DOI: 10.5281/zenodo.16031899

Impact Factor: 1.013

INTERNATIONAL JOURNAL OF DIAGNOSTICS AND RESEARCH

Clinico-Psychological Assessment Of Manasa Sadanam In Vataja-Grahani

Dr. Arvind Kumar Gupta¹, Dr. Apala Sengupta²

¹Senior Ayurvedic Medical Officer, Department of Health & Family Welfare, Government of West Bengal. ²Proffessor, Department of Rog Nidan & Vikriti Vigyan, I.P.G.A.E & R at S.V.S., Kolkata-9

Corresponding author: Dr.Arvind Kumar Gupta Article Info: Published on: 15/07/2025

Cite this article as: - Dr. Arvind Kumar Gupta (2025); Clinico-Psychological Assessment Of Manasa Sadanam In Vataja-Grahani; Inter.J.Dignostics and Research 2 (4) 49-60, DOI: 10.5281/zenodo.16031899

Abstract

The diagnostic and therapeutic approach is basically Psycho-somatic, as it has been clear that the somatic disease is turns into psychological one and vice-versa. Clinical evaluation of Manasa-Sadanam (i.e.; Anxiety and Depression) in the patients of Vataja-Grahani will be verified by stipulated questionnaires of HAM-A and HAM-D. Indians have shown this condition to be a fairly common G.I. condition, accounting for 30% to 50% of referral to gastroenterology clinics. A drug combating Vataja-grahani will be given in one group, on the other group same drug will be adminstered with a Medhyarasayan and in another group will be treated with a knowledge of Vataja grahani as Control group. In a disease found frequently in the clinics presenting the symptoms of anxiety, tension, fear, insomnia, poor memory and depressed mood etc. This features in some extent correlates the symptomatology of Depression. ANOVA test reveals and F-table indicates that the critical value is 3.15 and F-test statistic is greater than 3.15. So, results are statistically significant and mean score of depressed mood symptoms under HAM-A and HAM-D Scale in 3 groups of patients treated with different drugs differ significantly. In the treatise of Ayurveda during description of pathogenesis of Grahani roga, it is mentioned that dysfunction of grahani nadi is the main causative factor for origin of the disease. A total of 90 patients treated at OPD and IPD Level from 2022-24 for restoration of their health. It has been evaluated that Satva indicates mental strength of an individual. The haematological tests i.e.; Hb. %, T.L.C of W.B.C and ESR in first hour and the biochemical tests i.e. Blood sugar (fasting), Serum Bilirubin, SGOT, SGPT, Total Serum Protein, Serum Albumin, Serum Globulin, Serum Amylase and Serum Lipase etc. have showed no significant changes in this study.

Key words: *Vataja grahani, Manasa sadanam,* HAM-A and HAM-D.

Introduction:

In the classics of Ayurveda, it has been mentioned that Manasa sadanam is a distinct feature of Vataja Grahani. In the treatise of Ayurveda; it has been clearly shows that the somatic disease is turns into psychological one and vice versa [1]. In the selected patients the extent of Manas-sadanam will be verified by SatvaPariksha [2]. In the recent era, the term Manasa sadanam is classified as depression and anxiety. Incidence of anxiety and depression in irritable bowel syndrome is reported by some authority. They had evaluated the patients through the parameter of HAM-A and HAM-D scores. It had been reported that among the patients at O.P.D. and I.P.D Level, Prevalence of Anxiety was 44 % and depression was 84 %. In the present study HAM-A and HAM-D will be measured in the selected patients of Manasa Sadanam i.e; Avasada. A drug combating disease will be given along with a Medhya Rasayan. Hence, the study will be framed in a group. A routine counseling will be done in a group. Aaswasana [3] i.e.; Assurance will be given routinely and to describe appraisal in Chikitsa and the idea of Satva Pariksha also to determine the frequency of patients Satva Pariksha and Avasada fulfilling HAM-A and HAM-D.

