

# A clinical study to evaluate the therapeutic effect of *Yastimadhu* in *Bhaya* w.s.r to Social Phobia

Dr Deepika P<sup>1\*</sup> Dr Shrilatha Kamath T<sup>2</sup> Dr Dhaneshwari H A<sup>3</sup>

1. PG Scholar 2. Professor & HOD 3. Assistant Professor.

Department of PG & PhD studies in Kayachikitsa & Manasaroga, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Kuthpady, Udupi 574118, Karnataka, India.

## ABSTRACT:

*Bhaya* is a human emotion caused by a perceived threat. It may be considered parallel to Phobia. Social phobia is a persistent, irrational fear of activities or social interactions, characterized by fear of performing activities in the presence of other people or interacting with others. The individual is afraid of his own actions being viewed by others critically, resulting in embracement or humiliation. **Objective:** To evaluate the therapeutic effect of *Yastimadhu* in *Bhaya*/Social Phobia. **Methodology:** An open labeled clinical study with pre and post-test design. 20 subjects with diagnostic criteria of Social phobia were selected from Sri Dharmasthala Manjunatheshwara Ayurveda Hospital, Udupi, Karnataka. Intervention was done by administering Capsule *Yashtimadhu* (Aqueous extract) of 500mg, 4 Capsules twice in a day before the food along with the milk for the period of 30 days. Outcome was assessed before and after intervention using Severity Measure for Social Anxiety Disorder (Social Phobia)] scale, Hamilton Anxiety Scale and *Manasika bhava* scale which includes positive and negative emotions. All the parameters were statistically analyzed with Wilcoxon signed rank test. **Results:** Statistically significant results were found in all the parameters with p value <0.001 **Conclusion:** *Yastimadhu* capsules were effective in reducing symptoms of *Bhaya*/Social phobia. The efficacy of the medication has been proved with the statistical analysis of the parameters.

**Key words:** *Bhaya*; Social phobia; *Yastimadhu*

## INTRODUCTION

*Bhaya* is one of the *mano vikara*, defined as '*Parasmatrasaha*', which means fear from others<sup>1</sup>. *Asamartata* (incapability) is mentioned as the main *karana* for *Bhaya*<sup>2</sup>. It is caused by the vitiated *vata* and vice versa. It acts as *nidana* to various *shareerika* as well as *manasika vikara*.

Social phobia is the most common anxiety disorder and third most common psychiatric disorder, after depressive disorder and alcohol dependence. Lifetime prevalence for social phobia range from 0.4 to 20.4. In India, there has been only few studies on social phobia, which mentions a prevalence of 19.5%<sup>3</sup>. In general, higher rates of social anxiety disorder are found in females than in males in the general population and the gender difference in prevalence is more pronounced in adolescents and young adults. Social anxiety disorder is one of the most universal reasons for school refusal and dropouts, and it is not unusual to see the disorder take a chronic course. Its presence seriously affects functioning and quality of life. This results into financial loss because of the disability and poor performance at work.

In classics various treatment principles such as *shamana*, *shodhana*, *adravyabhuta chikitsa*, *pratidwandwa chikitsa*, *medhya rasayana prayoga* etc. have been mentioned for the management of *manasika vikara*. In this study *Yastimadhu* capsules are chosen for intervention purpose. *Yastimadhu* is one among *medhya rasayana* which is *Vatapittahara* in nature, helps to improve intellect, retention power and memory<sup>4</sup>. It is easily available and cost effective. Thus this study is taken up to evaluate the therapeutic effect of *Yastimadhu* in *Bhaya*/Social Phobia.

## MATERIALS AND METHODS

### Objective

To evaluate the therapeutic effect of *Yastimadhu* in *Bhaya*/Social Phobia.

### Design of the study:

The study was an open labelled clinical study with pre and post-test design in 20 subjects

suffering from *Bhaya*/Social phobia conducted at Sri Dharmasthala Manjunatheshwara Ayurveda Hospital, Kuthpady, Udupi.

**Participants:** From August 2020 to March 2021, 20 subjects with a definite diagnosis fulfilling the diagnostic, inclusion criteria of *Bhaya*/Social phobia were selected for the study irrespective of sex, caste and religion.

