



# An Open Label Clinical Study to Evaluate the Efficacy of *Astanga Gritha* in Occupational Stress w.s.r to *Chittodvega*

Author: Ramya Mallya B<sup>1</sup>

Co Authors: Shrilatha Kamath T<sup>2</sup> and Veerakumara K<sup>3</sup>

<sup>1-3</sup>Dept. of PG Studies in Kayachikitsa and Manasaroga, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Kuthpady, Udupi, KA, India

## ABSTRACT

**Objective:** To study the therapeutic effect of *Astanga gritha* in treatment of subjects (paramedical personnel) with occupational stress/ *Chittodvega*.

**Methodology:** An open label clinical study with pre-test and post-test design. Patients (paramedical personnel) from OPD and IPD of Sri Dharmasthala Manjunatheshwara Ayurveda Hospital, Udupi complaining of occupational stress were screened using Professional life stress scale and 30 subjects with scores 16-60 were selected. Subjects were administered with *Astanga gritha* 24ml before breakfast with warm water for 14 days. Outcome measures were assessed using Professional Life Stress Scale, The Work Place Stress Scale, Self-prepared Manasikabhava Scale and Visual Analogue scale for symptoms on 7th, 14th and 42nd day. Subjective parameters were analysed statistically using Wilcoxon Signed Rank test and objective parameters were analysed using Paired t test.

**Results:** The results obtained were statistically significant in all parameters with P value less than 0.001.

**Conclusion:** Occupational stress is a condition where the stressors are persistent till the subject continues to work. In presence of stressor, *Astanga gritha* effectively mitigated the symptoms of stress which proves the efficacy of medication. Same is proved by analyzing the parameters statistically.

**Key Words:** *Ha: Occupational stress, Chittodvega, Astanga gritha*

## INTRODUCTION

Health is a state of physical, mental, spiritual and social well being of an individual. Mental health is as important as physical health as it determines the emotional and psychological state of a person. Ayurveda which aims at prevention and cure of diseases also emphasises on the preservation and promotion of health through positive concepts of

physical and mental health. In present scenario, motto of life is to achieve financial status and fulfil one's needs. With this regard, without any discriminates in gender, people prefer to work and choose a profession. But managing different dimensions of life efficiently is always a challenging issue. One such challenge which is



faced by the present population is Occupational Stress.

Stress which motivates an individual to perceive his goal is considered as eustress or good stress. When demands overweigh the skills of an individual, time lag enabling them to cope up, an individual ends up with stress. This is distress which is a global issue in the current scenario. Health care professionals form a major group affected by occupational stress due to their nature of job.

Ayurveda classic mentions derangement of psychic faculty of an individual due to the indulgence in factors like *prajnaparadha*, *asatmedriyartharthasamyoga* or *parinama*.<sup>1</sup>One among the derangements or *manovikara* is *Chittodvega*. This *manovikara* is caused by exacerbation of *Vatadosha*.

Occupational stress presents with a wide range of physical and psychological symptoms like irritability, anxiousness, fatigue, disturbed sleep, forgetfulness. In due course it may lead to various life threatening hazards like hypertension, diabetes mellitus, autoimmune diseases, cardiac diseases etc. *Chittodvega*<sup>2</sup> which is a *manovikara* also presents with symptoms like anxious state of mind. *Udvega* is mentioned as *purvarupa* of *Unmada* and *Graharoga*. This relates seriousness of *Chittodvega*.

*Yuktivyapashraya chikitsa* is explained as a treatment for *Manovikara*. *Gritha prayoga* is best among them. When *medhya* drugs are processed with it, it gives tremendous results. Hence an attempt has been made to study occupational stress

which is likely parallel to *Chittodvega* and to estimate the efficacy of *Astanga Gritha*<sup>3</sup> in Occupational Stress. *Astanga gritha* is prepared using eight herbs. These are easily procured and cost effective.

## OBJECTIVES

To study the therapeutic effect of *Astanga gritha* in treatment of subjects (paramedical personnel) with Occupational stress/ *Chittodvega*.

