

CLINICAL EVALUATION OF THE EFFICACY OF SHANKHAPUSHPI PANAK AND SHIRODHARA WITH MANSYADI KWATHA IN THE MANAGEMENT OF CHITTODVEGA W.S.R. TO GENERALIZED ANXIETY DISORDER

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ABSTRACT

Chittodvega simulates Generalized Anxiety Disorder which is characterized by excessive, uncontrollable and often irrational worry about everyday things that is disproportionate to the actual source of worry. Keeping in view the increasing incidence of this problem a study was conducted with following **Aims and Objectives:** To assess and compare the efficacy of *Shankhapushpi Panak* and *Shirodhara* with *Mansyadi Kwatha* and Tab. Sertraline in the management of *Chittodvega* w.s.r. to Generalized Anxiety Disorder. **Material and Methods:** The study was conducted on 60 clinically diagnosed patient of *Chittodvega* and randomly divided into two groups. In Group 1: 30 Patients were administered *Shankhapushpi Panak* in the dose of 15 ml twice a day with equal amount of water after meal for one month and *Shirodhara* with *Mansyadi Kwatha* for 21 days for 48 minutes daily in the morning hours for 21 days. In Group 2: 30 Patients were administered Tab. Sertraline 50mg once a day at bed time for 30 days. Effects of treatment were assessed on the basis of sign and symptoms of GAD according to DSM-IV, Hamilton Anxiety Rating Scale and *Chittodvega*. **Statistical Analysis** was done with help of Instate Graph Pad software3.1 using Wilcoxon matched-pairs signed ranks test and Mann-Whitney test. **Results:** Statistically highly significant result was observed in both Groups. **Conclusion:** *Shankhapushpi Panak* and *Shirodhara* with *Mansyadi Kwatha* give same results in sign and symptoms of *Chittodvega*, GAD in DSM-IV and on Hamilton Anxiety Rating Scale when compared with Tab. Sertraline.

Key Words: *Chittodvega*, Generalized Anxiety Disorder, *Shirodhara*

INTRODUCTION

Chittodvega is *Manas Roga* and is develops due to vitiation of *Raja* and *Tama*. *Chittodvega* can be defined as a *Chitta* (mind) + *Udvega* (anxiety) = *Chittodvega* – ‘Anxious status of a mind’. *Nidana Sevana* aggravates *Raja*, which aggravates *Tama*¹ along with *Vata* and *Pitta*². There is lack of description of about symptomology of *Chittodvega* in *Ayurvedic* texts. *Unmada* is a major

psychological disorder (impairment of orientation i.e. psychosis) and *Chittodvega* is one of the minor psychological disorders (no disorientation as the

patient can perform his/her day to day activities without much difficulty i.e. neurosis) and neurosis may develop psychosis, with this thought prodromal features of *Unmada*, like *Shirash*

Shoonyata, Chakshushorakulta, Uchawasasyadhikyam, Udvega, Dhyana, Hridgraha, Ayasa, Unmattchittatvam, Anannabhilasa, Sammoha, Swanokarnayo and *Avipaka*,³ was chosen as symptoms of *Chittodvega*. It can be correlated with Generalized Anxiety Disorders on the basis of etymology of *Chittodvega* (anxious state of mind), type of psychological disorder (neurotic disorder) and symptomology (both are psychosomatic disorder).

Generalized Anxiety Disorder present with persistent, excessive, and/or unrealistic worry associated with muscle tension, impaired concentration, autonomic arousal, feeling "on edge" or restless, and insomnia. In present era, the occurrence of many diseases has increased and one of them is mental disorder, which is mentioned as 3rd health burden in India according WHO survey⁴. The data suggest that Anxiety Disorders clinics approximately 12% of the individuals suffering with Generalized Anxiety Disorder⁵, also approximately 6.8 million American adults⁶, and 2 percent of adult Europeans, in any given year, experience GAD⁷. The modern medical treatment of this disease requires long term use of sedative, hypnotic and anxiolytic drugs, which may lead to the side effects. But the treatment should cure the disease without developing any other disease. So, we should search for better treatment with less complication.