Concept of Grahani Dosha, Grahani Roga and Grahani Gada: Acharya Caraka had mentioned the term Grahani dosa during nomenclature of the chapter while during description of the disease termed as Grahani Gada. The specific reason for this type of description is clarified by Acharya Chakrapani [4]. The term "Grahani dosa" implies the malfunctioning of Agni. The Agni is primarily located in the Grahani. In the title of the chapter, no distinction is made between the 'Aashraya' (the substratum i.e.

Grahani) & 'Aashrayee' (the substance i.e. Agni). Thus 'Agnidosa' is implied by the term 'Grahani dosa'; though in a secondary sense; Grahani dosa initiates Grahani Roga. Acharya Caraka described; the way of formation of Grahani roga. Durbala Agni brings about vidaha (a part of which is digested the other part remaining without digestion) of Aahar; which moves upwards & downwards in gastro-intestinal tract. The Pakva (digested food) & Apakva (undigested food) Aahara rasa moves downwards & this condition is called Grahani-Gada [5].

Concept of Manasa-sadanam: The term Manasa sadanam is mentioned in Charak Samhita in context to Vataja Grahani [6]. The term 'Mansa sadanam' is defined as " Avasada " [7] by Vijaya Rakshit as abnormal mental condition recently compared with the symptom of mental depression. Hence in chronic case of Vataja Grahani along with somatic disorders also the psychological condition get disturbed. Ava-sāda, as, m. sinking (as of a chair), Susr.; the growing faint (as of a sound), ib.; failing, ex- Chaustion, fatigue, lassitude, ib.; defeat, Malav.; want of energy or spirit (especially as proceeding from doubtful or unsuccessful love), L.; (in law) badness of a cause, L.; end, termination, L.; (cf. nir-av.) [8] Mind is a factor for receiving happiness and sadness in an individual. The term Sadan implies "Avasada" ^[9]i.e; expression of depressive state clinically. This Hridaya is also connected with Dasha Mahamula Dhamani through which the Doshas pervade the heart. Hence, there is exchange of mind & Dosha. When Doshas get vitiated in excess it effect the mind & vice-versa [10].

Methodology: Study is interventional. prospective, single blind randomized controlled clinical trial with three groups. Clinical evaluation of *Manasa-Sadanam* (i.e.; Anxiety and Depression) in the patients of Vataja-Grahani will be verified by Satva Pariksha and stipulated questionnaires of HAM-A and HAM-D. A routine counseling along with Aaswasana i.e., Assurance will be done in all three groups. Evaluation of HAM-A and HAM-D scores in the selected patients of Manasa-sadanam with Vataja Grahani. A drug combating Vataja-Grahani will be given in one group, on the other group same drug will be administered with a Medhya Rasayan and in another group will be treated with a knowledge of Vataja Grahani as Control group.

Psychological parameter of Manasa Sadanam sequences in Vataja Grahani:-

The very statement of *Caraka Samhita* in *Vataja Grahani "Mansa-sadanam*"; reveals the evidence of "*Avasada*" in *Vataja Grahani* patients ^[11]. According to different *Acharyas*, the following different causative factors of *Avasada* in *Vataja Grahani* is mentioned as follows:-

- 1. As per view of *Caraka Samhita*, *Asatmedriyaartha samyoga*, *Prajnaparadha* and *Parinama* are considered as general etiological for all diseases ^[12]. Among these etiological triad *Prajnaparadha* is very specific in the causation of "*Avasada*" in *Vataja Grahani* patient.
- According to Maharsi Charaka; vitiation of Manasika Dosas viz Raja Dosa and Tamo dosa.
- 3. According to *Maharsi Charak*; Acquired of undesired objects and not getting or loss of

- the desired ones as the causes of *Manovikara* [13].
- 4. According to Maharsi Susrutha,
 Manobhavas i.e.; Krodha, Soka, Bhaya,
 Harsa, Visada, Irshya etc. as the causes of
 Mano-Vikara [14].
- 5. Besides above causes According to *Maharisi Charaka*, *Avar Satwa* (weak psyche) has also been recognized as a necessary predisposing factor for the manifestation of *Avasada* in *Vataja Grahani* patients.