## MATERIALS AND METHODS

Ethical Committee Approval No.  
SDMCAU/ACA-49/ECH23/17-18

### Design

- Study Type : Interventional
- Allocation : Non-Randomized
- Endpoint Classification : Efficacy Study
- Intervention Model : Single Group Assignment

- Primary Purpose : Treatment
- Masking : Open Label

Setting: Sri Dharmasthala Manjunatheshwara Ayurveda Hospital, Kuthpady, Udupi.

Participants: From July 2019 to January 2020, subjects i.e. paramedical personnel complaining of occupational stress were subjected to Professional Life Stress Questionnaire. 30 subjects with scores ranging from 16-60 were considered for study irrespective of gender, caste and religion.

### Diagnostic criteria:

- Paramedical personnel complaining of stress at work place.



➤ Subjected to Professional Life Stress Questionnaire. Subjects with scores ranging from 16-60 are considered.

**Inclusion criteria:**

➤ Patients with age group of 18-60 years, complaining of stress were included irrespective of their gender and socio-economic status.

➤ Subjects willing to sign informed consent form.

**Exclusion criteria:**

➤ Patients suffering from Diabetes mellitus, Hypertension and other Systemic illness and Organic diseases of the brain.

➤ Subjects suffering from other Psychiatric illness and complications of Substance Abuse.

**Assessment criteria:**

Subjective and objective parameters will be scored by standard method and will be assessed on 0, 7<sup>th</sup>, 14<sup>th</sup> and 42<sup>nd</sup> day with assessment 0 as the baseline. Statistical analyses of the observed data were done using Paired t test for Numerical data and Wilcoxon Signed Rank Test for ordinal data, on comparing 0 to 14<sup>th</sup> day.

**Subjective criteria**

- 1) *Manasabhava* Scale <sup>4</sup>
  - Positive emotions
  - Negative emotions
- 2) Professional Life Stress Scale<sup>5</sup>
- 3) The Work Place Stress Scale <sup>6</sup>
- 4) Baseline values of Visual Analogue Scale (0-10) of anxiousness compared with the values of Visual Analogue Scale (0-10) on 14<sup>th</sup> day

5) Baseline values of Visual Analogue Scale (0-10) of disturbed sleep compared with the values of Visual Analogue Scale (0-10) on 14<sup>th</sup> day

6) Baseline values of Visual Analogue Scale (0-10) of fatigue compared with the values of Visual Analogue Scale (0-10) on 14<sup>th</sup> day

7) Baseline values of Visual Analogue Scale (0-10) of headache compared with the values of Visual Analogue Scale (0-10) on 14<sup>th</sup> day

8) Baseline values of Visual Analogue Scale (0-10) of feeling of hopelessness compared with the values of Visual Analogue Scale (0-10) on 14<sup>th</sup> day

9) Baseline values of Visual Analogue Scale (0-10) of difficulty making decisions compared with the values of Visual Analogue Scale (0-10) on 14<sup>th</sup> day

10) Baseline values of Visual Analogue Scale (0-10) of extreme irritation over small things compared with the values of Visual Analogue Scale (0-10) on 14<sup>th</sup> day

11) Baseline values of Visual Analogue Scale (0-10) of carelessness compared with the values of Visual Analogue Scale (0-10) on 14<sup>th</sup> day

12) Baseline values of Visual Analogue Scale (0-10) of forgetfulness compared with the values of Visual Analogue Scale (0-10) on 14<sup>th</sup> day

13) Baseline values of Visual Analogue Scale (0-10) of lack of energy and commitment compared with the values of Visual Analogue Scale (0-10) on 14<sup>th</sup> day

14) Baseline values of Visual Analogue Scale (0-10) of Feeling zero at the end of the day



compared with the values of Visual Analogue Scale (0-10) on 14<sup>th</sup> day

### Objective criteria

- 1) Blood pressure
- 2) Pulse rate

### Intervention:

*Astanga gritha* 24ml<sup>7</sup> in the morning before food with warm water

Duration of the treatment: 14 days

Follow up: 28 days after treatment

Total duration of the study: 42 days

## RESULTS

### Professional Life Stress Scale (PLSS)

Professional Life Stress Scale comprises of 24 questions, out of which 2 are self evaluative