Shankhapushpi Panak described in *Ayurveda Sara Sangraha* under '*Panak Kalpana*' was selected for trial in the present study. It contains *Shankhapushpi, Brahmi* and *Sharkara*. *Shankhapushpi* is *Tridoshshamaka* especially *Vata-Pittashamaka* and has *Medhya Prabhava*, Secondly, *Shirodhara* with *Mansyadi*

Kwatha was also selected in this research work. *Mansyadi Kwatha* described in *Sidha Yog Sangraha*, contains *Jatamansi, Ashwagandha* and *Parseek Yavani*, is mentioned as a treatment for *Anidra* and *Shirodhara* is well known procedure used in *Manas Roga*. For the comparison of effects of these drugs Sertraline was selected which is drug of choice for GAD.

Aims and Objectives:

1. Clinical and conceptual studies of *Chittodvega* vis-à-vis Generalized anxiety disorders on the *Ayurvedic* terms.
2. To evaluate clinically the efficacy of *Shankhapushpi Panak* and *Shirodhara* with *Mansyadi Kwatha* for *Chittodvega*.
3. To compare the efficacy of *Shankhapushpi Panak* and *Shirodhara* with *Mansyadi Kwatha* with a standard drug i.e. Sertraline.

Material and Methods –

The study was conducted on 60 clinically diagnosed patient of *Chittodvega* (GAD). The selection of patients were from the outpatient and inpatient of P.G. Department of *Kayachikitsa* at National institute of *Ayurveda* Hospital Jaipur, SSBH Jaipur, Satellite Hospital and Psychiatric centre and De-addiction centre, Jaipur, Rajasthan after obtaining informed consent from patients and randomly divided into two groups.

1. Study Design- Multi centre, Open label, Randomized, Standard, Controlled, Clinical Interventional type.

2. Inclusion Criteria-

- Patients fulfilling the *Diagnostic and Statistical Manual of Mental Disorder, Fourth edition* (DSM-IV).
- Patients who score at least 14 on the Hamilton Anxiety Rating Scale (HARS-A) at baseline visit.

4.	Audible in all acoustic environments, disturbs falling asleep, can disturb sleep in general, and is a dominating problem that affects quality of life	3
4.	Ucchawasasyadhikyam (Dyspnoea)	
1.	Normal respiration	0
2.	Frequent sighing but not noticed by the patients	1
3.	Frequent sighing and patient think he is dyspnoic	2
5.	Hridgraha (Chest tightness)	
1.	No chest tightness	0
2.	Mild tightness around chest	1
3.	Feeling of choking sensation around chest	2
4.	Difficulty in breathing due to choking	3
6.	Dhayana (Unrealistic Apprehension)	
1.	Not present	0
2.	Occasionally	1
3.	Once in a week	2
4.	Daily but not always	3
5.	Daily and always	4
7.	Ayasa (Easily become fatigue)⁹	
1.	No limitation of normal activity	0
2.	Comfortable at rest, but ordinary physical activity results in fatigue	1
3.	Comfortable at rest, but less than ordinary activity causes fatigue.	2
4.	Unable to carry out any physical activity without discomfort.	3
8.	Sammoha (Illusion)	
1.	Not present	0
2.	Occasionally	1
3.	Once in a week	2
4.	Daily but not always	3
5.	Daily and always	4
9.	Udvega (Palpitation)	
1.	Normal emotions	0
2.	Emotional easily even in normal conditions	1
3.	Emotional during expressing his/her feelings	2
4.	Always emotional	3
5.	Unable to handle her/his emotions	4
10.	Unmattchittatvam (Inability to concentrate)	
1.	No complaint	0
2.	Feel that loss of concentration than earlier	1
3.	Cannot do work of concentration	2
4.	Many often I forget the matters	3
5.	Forget thing / matter of few minutes ago	4
11.	Anannabilasa (Anorexia)¹⁰	

1. Normal appetite	0
2. Loss of appetite without alteration in eating habits	1
3. Oral intake altered without significant weight loss or malnutrition	2
4. Associated with significant weight loss or malnutrition	3
5. Life threatening consequences	4
12. Avipaka (Impaired digestion)	
1. Food digests in 4-5 hrs	0
2. Food digests in 6-10 hrs	1
3. Food digests in 11- 15 hrs	2
4. Food digests in 16-20 hrs	3
5. Food digests in more than 1 day	4

Statistical Methods Used: Observation obtained were analyzed statistically with the help of Instate Graph pad software 3.1

1. Wilcoxon matched-pairs signed ranks test- Intra group comparison.
2. Mann-Whitney Test- For calculating the Inter group comparison.