Being associated with the soul, the mind, or *Satva* governs the body. They are classified as exceptional (*Pravara*), mediocre (*Madhyama*), or inferior (*Avara*) based on their level of strength. They are vulnerable to ego, delusion, fear, sadness, and greed. Even stones that describe angry, scared, hostile, terrifying, and nasty situations, or that show them visions of the flesh or blood of humans or animals cause them to crumble [15].

Persons with 'Avar Satva' are affected with Manovikara [16] i.e.; "Avasada" in Vataja Grahani. In other words, persons with high Rajas and Tamas and Avar Satva, if comes in contact with the causes of Raja & Tama became sufferer and this leads to recollection of fearful and negative or disturbing memories along with false perceptions, wrong recognition, failure to restrain from negative memories and thoughts.

When the consequences of *Manasa Sadanam* occurs in the patient of *Vataja Grahani*; then it should be assumed that the *Vataja Grahani Roga* is along with *Avasada*. In both the disease, the main responsible factor for initiation of pathogenesis is *Agnimandya*. The *Srota* towards the various

directions of the system containing the *Rasadi Dhatus* gradually get obstructed with the *Ama*.

According to *Maharsi Charak; Hrdaya* is a seat of *Rasa, Vatadi, Satvas, Buddhi, Indriya, Atma* and *Ojus* also emphasize that the seat of 'Antaramana' is *Hridaya*. In the context of *Trimarmiya, Maharsi Charak* mentioned that *Hrdaya* is a seat of *Dasa Mahamoola Dhamanis, Prana, Apana, Mana, Buddhi, Chetana* and *Mahabhutani* [17].

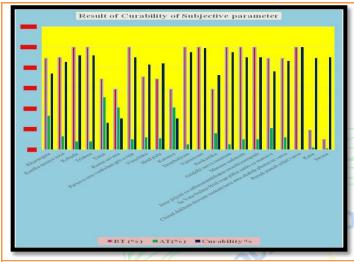
Effect of research drugs on subjective/clinical parameter [18] of *Vataja Grahani*: - Drugs effect was evaluated by the percentage relief of the symptoms before and after treatment.

Table No. 1: - Showing the effects of the research drugs on the subjective parameter of Patients of *Vataja Grahani*.

Sl.	Subjective	BT	AT	Curability	ŀ
No.	criteria	(%)	(%)	%	
1.	Kharangata	89%	33%	74.15%	l
2.	Kantha aasaya	90%	13%	85.55%	l
-1//	sosa				ľ
3.	Kshuda	100%	8%	92%	ŀ
4.	Trishna	100%	8%	92%	ľ
5.	Timir	69%	51%	26.08%	ľ
6.	Karna savana	59%	41%	30.5%	l
7.	Parsava-uru-	100%	10%	90%	l
	vankshan-griva				l
	ruja				L
8.	Visuchika	71%	12%	83.09%	l
9.	Hrid pida	69%	11%	84.05%	ŀ
10.	Karsaya	59%	41%	30.5%	þ
11.	Dourbalyam	100%	5%	95%	
12.	Vairasyam	100%	!%	99%	l
13.	Parikartika	59%	16%	72.88%	2
14.	Griddhi sarva	100%	5%	95%	1
	rasanam				ſ
15.	Manasa sadanam	100%	10%	90%	

	Sl. No.	Subjective criteria	BT (%)	AT (%)	Curability %
	16.	Jirne jirjyati ca adhmanambhukte swasthyamupaiti	100%	10%	90%
11/2	17.	Sa Vata Gulma Hrid roga pliha sanki ca manava	89%	21%	76.40%
	18.	Chirad dukham dravam suskam tanu ama shabda phenavat varca	89%	12%	86.51%
	19.	Punah punah srijet varca	100%	0%	100 %
	20.	Kasa	19%	2%	89.47%
	2 1.	Swasa	10%	1%	90%