### Intervention:

Capsule *Yashtimadhu* (Aqueous extract) of 500mg, 4 Capsules twice in a day before food along with milk for the period of 30 days was administered. Follow up period was 30 days after the treatment, So the total duration of the study was 60 days.

### Diagnostic criteria:

Diagnostic criteria for social anxiety disorder/social phobia adapted from DSM 5.

### Diagnostic Criteria 300.23 (F40.10)<sup>5</sup>

- A. Marked fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others. Examples include social interactions (e.g., having a conversation, meeting unfamiliar people), being observed (e.g., eating or drinking), and performing in front of others (e.g., giving a speech).
- B. The individual fears that he or she will act in a way or show anxiety symptoms that will be negatively evaluated (i.e., will be humiliating or embarrassing: will lead to rejection or offend others).
- C. The social situations almost always provoke fear or anxiety.
- D. The social situations are avoided or endured with intense fear or anxiety.
- E. The fear or anxiety is out of proportion to the actual threat posed by the social situation and to the sociocultural context.
- F. The fear, anxiety, or avoidance is persistent, typically lasting for 6 months or more.
- G. The fear, anxiety, or avoidance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- H. The fear, anxiety, or avoidance is not attributable to the physiological effects of a substance or another medical condition.
- I. The fear, anxiety, or avoidance is not better explained by the symptoms of another mental disorder, such as panic disorder, body dysmorphic disorder, or autism spectrum disorder.
- J. If another medical condition (e.g., Parkinson's disease, obesity, disfigurement from burns or injury) is present, the fear, anxiety, or avoidance is clearly unrelated or is excessive.

### Inclusion criteria:

1. Subject fulfilling the DSM-5 Diagnostic criteria [for social phobia].
2. Age group: 18-30yrs.
3. Participants who are willing and able to provide informed consent.

### Exclusion criteria:

Subjects suffering from any other psychiatric and organic disorders are excluded.

**Assessment criteria:**

Assessment is done by scoring subjective parameters assessing on 0<sup>th</sup>, 30<sup>th</sup> and 60<sup>th</sup> day.

Obtained data were analyzed statistically using Wilcoxon signed rank test.

Subjective parameters include: -

1. Severity Measure for Social Anxiety Disorder Scale (SMSADS)<sup>6</sup>
2. Hamilton Anxiety Scale (HAS)<sup>7</sup>
3. *Manasika bhava* scale<sup>8</sup>
  - a. Positive emotions in *Manasika bhava* scale (PE)
  - b. Negative emotions in *Manasika bhava* scale (NE)

Statistical analysis:

Statistical analysis of the results was done by comparing the scores of subjective parameters on 0<sup>th</sup> and 30<sup>th</sup> day within the group by using Wilcoxon signed rank test.

**RESULTS**

Among the 20 subjects taken for the study 85% had moment of sudden fear in social situations and minimal participation, 80% had Anxious/nervous in social situations and thought of rejection, 75% had Sweating/shaking/Palpitations, Restlessness/trouble relaxing and Spending lot of time to prepare, 55% had Avoidance and 20% needed help to cope with social situations.

Effect of treatment on different parameters were shown in table no: 1

**Overall effect of the treatment**

Overall effect is calculated based on percentage of improvement by comparing the BT and AT scores of parameters of Severity Measure for Social Anxiety Disorder Scale such as Felt moments of sudden terror/fear, felt anxious/worried, thought of being rejected, felt racing heart, sweating, felt on edge/restless, avoided social situations, minimal participation, spent lot of time in preparing, avoided thinking about social situations and needed help to cope with social situations.

Overall effect shows that 55% of subjects had Marked improvement, 25% had moderate improvement, 15% had mild improvement and 5% of subjects had excellent improvement.