Observation:

Maximum incidences were found in between 16-25 years age group (25%), Male Sex (61.67%), Hindu Religion (56.7%), Married (53.3%), Middle Class (45.0%), Primary passed (35%), Household job workers (35%), Relevant family history (71.67%), Urban area (38.3%), Mixed dietary habit (61.7%) and 1-5 year Chronic (56.7%). Majority of patient have *Vata-Pittaja Prakriti* (41.7%), *Rajasika Prakriti* (63.33%), *Madhyama Sara* (86.66%), *Madhyama Samhanana* (80%), *Avara Satva* (68.3%), *Madhyama Abhyavaharana Shakti* (30%), *Avara Jarana Shakti* (45%) and *Avara Vyayama Shakti* (54.1%). Maximum number of the patients had *Madhyama Koshta* (60%), *Vishmagni* (58.33%), Regular bowel habit (50%), *Samanya Mutrata* (85%), Tea addiction (46.65%), Disturbed sleep (38.3%) and Worried due to death of close ones (23.3%)

Among symptoms of *Chittodvega* 96.67% had complaint of *Dhyana*, 95% had complaint of *Ayasa*, 75% had complaint of

Sammoha, *Udvega*, *Unmattchittatvam* each, 66.6% had complaint of *Shirash Shoonyata*, 45% had complaint of *Avipaka*, 33.34% had complaint of *Hridgraha*, 26% had complaint of *Chakshushorakulta*, 23% had complaint of *Anannabhilasa* and 18% had complaint of *Ucchawasasyadhikyam* as well as *Swanokarnayo* each.

Among symptoms of GAD maximum i.e. 100% had complaint of Excessive worry, difficulty to control worry along with restlessness each, 96.67% had complaint of irritability, 95% had complaint of easily fatigability, 93.33% had complaint of disturbed sleep, 75% had complaint of Difficulty in concentration or mind going blank and only 20% complaint for muscle tension.

Occurrence of *Kapha Dushti* symptoms in *Chittodvega* showed that 45% was suffering from *Agnimandya*, 33.33% from *Avsada*, 23.34% from *Aruchi*, 9.8% from *Praseka* and 1.7% from *Tandra*. Occurrence of *Pitta Dushti* symptoms showed that 95% was suffering from *Balahrash*, 90% from *Amlika*, 40% from *Atisweda* and 23.3% from *Daha*. Occurrence of *Vata Dushti* symptoms showed that 100% was suffering from *Vepathu*, followed by 93.33% from *Nidranasa*, 66.67% from *Shiroruka*, 65.7% from *Hriddravata*, 40% from *Gadhavarcha*, 13.2% from *Padasuptata* and 5% from

Udarveshtana. Occurrence of *Ojas Dushti* symptoms showed that 95% was suffering from *Daurbalya*, 68.3% from *Bhaya*, 8.2% from *Pramada* and 6.6% from *Rukshata*.

Results: Improvement in Hamilton Anxiety Rating Scale (HAM-A)

In Group 1 the mean Score of HAM-A Scale before treatment was 44.46 which lowered down to 15.86 after treatment, with SD±9.12 giving an improvement of

57.1% which was statistically highly significant. In Group 2 the mean Score before treatment was 44.90 which lowered down to 15.36 after treatment, with SD±9.26 giving an improvement of 58.4% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Table No.1: Showing effect of Therapy on Hamilton

Anxiety Rating Scale (HAM-A Scale) (Wilcoxon matched paired single ranked test)

Group	Mean		MeanDiff.	% Relief	SD±	SE±	P	S
	BT	AT						
Gr.1	44.46	15.86	25.40	57.1%	9.12	1.66	<0.001	HS
Gr.2	44.90	15.36	26.23	58.4%	9.26	1.69	<0.001	HS

(HS: Highly Significant S: Significant NS: Non Significant)

Improvement in DSM-IV criteria for GAD

Excessive Worry: In Group A the mean Score of Excessive worries before treatment was 3.2 which lowered down to 0.5 after treatment, with SD±0.49 giving an improvement of 82.29% which was statistically highly significant. In Group B the mean Score before treatment was 2.96 which lowered down to 0.53 after treatment, with SD±0.50 giving an improvement of 82.02% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Restlessness: In Group A the mean Score of Restlessness before treatment was 2.23 which lowered down to 0.4 after treatment, with SD±0.79 giving an improvement of 82.09% which was statistically highly significant. In Group B the mean Score before treatment was 3 which lowered down to 0.5 after treatment, with SD±0.73 giving an improvement of 83.33% which was statistically highly significant. In

intergroup comparison both groups were statistically insignificant.