Table No. 1: Shows the effect of Drugs which revealed that 99% curability was achieved in symptoms of "Punaha punaha srijet varca" and "Vairasyam". Next 95% curability achieved in "Dourbalya" and "Griddhi sarva rasanam" and 92% curability was found in "Kshuda" and "Trishna". 90% in "Parsava-uru-vankshan-griva ruja", "Jirne jirjyati ca adhmanambhukte swasthyamupaiti" and Swasa. 89.47 % was found in Kasa" and 86.51 % curability was found in "Chirad dukham dravam suskam tanu ama shabda phenavat varca". 85.55 % curability was found in "Kantha-aasaya sosa" and 84.05% curability was found in "Hrid pida." 83.09 % curability was found in "Visuchika," and 76.4 % curability was found in "Sa Vata Gulma Hrid roga pliha sanki ca manava." 74.15 % curability was found in "Kharangata," and 72.88 % curability was found in "Parikartika". 30.5 % curability was found in "Karna savana" and "Karsaya." 26.08% curability was achieved in "Timir."

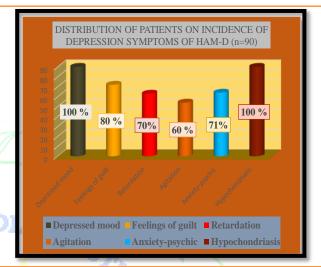


Graph 1: Shows the Curability of Subjective parameter of *Vataja Grahani*.

Table No. 2:-Shows the incidence of Depression symptoms of HAM-D in 90 patients of Vataja Grahani.

Sl. No.	Depression Symptoms	Patients involved	Percentage
1.	Depressed mood	90	100%
2.	Feelings of guilt	72	80%
3.	Retardation	63	70%
4.	Agitation	54	60%
5.	Anxiety-psychic	64	71%
6.	Hypochondriasis	90	100%

Table No. 2: Shows that the severity of psychic depression symptoms was found in the range of 100% patients suffering from Depressed mood and Hypochondriasis, 80% patients suffering from feelings of gulit, 71% patients suffering from Anxiety-psychic, 70% patients suffering from Retardation and 60% patients suffering from Agitation.

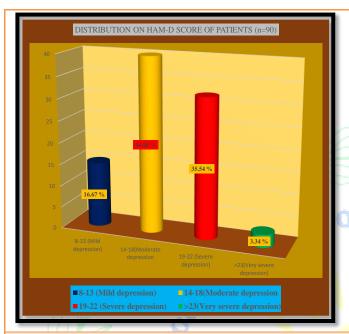


Graph 2: Shows the incidence of psychic depression symptoms in 90 patients of *Vataja Grahani*.

Table No. 3: Shows the HAM-D Score of 90 patients of *Vataja Grahani*.

Sl. No.	HAM-D Score	Patients involved	Percentage (%)		
1.	8-13 (Mild depression)	15	16.67%		
2.	14-18(Moderate depression	40	44.45%		
3.	19-22 (Severe depression)	32	35.54%		
4.	>23(Very severe depression)	03	3.34%		

Table No. 3: Shows that the severity of psychic depression symptoms was found in the range of 44.45% patients suffering from moderate depression, 35.5% patients suffering from severe depression, 16.67% patients suffering from mild depression and 3.3% patients suffering from very severe depression.

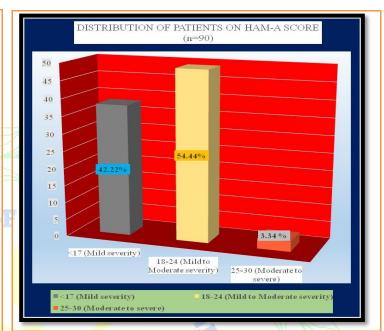


Graph 3: Shows the severity of psychic depression symptoms in 90 patients of *Vataja Grahani*.

Table No. 4: Shows the HAM-A Score of 90 patients of *Vataja Grahani*.

Sl.	HAM-A Score	Number	Percentage
No.		of	[C* ¢ [
Ē.		patients	
1.	<17 (Mild	38	42.22%
	severity)		
2.	18-24 (Mild to	49	54.44%
1	Moderate		/
	severity)		\
3.	25-30 (Moderate	03	3.34%
	to severe)		

Table No. 4: Shows that the severity of psychic anxiety symptoms was found in the range of 54.4% patients suffering from mild to moderate severity of psychic anxiety symptoms, 42.22% patients suffering from mild severity of psychic anxiety symptoms and 3.34% patients suffering from moderate to severe anxiety symptoms.