**Table no.1: Effect of treatment on different parameters**

Parameter	Mean			Wilcoxon signed rank test					
	BT	AT	BT-AT	% of improvement	SD	SEM	Median	Z	P
SMSADS n = 20	12.25	5.90	6.35	51.836%	BT-3.338	BT-0.746	BT-12.000	-3.93	<0.001
					AT-3.227	AT-0.721	AT-5.000		
HAS n = 20	14.10	6.60	7.500	51.72%	BT-4.723	BT-1.056	BT-13.500	-3.929	<0.001
					AT-3.068	AT-0.686	AT-6.000		
NE n = 20	6.55	4.10	2.45	37.40%	BT-2.781	BT-0.622	BT-7.000	-3.747	<0.001
					2.075	AT-0.464	AT-4.000		

PE n = 20	11.650	9.200	2.45	21.03%	BT- 3.829	BT- 0.856	BT- 12.000	- 3.759	<0.001
					AT- 3.105	AT- 0.694	AT- 10.000		
<i>Bhaya</i> n = 20	1.8	1.0	0.80	44.44%	BT- 0.768	0.172	2.000	- 3.176	<0.001
					AT- 0.000	0.000	1.000		
<i>Shoka</i> n=14	1.000	0.650	0.35	35%	BT- 0.918	BT-0.205	BT- 1.000	- 2.646	0.016
					AT- 0.671	AT- 0.150	AT- 1.000		
<i>Manas</i> n = 18	1.50	0.85	0.65	43.33%	BT- 0.827	BT-0.185	BT- 1.500	- 3.127	< 0.001
					AT- 0.587	AT- 0.131	AT- 1.000		
<i>Chinta</i> n = 18	1.10	0.80	0.3	27.27%	BT- 0.641	BT-0.143	BT- 1.000	- 1.890	0.125
					AT- 0.410	AT- 0.0918	AT- 1.000		
<i>Krodha</i> n = 8	0.50	0.35	0.15	30%	BT- 0.688	BT-0.154	BT-0	- 1.732	0.250
					AT- 0.489	AT- 0.109	AT-0		
<i>Dvesha</i> n = 7	0.350	0.200	0.15	42.85%	BT- 0.489	BT-0.109	BT-0	- 1.732	0.25
					AT- 0.410	AT- 0.091	AT-0		

Table no 2: Overall effect of the treatment

Extent of improvement	Scale	No. of subjects	% of subjects
No improvement	0	0	0
Mild	1-25	3	15%
Moderate	26-50	5	25%
Marked	51-75	11	55%
Excellent	76-100	1	5%

## DISCUSSION

*Yastimadhu* is one among the *medhya rasayana* which helps to improve the intellect, retention power and memory. It is having *madhura rasa* and *madhura vipaka*. As *madhura rasa* is having *vatahara* property, it helps in mitigating the *vata* which is the predominant *dosha* involved in the disease *bhaya*. By default, *Yastimadhu* acts as *medhya* due to the *prabhava* as it is one among the *chaturvidha medhya rasayana*.

Clinical Studies have proven that *Yastimadhu* is beneficial in improving the Intelligence, learning and memory functions. It also possesses antioxidant activity, anti convulsant potential, anti-stress and neuroprotective activities.

Anxiety disorders may be characterized by lowered antioxidant defenses and increased oxidative damage to proteins, lipids and nucleic acids. Presence of flavonoids such as liquiritin, liquiritiginin etc. which are potent

antioxidants plays a vital role in preventing oxidative damage to the brain and thereby enhancing the functions of brain.

GABA is the major inhibitory neurotransmitter in the CNS. GABA<sub>A</sub> receptors are a target for many neuroleptic, anxiolytic and anticonvulsant drugs. Glabridin is a polyphenolic flavonoid compound present in Glycyrrhiza glabra. It is a strong positive modulator of recombinantly expressed  $\alpha 1\beta 2\gamma 2$  GABA<sub>A</sub> receptors. Thus it is able to induce anxiolytic effects.

## CONCLUSION

*Bhaya* is one of the *manovikara*, may be considered parallel to Phobia. *Asamartata* is said to be the *agrya karana* for *Bhaya*. It is caused by the vitiated *vata* and vice versa. *Yastimadhu* capsules gave statistically significant results with  $p < 0.001$  in Severity Measure for Social Anxiety Disorder Scale and in Hamilton anxiety rating scale with the improvement of 51.83% and 51.72% respectively. There was 37.40% of reduction observed in the negative emotions and 21.03% of improvement seen in positive emotions with the  $p < 0.001$  which is statistically significant. On assessing the overall effect of the treatment 55% of subjects showed Marked improvement, 25% had moderate improvement, 15% had mild improvement and 5% of subjects had excellent improvement. By going through the above descriptions it shows that *Yastimadhu* capsules are effective in reducing the symptoms of *Bhaya*/Social phobia.

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