Fatigability: In Group A the mean Score of fatigability before treatment was 1.93 which lowered down to 0.33 after treatment, with SD±0.93 giving an improvement of 82.75% which was statistically highly significant. In Group B the mean Score before treatment was 1.96 which lowered down to 0.33 after treatment, with SD±1.03 giving an improvement of 83.05% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Difficulty in concentration: In Group A the mean Score of Difficulty in concentration before treatment was 1.56 which lowered down to 0.36 after treatment, with SD±0.92 giving an improvement of 76.60% which was statistically highly significant. In Group B the mean Score before treatment was 1.80 which lowered down to 0.36 after treatment, with SD±0.96 giving an improvement of 76.30% which was statistically highly significant. In

intergroup comparison both groups were statistically insignificant.

Irritability: In Group A the mean Score of Irritability before treatment was 2.96 which lowered down to 0.43 after treatment, with $SD\pm 0.62$ giving an improvement of 85.39% which was statistically highly significant. In Group B the mean Score before treatment was 2.96 which lowered down to 0.43 after treatment, with $SD\pm 0.56$ giving an improvement of 86.51% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Muscle tension: In Group A the mean Score of Muscle tension before treatment was 0.46 which lowered down to 0.13 after treatment, with $SD\pm 0.66$ giving an improvement of 71.42% which was statistically highly significant. In Group B the mean Score before treatment was 0.40 which lowered down to 0.10 after treatment, with $SD\pm 0.65$ giving an improvement of 75.00% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Disturbed sleep : In Group A the mean Score of Disturbed sleep before treatment

was 3.03 which lowered down to 0.40 after treatment, with $SD\pm 0.71$ giving an improvement of 86.81% which was statistically highly significant. In Group B the mean Score before treatment was 2.67 which lowered down to 0.40 after treatment, with $SD\pm 1.20$ giving an improvement of 85% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

DSM-IV Criteria for GAD as a whole: In Group 1 the mean Score of DSM-IV Criteria for GAD as a whole before treatment was 18.40 which lowered down to 5.36 after treatment, with $SD\pm 11.76$ giving an improvement of 63.90% which was statistically highly significant. In Group 2 the mean Score before treatment was 19.66 which lowered down to 4.80 after treatment, with $SD\pm 13.33$ giving an improvement of 67.7% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Table No.2: Showing effect of Therapy on DSM-IV criteria for GAD (Chittodvega) (Wilcoxon matched paired single ranked test)

Variable	Group	Mean		Mean Diff.	% Relief	SD±	SE±	P	S
		BT	AT						
Excessive worry	Gr. A	3.20	0.50	2.60	82.2%	0.49	0.89	<0.001	HS
	Gr. B	2.96	0.53	2.43	82.0%	0.50	0.92	<0.001	HS
Restlessness	Gr. A	2.23	0.40	1.83	82.0%	0.79	0.14	<0.001	HS
	Gr. B	3.00	0.50	2.50	83.3%	0.73	0.13	<0.001	HS
Fatigability	Gr. A	1.93	0.33	1.60	82.7%	0.93	0.17	<0.001	HS
	Gr. B	1.96	0.33	1.63	83.0%	1.03	0.18	<0.001	HS
Difficulty in concentrating	Gr. A	1.56	0.36	1.20	76.6%	0.92	0.16	<0.001	HS
	Gr. B	1.80	0.36	1.40	76.3%	0.96	0.17	<0.001	HS
Irritability	Gr. A	2.96	0.40	2.53	85.3%	0.62	0.11	<0.001	HS
	Gr. B	2.96	0.13	2.56	86.5%	0.56	0.10	<0.001	HS
Muscle tension	Gr. A	0.46	0.13	0.33	71.4%	0.66	0.12	<0.001	HS