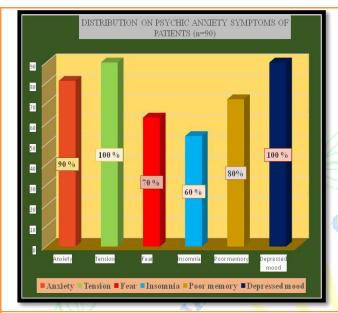


Graph 4: Shows the severity of psychic anxiety symptoms in 90 patients of *Vataja Grahani*.

Table No. 5: Shows the incidence of Anxiety symptoms of HAM-A in 90 patients of *Vataja Grahani*.

	Sl.	Anxiety	Patients	Percentage
Ŀ	No.	Symptoms	involved	
	1.	Anxiety	81	90%
I	2.	Tension	90	100%
	3.	Fear	63	70%
1	4.	Insomnia	54	60%
	5.	Poor memory	72	80%
	6.	Depressed mood	90	100%

Table No. 5: Shows that the severity of psychic anxiety symptoms was found in the range of 100% patients suffering from Tension and Depressed mood, 90% patients suffering from Anxiety, 80% patients suffering from Poor memory, 70% patients suffering from Fear and 60% patients suffering from Agitation.



Graph 5: Shows the incidence of psychic anxiety symptoms in 90 patients of *Vataja Grahani*.

Psychiatric co-morbidity:- Psychiatric disorders, such as anxiety disorders, depression are more common in patients with IBS; even mildly symptomatic patients. However, stress plays an important role in exacerbating IBS symptoms in IBS patients. In depression; the Hypothalamicpituitary adrenal axis is hyperactive, as evidenced by a non-suppressed response to the dexamethasone suppressor test. Major depressive disorder is characterized by one or more episodes of idiopathic major depressive syndromes such as Depressed mood, Irritability, Anxiety, Loss of interest or pleasure, Worthlessness, Guilt, Hopelessness, Helplessness, Thought of suicide, Change in appetite or weight, Change in sleep, Decreased libido, Trouble concentrating, Diurnal variation, Ruminative thinking, Somatoform symptoms, Psychotic symptoms. Many be of the anxiety disorders may be understood as inappropriate triggering of the stress response system, which is commonly referred to the "Fight or Fright "response [19].

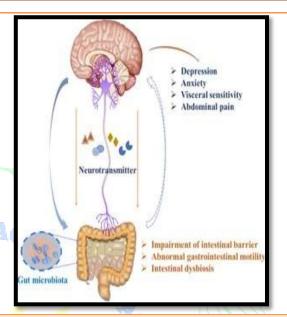


Figure No. 1:- Showing Disturbance of Brain-Gut interaction in Irritable Bowel Syndrome.

Patients with IBS frequently demonstrate increased motor reactivity of the colon and small bowel to a variety of stimuli and altered visceral sensation associated with lowered sensation thresholds. These may result from Central Nervous System (CNS) -Enteric Nervous System (ENS) deregulation. Patients with mild to moderate symptoms usually have intermittent symptoms that correlate with altered gut physiology and patients with severe symptoms usually have constant pain and psychosocial difficulties ^[20]. The psychiatric classification is based on the number of somatic symptoms and associated psychological symptoms such Hypochondriasis, Somatisation (Somatic presentation of depression and anxiety) and neurosis, Panic attacks are common. Acute psychological stress and overt psychiatric disease are known to alter visceral perception and gastrointestinal motility in both Irritable bowel patients and healthy people ^[21].

General Management of IBS Patients:-

Reassurance:- Patients should be asked what they are most worried about. Clearly it may be unwise to state categorically that the patient has no disease but it can be emphasized that the probability of having disease is low.

Explanation:- Patients need a positive explanation for their symptoms. It is unhelpful to say that symptoms are psychological or 'all in the mind', but useful to describe a plausible physiological mechanism for the symptom that emphasizes the link with psychological factors such as stress and which demonstrates that the symptoms are reversible.



Figure No. 2:- Dietary management of IBS.