**Table 1** Effect of treatment on Professional Life Stress Scale

PLSS	Mean			Wilcoxon signed rank test					
	BT	AT	BT-AT	%of improvement	SD	SEM	MEDIAN	Z value	P value
A.G	29.566	26.33	3.233	10.93%	BT-2.192	BT-0.400	BT-30.000	-4.914	<0.001
					AT-1.936	AT-0.353			

### The Work Place Stress Scale

Effect of *Astanga gritha* on The Work Place Stress Scale before and after treatment on 30 patients revealed that mean score of WPSS was 26.166

questions, 11 questions are with yes/no format, 10 questions had multiple choices and 1 question had 22 sub questions. The total score of PLSS is 60. Score  $\leq 15$  refers mild stress which is required for motivation or eustress. 16-30 indicated moderate stress, 31-45 high stress, 46-60 is very high stress; here stress is a major problem. This tool is used for screening individuals and assessing the severity of stress in an individual.

Effect of *Astanga gritha* on PLSS before and after treatment on 30 patients revealed that mean score of PLSS 29.566 before treatment was reduced to 26.33 after treatment and the change is statistically significant with P value less than 0.001 as shown in the table 1.

before treatment was significantly reduced to 23.933 after treatment and this change is statistically significant with P value less than 0.001 as shown in table 2.

**Table 2** Effect of treatment on The Work Place Stress Scale

WPSS	Mean			Wilcoxon signed rank test					
	BT	AT	BT-AT	%of improvement	SD	SEM	MEDIAN	Z value	P value
A.G	26.167	23.93	2.234	8.537%	BT-2.653	BT-0.484	BT-25.50	-4.869	<0.001
					AT-2.559	AT-0.467			

### Manasabhava scale

Effect of *Astanga gritha* on self prepared Positive Emotional scale- before and after treatment in 30 patients revealed that mean score of 9.000 before treatment was reduced to 5.867 after treatment and

change that occurred with the treatment is statistically significant with P value less than 0.001 as shown in the table 3.

Effect of the *Astanga gritha* on self prepared Negative Emotional scale before and after



**Table 3** Effect of the treatment on Positive Emotions

P.E.	Mean			Wilcoxon signed rank test					
	BT	AT	BT-AT	% of improvement	SD	SEM	MEDIAN	Z value	P value
A.G.	9.000	5.867	3.133	34.811%	BT-3.648	BT-0.666	BT-8.000	-4.812	<0.001
					AT-3.298	AT-0.602	AT-5.000		

treatment in 30 patients revealed that mean score of 4.967 before treatment was reduced to 3.233 after treatment and change that occurred with the

treatment is statistically significant with P value less than 0.001 as shown in the table 4.

**Table 4** Effect of treatment on Negative Emotions

N.E.	Mean			Wilcoxon signed rank test					
	BT	AT	BT-AT	% of improvement	SD	SEM	MEDIAN	Z value	P value
A.G.	4.967	3.233	1.734	34.91%	BT-2.173	BT-0.337	BT-4.000	-4.423	<0.001
					AT-1.716	AT-0.313	AT-3.000		

**Table 5** Overall effect of the therapy

Sl no	Improvement	Scale	No. of patients	% of patients
1.	No	0	0	0%
2.	Mild	1-25	28	93.33%
3.	Moderate	26-50	2	6.67%
4.	Marked	51-75	0	0%
5.	Excellent	76-100	0	0%

### Effect on symptoms

Effect of *Astanga gritha* on intensity of anxiety before and after treatment revealed that mean score of 4.833 before treatment was reduced to 3.466 after treatment. Disturbed sleep before and after treatment revealed that mean score of 4.666 before treatment was reduced to 3.533 after treatment. Fatigue before and after treatment revealed that mean score of 6.233 before treatment was reduced to 4.233 after treatment. Effect of *Astanga gritha* on Headache before and after treatment revealed that mean score of 4.067 before treatment was reduced to 3.1 after treatment. Intensity of Feelings of Hopelessness before and after treatment revealed that mean score of 1.167 before treatment was reduced to 1.100 after treatment. Intensity of Difficulty in making