	Gr. B	0.40	0.10	0.30	75.0%	0.65	0.11	<0.001	HS
Sleep disturbance	Gr. A	3.03	0.40	2.63	86.8%	0.71	0.13	<0.001	HS
	Gr. B	2.66	0.40	2.26	85.0%	1.20	0.21	<0.001	HS
DSM-IV criteria for GAD as a whole	Gr.1	18.4	5.36	11.76	63.9%	5.93	1.08	<0.001	HS
	Gr.2	19.6	4.80	13.33	67.7%	5.50	1.01	<0.001	HS

(HS: Highly Significant S: Significant NS: Non Significant)

Improvement in Ayurvedic symptoms of Chittodvega

Shirash Shoonyata: In Group A the mean score of *Shirash Shoonyata* before treatment was 1.1 which lowered down to 0.23 after treatment, with SD±0.86 giving a relief of 78.78% which was statistically highly significant. In Group B the mean Score before treatment was 1.4 which lowered down to 0.26 after treatment, with SD±0.77 giving a relief of 80.95% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Chakshushorakulta: In Group A the mean score of *Chakshushorakulta* before treatment was 1.1 which lowered down to 0.33 after treatment, with SD±0.43 giving a relief of 69.69% which was statistically highly significant. In Group B the mean Score before treatment was 1.03 which lowered down to 0.33 after treatment, with SD±0.46 giving a relief of 67.74% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Swanokarnayo: In Group A the mean score of *Swanokarnayo* before treatment was 0.43 which lowered down to 0.16 after treatment, with SD±0.58 giving a relief of 61.53% which was statistically significant. In Group B the mean Score before treatment was 0.36 which lowered down to 0.13 after treatment, with SD±0.56 giving a relief of 63.63% which was statistically

significant. In intergroup comparison both groups were statistically insignificant.

Ucchawasasyadhikyam: In Group A the mean Score of *Ucchawasasyadhikyam* before treatment was 0.86 which lowered down to 0.33 after treatment, with SD±0.50 giving a relief of 61.53% which was statistically highly significant. In Group B the mean Score before treatment was 0.93 which lowered down to 0.33 after treatment, with SD±0.56 giving a relief of 64.28% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Hridgraha: In Group A the mean score of *Hridgraha* before treatment was 0.43 which lowered down to 0.10 after treatment, with SD±0.47 giving a relief of 76.92% which was statistically highly significant. In Group B the mean Score before treatment was 0.66 which lowered down to 0.30 after treatment, with SD±0.43 giving a relief of 77.77% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Dhyana: In Group A the mean score of *Dhyana* before treatment was 3.16 which lowered down to 1.5 after treatment, with SD±0.84 giving a relief of 52.63% which was statistically highly significant. In Group B the mean Score before treatment was 2.93 which lowered down to 1.13 after treatment, with SD±1.18 giving a relief of 61.36% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Sammoha: In Group A the mean Score of *Sammoha* before treatment was 2 which lowered down to 0.43 after treatment, with $SD\pm 1.25$ giving a relief of 78.3% which was statistically highly significant. In Group B the mean Score before treatment was 1.76 which lowered down to 0.30 after treatment, with $SD\pm 1.30$ giving a relief of 83.0% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Udvega: In Group A the mean Score of *Udvega* before treatment was 1.60 which lowered down to 0.36 after treatment, with $SD\pm 0.93$ giving a relief of 77% which was statistically highly significant. In Group B the mean Score before treatment was 2.06 which lowered down to 0.46 after treatment, with $SD\pm 0.85$ giving a relief of 77.4% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Unmattchittatvam: In Group A the mean Score of *Unmattchittatvam* before treatment was 1.56 which lowered down to 0.36 after treatment, with $SD\pm 0.50$ giving a relief of 61.53% which was statistically highly significant. In Group B the mean Score before treatment was 0.93 which lowered down to 0.33 after treatment, with $SD\pm 0.56$ giving a relief of 64.28% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Anannabhilasa: In Group A the mean Score of *Anannabhilasa* before treatment was 0.4 which lowered down to 0.13 after treatment, with $SD\pm 0.44$ giving a relief of 66.66% which was statistically highly significant. In Group B the mean Score before treatment was 0.40 which lowered down to 0.26 after treatment, with $SD\pm 0.34$ giving a relief of 33.33% which was statistically highly significant. The p

value for intergroup comparison is >0.05 which is statistically non significant which shows that there is statistical no difference in efficacy of both treatments on *Anannabhilasa*.