Table No. 6: - Showing the result of ANOVA

[22,23] of the score in Group – A, Group - B &

Group - C on the basis of parameter of

Depressed mood symptoms of in patients.

Group A	Group B		Grou	up C Si		ummation	
$\sum x_A = 63$	$\sum X_{B} = 5$	$\sum x_B = 55$		$\sum x_{C} = 45$		$\sum x = 163$	
$\sum X_A^2 =$	$\sum x_B^2 =$		$\sum x_C^2$	$\sum x_C^2 = 75$		$\sum x^2 = 339$	
147	117	117					
Source	Df	Df St		Mea	n	F - Ratio	
		SC	quare	Squa	re		
Groups	3 -1	_	5.43	2.71	1	6.159	
(Between	= 2	1					
the	82	^		7			
group)	1	9) to			
Error	87	3	38.35	0.44	1		
(Within							
groups)							
Total	89	4	13.78	i d			

Table No. 6: Shows the ANOVA and it reveals that at the degrees of Freedom (Df) 89 the Sum of Squares is calculated as 43.78 and the F- Ratio is inferred as **6.159** at significance level of 0.05, and F-test has 2 numerator and 60 denominator degrees of freedom— $F_{(2, 60)}$. First step is to locate the F-table for $\alpha = 0.05$. Then find the column for 2 numerator DF and the row for 60 denominator DF. The intersection of that row and column contains the critical F-value. The F-table indicates that the critical value is 3.15 and F-test statistic is greater than **3.15**, So, results are statistically significant and mean score of depressed mood symptoms under HAM-A and HAM-D Scale in 3 groups of patients treated with different drugs differ significantly.

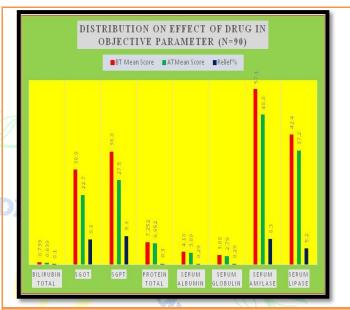
EFFECT OF DRUG ON OBJECTIVE PARAMETER: -

Drug effect was evaluated by the percentage relief on Biochemical Parameters of before and after treatment.

Table No. 7: Shows Biochemical Investigations report of Before and After treatment of Research Group (Group – A, N = 30): -

Sl	Objec	Mean		Rel	S.D	S.E	't'	'P'
	tive	Scor	e	ief		.M	Val	Val
N	Para	BT	AT	%			ue	ue
0.	meter							
	Biliru	0.7	0.6	0.1	0.1	0.0	5.9	<0.
	bin	39	39	æ	53	27	25	001
	Total	1		ζÇ,			١,	
	SGOT	30.	22.	8.2	11.	2.1	3.8	<0.
16		9	7 🛓	7	649	26	8	001
N	SGPT	36.	27.	9.3	11.	2.1	4.3	<0.
M	YA	8	5		779	50	1	001
1	Protei	7.2	6.9	0.3	0.4	0.0	3.7	<0.
	n	52	52		41	80	4	001
K	Total					1	L	13
The	Serum	4.1	3.8	0.2	0.1	0.0	9.0	<0.
	Albu	8	9	9	87	34	8	001
	min				Ţ	JE	लि	रो ज्ञ
	Serum	3.0	2.7	0.2	0.0	0.0	19.	<0.
	Globu	8	9	9	84	15	2	001
	lin							
	Serum	57.	48.	8.3	3.8	0.7	9.8	<0.
	Amyla	1	8	1	72	06	6	001
	se	1			1			
	Serum	42.	37.	5.2	3.1	0.5	9,2	<0.
	Lipase	4	2		17	69	5	001

Table No. 7: Shows that 'P' – Values for Biochemical Investigations report of Serum Bilirubin, SGOT, SGPT, Protein Total, Serum Albumin, Serum Globulin, Serum Amylase and Serum Lipase is found to be less than <0.001 which is inferred to be highly significant.



Graph 6:Showing the effect of drugs evaluated by the percentage relief on Biochemical Parameters of before and after treatment.

