p	A	p	11	11	6	3	3	2
74	93149	Lokanath	42	M	Service	p	A	p	VP	vata	p	A	p	A	A	p	12	12	8	4	4	2
75	87405	Saidarshin	23	F	Student	p	p	A	V	vata	A	p	p	A	p	p	13	13	8	7	4	3
76	74035	Vishwanat	48	M	Service	A	p	p	VP	vata	A	p	A	p	A	p	9	9	8	7	3	3
77	69629	Sudarshan	29	M	Service	p	A	p	KV	vata	A	p	A	p	p	A	11	11	9	7	3	3
78	99340	Suguna	39	F	House hold	p	p	p	P	vata	A	P	p	p	A	p	11	11	11	6	3	3
79	106569	Hemalath	40	F	House hold	A	p	p	VP	vata	A	A	p	p	A	A	11	11	6	6	3	3
80	61524	Geetha	36	f	Service	p	p	A	VP	Vata	p	A	p	p	A	A	22	21	14	11	4	2
81	70371	Devanand	42	m	Service	A	p	A	VPK	Vata	p	p	p	p	A	A	23	21	10	6	4	2
82	74602	Venkatesh	37	m	Service	p	p	A	VP	Vata	p	p	A	A	p	p	27	25	17	12	4	2
83	81933	Sujatha	37	f	Service	p	p	A	V	Vata	A	p	p	p	A	p	27	26	15	13	4	2
84	28143	Narayana	25	m	Student	p	A	p	P	Vata	p	A	p	p	p	p	28	26	18	18	5	2
85	82503	Mahendra	33	m	Service	P	P	A	VP	Vata	A	P	A	P	A	P	17	17	12	9	4	2
86	77629	Madhushr	25	f	Service	p	A	A	KV	Vata	p	p	p	p	A	A	16	15	7	3	3	2
87	84643	Shikha	33	f	Service	P	P	P	KV	Vata	P	A	A	P	P	A	16	11	10	7	3	3
88	86371	Raagini	32	f	Service	p	A	p	VP	vata	A	p	A	p	p	A	11	11	9	7	3	3
89	84800	Suman	44	f	Service	p	p	A	P	vata	A	A	p	p	A	p	12	11	11	4	3	3
90	87055	Navyashri	22	f	House hold	A	p	p	V	vata	A	A	p	p	A	A	11	11	6	6	3	3
91	56144	Gauthami	44	f	House hold	p	p	A	PK	vata	A	A	A	p	A	p	11	11	6	3	3	2
92	78407	Vishnukun	28	m	Service	p	A	p	KV	vata	p	A	p	p	p	A	12	12	12	4	3	3
93	74040	Suparna	32	f	Service	p	p	A	VP	vata	A	p	p	A	A	p	13	13	10	8	3	3
94	84033	Saritha	34	f	Service	A	p	p	P	vata	p	A	p	A	A	p	11	11	8	5	3	3
95	88844	Sarasvati	35	f	House hold	p	p	p	VP	vata	A	P	p	p	A	p	11	11	11	6	3	3
96	89570	Dharampa	39	m	Service	p	p	p	K	vata	A	P	p	p	A	p	11	11	11	6	3	3
97	89944	Narayanar	32	f	House hold	p	p	A	PK	vata	A	p	p	A	p	p	13	13	8	7	3	3
98	80537	Sandesh K	20	m	Service	A	p	p	V	vata	A	p	A	p	A	p	9	9	8	7	3	3
99	94794	Nandish	32	m	Service	p	A	p	V	vata	A	p	A	p	p	A	11	11	9	7	3	3
100	92731	Kartika	34	f	Student	p	p	A	K	vata	A	p	p	A	p	p	13	13	8	7	3	3
101	93386	Shivadasa	45	m	Service	A	p	p	P	vata	A	A	p	p	A	A	11	11	6	6	3	3
102	102898	priyanka	30	F	Service	p	A	p	VP	vata	p	A	p	A	A	p	12	12	8	4	3	2
103	103068	Ramani	38	f	House hold	p	p	A	KV	vata	A	A	A	p	A	p	11	11	6	3	3	2
104	82543	Pramod	37	M	Service	A	p	p	VP	vata	A	p	A	p	A	p	9	9	8	7	3	3
105	72431	mayavati	39	f	House hold	p	p	p	KV	vata	A	P	p	p	A	p	11	11	11	6	3	3
106	59941	Kajal	32	F	Service	p	p	A	P	vata	A	A	p	p	A	p	12	11	11	4	3	3
107	89867	Anitha	30	F	Service	p	A	p	V	vata	A	p	A	p	p	A	11	11	9	7	3	3
108	103291	Narasimha	47	m	House hold	p	p	A	VP	vata	A	A	A	p	A	p	11	11	6	3	3	2

F = Female
M = Male

P = Present

V = Vata
P =Pitta
K = Kapha
VP = Vata Pitta
PK = Pitta Kapha
KV = Kapha Vata
VPK = Vata Pitta Kapha

L = Lakshana

Empty bottles for distribution of Medicine

Pratimarsha Nasya being demonstrated to the patient for the first time when the patient is assigned to either of the groups.

Anu taila medicine

Brahmi Taila medicine