Avipaka: In Group A the mean Score of *Avipaka* before treatment was 1 which lowered down to 0.36 after treatment, with $SD\pm 0.49$ giving a relief of 63.33% which was statistically highly significant. In Group B the mean Score before treatment was 0.96 which lowered down to 0.73 after treatment, with $SD\pm 0.40$ giving a relief of 20% which was statistically significant. In intergroup comparison both groups were statistically significant with p value <0.05 .

Ayasa: In Group A the mean Score of *Ayasa* before treatment was 1.93 which lowered down to 0.33 after treatment, with $SD\pm 0.93$ giving a relief of 82.70% which was statistically highly significant. In Group B the mean Score before treatment was 1.96 which lowered down to 0.33 after treatment, with $SD\pm 1.03$ giving a relief of 83.00% which was statistically highly significant. In intergroup comparison both groups were statistically insignificant.

Table No.3: Showing effect of therapy on the symptoms of Chittodvega (Wilcoxon matched paired single ranked test)

Variable	Group	Mean		Mean Diff.	% Relief	SD±	SE±	P	S
		BT	AT						
<i>Shirash Shooniyata</i>	Gr. A	1.10	0.23	0.86	78.7%	0.81	0.14	<0.001	HS
	Gr. B	1.40	0.26	1.13	80.9%	0.77	0.14	<0.001	HS
<i>Chakshushor-akulta</i>	Gr. A	1.10	0.33	0.76	69.6%	0.43	0.07	<0.001	HS
	Gr. B	1.03	0.33	0.70	67.7%	0.46	0.08	<0.001	HS
<i>Swanokarnayo</i>	Gr. A	0.43	0.16	0.26	61.5%	0.58	0.10	<0.05	S
	Gr. B	0.36	0.13	0.23	63.6%	0.56	0.10	<0.05	S
<i>Ucchwasasya-adhikyam</i>	Gr. A	0.86	0.33	0.53	61.5%	0.50	0.10	<0.001	HS
	Gr. B	0.93	0.16	0.60	64.2%	0.56	0.10	<0.001	HS
<i>Hridgraha</i>	Gr. A	0.43	0.10	0.33	76.9%	0.47	0.08	<0.001	HS
	Gr. B	0.66	0.30	0.23	77.7%	0.43	0.07	<0.001	HS
<i>Dhyana</i>	Gr. A	3.16	1.50	1.66	52.6%	0.84	0.15	<0.001	HS
	Gr. B	2.93	1.13	1.80	61.3%	1.18	0.21	<0.001	HS
<i>Ayasa</i>	Gr. A	1.93	0.33	1.60	82.7%	0.93	0.17	<0.001	HS
	Gr. B	1.96	0.33	1.63	83.0%	1.03	0.18	<0.001	HS
<i>Sammoha</i>	Gr. A	2.00	0.43	1.56	78.3%	1.25	0.22	<0.001	HS
	Gr. B	1.76	0.30	1.46	83.0%	1.30	0.23	<0.001	HS
<i>Udvega</i>	Gr. A	1.60	0.36	1.23	77.0%	0.93	0.17	<0.001	HS
	Gr. B	2.06	0.46	1.6	77.4%	0.85	0.15	<0.001	HS
<i>Unmat-chittatava</i>	Gr. A	1.56	0.36	1.2	76.6%	0.92	0.16	<0.001	HS
	Gr. B	1.80	0.36	1.4	76.3%	0.96	0.17	<0.001	HS
<i>Anannabhilasa</i>	Gr. A	0.40	0.13	0.26	66.6%	0.44	0.08	<0.001	HS
	Gr. B	0.30	0.10	0.20	66.6%	0.40	0.07	<0.001	HS
<i>Avipaka</i>	Gr. A	1.00	0.36	0.63	63.3%	0.49	0.08	<0.001	HS
	Gr. B	0.96	0.73	0.2	20.7%	0.40	0.07	<0.05	S

(HS: Highly Significant S: Significant NS: Non Significant)

DISCUSSION

Manas is very important in *Ayurveda* as it is an essential component of *Ayu*, *Tridanda* (a metaphysical faculty of person), process of knowledge, site for disease development, good health and salvation. The main seat of *Manas* is *Hridaya* (Brain) and it performs its function by moving in whole body through *Srotas* along with *Vata*, *Pitta* and *Kapha*. *Raja & Tama* are two *Manasika Doshas* which vitiates the *Hridaya*, the seat of *Buddhi*, and then obstruct the *Manovaha Srotas* & produce various types of psychological disorders like *Chittodvega* etc.