Decisions before and after treatment revealed that the mean score of 4.033 before treatment was reduced to 3.233 after treatment. Intensity of Extreme irritation over small things before and after treatment revealed that mean score of 7.000 before treatment was reduced to 4.967 after treatment. Intensity of Forgetfulness before and after treatment revealed that mean score of 2.967 before treatment was reduced to 2.500 after treatment. Intensity of Lack of Energy And Commitment before and after treatment revealed that mean score of 5.933 before treatment was reduced to 4.233 after treatment. Intensity of Feeling zero at the end of day before and after the treatment in 30 patients revealed that mean score of 2.633 before treatment was reduced to 1.967 after treatment. Statistical analysis revealed that



mean score of Pulse before treatment was 74.667. It is reduced to 74.200 after treatment and the change that occurred with treatment is greater than would be expected by chance. Systolic blood pressure before and after treatment revealed that mean score of Systolic blood pressure before treatment was 120. It is reduced to 118.733 after treatment and change that occurred with treatment is greater than would be expected by chance. Diastolic blood pressure before and after treatment revealed that mean score of Diastolic blood pressure before treatment was 120. It is reduced to 118.733 after treatment and change that occurred with treatment is greater than would be expected by chance.

### Overall effect of the therapy

Overall effect of therapy shows that mild improvement is seen in 93.33% of subjects and moderate improvement is seen in 6.66% of subjects as shown in table 5 and figure 1.

## DISCUSSION

*Chittodvega* characterised by *Anavasthitha Chittatva* is a *Vatapradhana vyadhi*. *Gritha* is considered as *agrayoushadi* in *vatajavikara* and also in *manasa vyadhi*. Hence *Astanga gritha* which comprises of 8 ingredients i.e. *Vacha*, *Indulekha*(*Bakuchi*), *Mandookaparni*, *Shankhapushpi*, *Shatavari*, *Brahmasoma*(*Vridhdharu*), *Guduchi*, *Brahmi* is taken up for the study. *Mandookaparni*, *Shatavari* and *Guduchi* are *tridoshashamaka* which efficiently tackles the aggravated *dosha*. *Vacha*, *Indulekha*, *Vridhdharu* and *Brahmi* are

*Vatakapha shamaka*. The symptoms like fatigue, hopelessness, feeling zero which are caused by vitiated *kapha* and *vata* are effectively managed by the *vatakapha shamaka* drugs. *Shatavari* having *vata pitta shamaka* property tackles irritability. *Vridhdharu* and *shankhapushpi* are nootropic drugs. *Vacha*, *Shankhapushpi*, *Mandookaparni*, *Brahmi* and *Guduchi* are memory enhancer and improve intelligence. Hence effectively manages forgetfulness. Also milk which is added gives *tarpana* effect and *vatapitta shamaka*. *Gritha* has quality of assimilating the property of drugs added to it without losing its actual property. Also *gritha* is a lipid media which has the ability to rapidly cross Blood Brain Barrier. Therefore *gritha* which is used to process the drugs help in better absorption and increases the bioavailability of the drug in CNS. All ingredients used in the formulation are *medhya* and therefore acts as a nervine tonic which is supported by the *phalashruti* of *Astanga gritha* as ‘*vak medha smriti buddhi krut.*’ This means that *Astanga gritha* improves speech, intelligence, memory, cognition, perception and comprehension.

## CONCLUSION

*Chittodvega* / occupational stress is a *vatapradhana manasa vyadhi*. *Gritha* being drug of choice in *vataja manovikara*, *Astanga gritha* is found to be highly significant in parameters like anxiety, fatigue, forgetfulness, disturbed sleep, extreme irritation over small things, feeling of hopelessness, difficulty making decisions.



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