Results:

ANOVA test reveals and F-table indicates that the critical value is 3.15 and F-test statistic is greater than 3.15. So, results are statistically significant and mean score of depressed mood symptoms under HAM-A and HAM-D Scale in 3 groups of patients treated with different drugs differ significantly. On looking at Mean score of Depression mood symptoms among three groups, showing that curability of patients treated with drugs are comparable in Group B and Group C but mean curability is highest in the Group A Patients treated with Research Drugs i.e., Chitraka and Sankhapuspi powder

Discussion:

The effect of Group A drugs i.e., *Chitak* and *Sankhapuspi churna* to decrease Depressed mood symptoms in irritable bowel syndrome is very much responsible for difference between three groups. The study shows that 'P' – Values for Biochemical Investigations report of Serum

Bilirubin, SGOT, SGPT, Protein Total, Serum Albumin, Serum Globulin, Serum Amylase and Serum Lipase is found to be less than <0.001 which is inferred to be highly significant.

Acknowledgements: I want to sincerely thank Dr. Apala Sengupta, my mentor and principal advisor, who is a professor and head of the Department of Roga Nidāna Avum Vikṛti Vijñāna at the I.P.G.A.E. & R at S.V.S.P. Hospital in Kolkata. It was an immense honour to work and learn under her outstanding direction, oversight, and unwavering support for even the tiniest workplace annoyance.

References:

- R. K. Sharma, Bhagwan Dash, Charak Samhita, Chowkhambha Sanskrit Series Office, Varanasi, Volume II, Indriya Sthana, Edition Reprint 2018, Chapter 5, Sloke no. 41, Page no. 580.
- R. K. Sharma, Bhagwan Dash, Charak Samhita, Chowkhambha Sanskrit Series Office, Varanasi, Volume II, Edition Reprint 2012, Chapter 8, Sloke no. 110, Page no. 270.
- R. K. Sharma, Bhagwan Dash, Charak Samhita, Chowkhambha Sanskrit Series Office, Varanasi, Volume IV, Edition Reprint 2017, Chapter 19, Sloke no. 12, Page no. 215.
- Acharya Vaidya Jadavji Trikamji; Carak Samhita by Agnivesa revised by Carak & Drirabala with the Ayurveda Dipika Commentary of Chakrapani Dutta: Varanasi: Chaukhamba Publications; Edition: Reprint, 2018, Chikitsa sthan, Chapter - 15/01,02, Page- 512.

- Acharya Vaidya Jadavji Trikamji; Carak Samhita by Agnivesa revised by Carak & Drirabala with the Ayurveda Dipika Commentary of Chakrapani Dutta: Varanasi: Chaukhamba Publications; Edition: Reprint, 2018, Chikitsa sthan, Chapter - 15/51,52, Page-517.
- Acharya Vaidya Jadavji Trikamji; Carak Samhita by Agnivesa revised by Carak & Drirabala with the Ayurveda Dipika Commentary of Chakrapani Dutta: Varanasi: Chaukhamba Publications; Edition: Reprint, 2018, Chikitsasthan, Chapter - 15/60-64, Page- 518.
- 7. Prof. K.R.Srikanta Murthy, Madhava Nidanam (Roga Viniscaya) of Madhava Kara (A treatise on Ayurveda) Text with English translation, critical introduction and appendix, Chowkhamba Orientalia Varanasi, Reprint edition: 2016, Part -1, Chapter 4, Page no. 20-21.
- Sir Monier Monier Williams; A Sanskrit English Dictionary Etymologically and Philologically
 Arranged with Special reference to Cognate Indo-European Languages, New Edition, Greatly enlarged and improved, Motilal Banarsidass Publishers
 Private Limited , Edition: 1999, Page No. 105.
- 9. Prof. Yadunandan Upadhaya, Madhavnidanam of Sri Madhav Kar with Madhukosa SanskritCommentary by Sri Vijay Rakshit & Srikantha Dutta, Chowkhamba Prakashan, Varanasi, Vol. - 1, Edition : Reprinted: 2008, Chapter - 04/08, Page No. -185.
- 10. Acharya Vaidya Jadavji Trikamji; Carak Samhita by Agnivesa revised by Carak & Drirabala with the Ayurveda Dipika Commentary of Chakrapani Dutta: Varanasi: Chaukhamba Publications; Edition:

- Reprint, 2018, Indriya sthan, Chapter 05/41, 42, Page- 363.
- 11. Acharya Vaidya Jadavji Trikamji; Carak Samhita by Agnivesa revised by Carak & Drirabala with the Ayurveda Dipika Commentary of Chakrapani Dutta: Varanasi: Chaukhamba Prakashan; Edition: Reprint, 2013, Chikitsa sthana, Chapter 15/60-64, Page-518.
- 12. Acharya Vaidya Jadavji Trikamji; Carak Samhita by Agnivesa revised by Carak & Drirabala with the Ayurveda Dipika Commentary of Chakrapani Dutta: Varanasi: Chaukhamba Prakashan; Edition: Reprint, 2013, Nidanasthan, Chapter 1/3, Page- 193- 194.
- 13. Acharya Vaidya Jadavji Trikamji; Carak Samhita by Agnivesa revised by Carak & Drirabala with the Ayurveda Dipika Commentary of Chakrapani Dutta: Varanasi: Chaukhamba Prakashan; Edition: Reprint, 2013, Sutra sthan, Chapter 1/57, Page- 16.
- 14. Acharya Vaidya Jadavji Trikamji; Carak Samhita by Agnivesa revised by Carak & Drirabala with the Ayurveda Dipika Commentary of Chakrapani Dutta: Varanasi: Chaukhamba Prakashan; Edition: Reprint, 2013, Chikitsasthan, Chapter 9/85-86, Page474.
- 15. Acharya Vaidya Jadavji Trikamji; Carak Samhita by Agnivesa revised by Carak & Drirabala with the Ayurveda Dipika Commentary of Chakrapani Dutta: Varanasi: Chaukhamba Prakashan; Edition: Reprint, 2013, Vimansthan, Chapter 8/119, Page279-280.
- 16. Acharya Vaidya Jadavji Trikamji; Carak Samhita by Agnivesa revised by Carak & Drirabala with the Ayurveda Dipika

- Commentary of Chakrapani Dutta: Varanasi: Chaukhamba Prakashan; Edition: Reprint, 2013, Chikitsasthan, Chapter 9/5, Page- 468.
- 17. Acharya Vaidya Jadavji Trikamji; Carak Samhita by Agnivesa revised by Carak & Drirabala with the Ayurveda Dipika Commentary of Chakrapani Dutta: Varanasi: Chaukhamba Prakashan; Edition: Reprint, 2013, Sutrasthan, Chapter 30/3-8, Page- 183- 185.
- 18. Prof. K.R. Srikantha Murthy, Madhav Nidanam,
 Chowkhamba Orientalia Varanasi, Reprint
 Edition, 2016, Chapter 4, Sloke No. 7 10, Page
 No. 20.
- 19. Lee Gold Man, Andrew L. Schafer; Gold Man's Cecil Medicine, Arend Armitage Clemmon's Drazen Criggs Landry Levinson Rustgi Scheld, Elsevier Saunders, Chapter 139. Page no. 869.
- 20. Kesper, Denis L. et al; Harrison's Principles of Internal Medicine, Volume -2, 18th Edition, Mc Graw Hill Education, Chapter 296, Page No. 2497.
- Nicholas A. Boon, Nicki R. College, Brian R.
 Walker; Davidson's Principle and Practise of Medicine 20th Edition ,Chapter – 10, Page 236.
- 22. B K Mahajan, Methods in Biostatics for Medical Students and Research Workers, Jaypee Brothers Medical Publishers (P) LTD, New Delhi, India, Edition -6th, 2006, Page- 152.

$23.\ https://www.statskingdom.com/180 Anova 1 way.$

html

ISSN: 2584-2757

DOI: 10.5281/zenodo.16031899

Dr. Arvind Kumar Gupta Inter. J. Digno. and Research

This work is licensed under Creative Commons Attribution 4.0 License

© ① ②

Submission Link: http://www.ijdrindia.com