It can be correlated with Generalized Anxiety Disorders on the basis of etymology of *Chittodvega* (anxious state of mind), type of psychological disorder (neurotic disorder) and symptomology (both are psychosomatic disorder).

Shankhapushpi Panak which is mentioned in *Ayurveda Sara Sangraha* under *Panaka Kalpana* contains *Shankhapushpi*, *Brahmi* and *Sugar*, is stated to be *Medhya*, *Smritiprada*, *Shirahshoolahara*, and useful in *Chittavibhrama* and *Manasika Ashanti*.

Shankhapushpi is *Tridoshshamaka* especially *Vata-Pittashamaka*, has *Tikta*

Rasa, Snigdha and Picchila Guna, Sheeta Virya, Madhura Vipaka and Medhya in Prabhava. Acharya Charaka has mentioned it as best 'Medhya Rasayana'. Due to Vata-Pitta Samaka property, Shankhapushpi will act on Raja Guna by pacifying Vata Dosha. It is Medhya in Prabhava so it improves Medha and decreases probability of Pragnyaparadha because literally, the term "Medhya" means substances that are beneficial for "Medha" or in a functional term Pragma¹¹. In recent studies it is mentioned as anxiolytic, tranquillizing and anti-amnesic¹². It is quite good for improving memory due to its chemical composition, including phytonutrients like Scopoline β - Sitosterol, Convulone and Confoline¹³.

Brahmi is Tridosahara, has Tikta, Kashaya and Madhura Rasa, Laghu and Sara Guna, Sheeta Virya, Madhura Vipaka and Medhya Prabhava. By pacification of Vata and Pitta, there is reduction of Raja Guna along with Tama. Due to Medhya Prabhava it improves Medha and reduces the Pragnyaparadha. In recent studies it is mentioned as sedative¹⁴, anti-stress¹⁵, and enhancer of cognitive performance and action through triterpenoid, saponins and their bacosides. Brahmi is said to affect the GABA-ergic system which involves the nerves and synapses of the central nervous system where memory originates and is stored. The saponin and hersaponin is reported to possess sedative and spasmodic properties. A comparative study of hersaponin and pentobarbitone indicates that hersaponin has a superior sedative effect¹⁶.

Among all the Vikaras of Ikshu, Sharkara has best Vata-Pittashamaka property, it has Madhura Rasa, Guru and Snigdha Guna, Sheeta Virya, Madhura Vipaka. It increases Kapha Guna and improves the general physique and should have a soothing effect on the mind or should

produce tranquillity in the mind and enhances "Dharana Karma".

Probable mode of action of Shirodhara with Mansyadi Kwatha

According to Acharya Charaka, the Shirash is the seat of Prana and all Indriyas (Sense organs) having shelter in Shirash. So Shirodhara with Mansyadi Kwatha provides strength to Prana & Indriyas which are mainly vitiated in case of psychological disorders.

According to Yoga Sutra between both eye brows one of the Shada Chakra, i.e. Agya Chakra is located which controls the function of other Chakras, and it is also responsible for intellect, knowledge etc. So when the patient meditate on Dhara, it enhances the power of Agya Chakra, which in turn starts functioning properly & also regulates the function of other Chakras and relieves the symptom of Chittodvega.

Paka Prakriya by Bhrajaka Pitta situated at Twaka absorbs Virya of drugs directly without alteration in properties¹⁷ and act directly on the site of pathology i.e Shiras. Also, Scalp is richly supplied by blood vessels so there is easy absorption of active principles.

In a study the psycho-neuro-immunologic changes of Shirodhara were studied. The results show that Shirodhara has anxiolytic and ASC-inducing effects, and it promotes a decrease of noradrenaline and exhibits a sympatholytic effect, resulting in the activation of peripheral foot skin circulation and immunopotential¹⁸.

Jatamansi is Tridoshamaka, has Tikta, Kashaya and Madhura Rasa, Snigdha and Laghu Guna, Sheeta Virya and Katu Vipaka. Acharya Charaka has stated it as Sangyasthapaka. Jatamansi comes packed with GABA and it increases the power of the GABA produced by the body. The end result is a relaxed day or a good night's sleep¹⁹.

Parseek Yavani is Kapha-Vatashamaka and Pittavardhaka, It produces sedative effect

due to *Madaka Prabhava*, reduces headache due to *Vednasthapaka Prabhava*. It has Scopolamine alkaloid, which is muscarinic receptor antagonist and anticholinergic that's why it produces sedative effect²⁰. It also has hyoscyamine, which has same effect, but hyoscyamine has 98 percent of the anticholinergic power of atropine and the other major belladonna-derived drug²¹

Ashwagandha is *Kapha-Vata Samaka*, has *Tikta, Katu* and *Madhura Rasa, Laghu* and *Snigdha Guna, Ushna Virya* and *Madhura Vipaka*. It pacifies *Vata* due to *Madhura Rasa, Snigdha Guna, Ushna Virya* and *Madhura Vipaka*. Its extract has negative effect on stress, including elevated levels of the stress hormone cortisol²². Its extract inhibits acetylcholinesterase and their by produces sedative effect²³.

Following conclusion can be drawn from the current research project

1. Mind is prime factor in health and disease.
2. Various psychic factors affects at somatic levels too.
3. Among various psychological disorders described in *Ayurveda Chittodvega* is nearest term for Generalized Anxiety Disorder. *Rajas* with vitiation of *Vata* plays an important role in *Chittodvega*.
4. *Shankhapushpi Panak* and *Shirodhara* with *Mansyadi Kwatha* produced similar results in sign and symptoms of *Chittodvega* (GAD) on Hamilton Anxiety Rating Scale when compared with Tab. Sertraline.

REFERENCES

1. (Ch. Vi. 6/) raja and tama
2. Sankhyakarika
3. Purvaroop of unmaad
4. [http://www.who.int/macrohealth/action/N_CMH_Burden%20of%20disease_\(29%20Sep%202005\).pdf](http://www.who.int/macrohealth/action/N_CMH_Burden%20of%20disease_(29%20Sep%202005).pdf)
5. Mental Illness in General Health Care; Ustün & Sartorius, 1995
6. "The Numbers Count", National Institute of Mental Health. Accessed 28 May 2007.
7. Lieb, R.; Becker, E.; Altamura, C. (2005) . "The epidemiology of generalized anxiety disorder in Europe". *European Neuropsychopharmacology* 15 (4): 445–452. doi:10.1016/j.euroneuro.2005.04.010. PMID 15951160
8. By Klockoff and Lindblom (1967)
9. New York health Association (NYHA) Classification
10. ANOREXIA GRADING SCALE Adapted NCI CTCAE (Version 3.0)
11. (Chakrapani on Charaka Sharira 1/98)
12. <http://www.ncbi.nlm.nih.gov/pubmed/22247878>
13. http://www.phytojournal.com/vol1Issue1/Issue_may_2012/4.pdf
14. Malhotra, C.L and Das, P. K: Indian J Med Res 47, 294 (1959)
15. Chowdhuri DK, et al *Phytother Res* 2002 Nov; 16(7):639-45
16. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3153866>
17. <http://ayurvedaelements.com/articlebrahmi.php>
18. Kazuo Uebaba et al 2008
19. <http://doctorschar.com/archives/spikenard-nardostachyos-jatamansi>
20. <http://www.naturalstandard.com/index-abstract.asp?create-abstract=scopolamine.asp&title=Scopolamine>
21. <https://mycotopia.net/forums/botanicals/66093-botanical-day-2.html>
22. Unpublished study, 2005. NutrGenesis, LLC
23. Choudhary MI, Yousuf S, Nawaz SA, Ahmed S, Atta uR. Cholinesterase inhibiting withanolides from *Withania somnifera*. *Chem Pharm Bull (Tokyo)*.2004 Nov;52(11): 1358-61.

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