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COMPARITIVE STUDY ON THE EFFICACY OF ASHVAGANDHA CHURNA AND ASHVAGANDHA COMPOUND IN THE MANAGEMENT OF GENERALIZED ANXIETY DISORDER (CHITTODVEGA)

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ABSTRACT

Objectives: To evaluate the effect of Ashvagandha and Ashvagandha Compound in the management of Chittodvega (Generalized Anxiety Disorder) and to compare the effect of Ashvagandha (*Withania somnifera* Linn.) and Ashvagandha Compound. **Materials and Methods:** This study is a comparative study consisting of two groups of 15 patients each where 15 patients received Ashvagandha Churna in the dose of 4gm thrice daily with milk after food for a month and the other 15 patients received Ashvagandha Compound in the dose of 4gm thrice daily with milk after food for a month. The selected patients were assigned into two groups (Group A) Ashvagandha group and (Group B) Ashvagandha compound group (Ashvagandha, Shankhapushpi (*Convolvulus pluricaulis* Chois.) and Yastimadhu (*Glycyrrhiza glabra* Linn.)) follow up for two months every 15 days after the treatment. **Discussion and Results:** Overall effects of therapies showed that 46.66% of patients had mild improvement in Ashvagandha Churna group as well as 53.33 % of patients had mild improvement in Ashvagandha Compound group whereas 46.66% moderate improvement in both the groups whereas 6.66% of patients remained unchanged in Ashvagandha Churna group. No patient had complete remission or marked improvement in both the groups. **Conclusion:** The improvement in Ashvagandha Churna group was more than that of Ashvagandha Compound group after completion of the treatment. Ashvagandha Churna had provided better improvement in signs and symptoms over Ashvagandha Compound which is maintained even during follow up study. But overall improvement was better in Ashvagandha Compound group over Ashvagandha Churna group.

Key Words:- Ashvagandha, *Withania somnifera* Linn., Generalized Anxiety Disorder, *Chittodvega*, *Convolvulus pluricaulis* Chois., *Glycyrrhiza glabra* Linn., Shankhapushpi, Yastimadhu.

INTRODUCTION

Anxiety is the commonest among psychiatric symptoms in clinical practice and anxiety disorders are one of the commonest psychiatric disorders in general

population (Ahuja N, 2011). Generalized Anxiety Disorder (GAD) is one of the anxiety disorder characterized by mental worry and anxiety, that individual finds difficulty in controlling (Ahir Y et al., 2011). Generalized Anxiety Disorder is what many people experience in day to day life, interferes with the ability to participate in relationship careers and other aspects of life

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(Harison, 2012). Such type of symptoms and disorders are increasing day by day because of present day's lifestyle as well as the challenges of materialistic competitive world.

Anxiety disorders can be understood in terms of Chittodvega. Chittodvega is one of the Manasika vikara mentioned in Ayurvedic literature in which affliction of mind by anxiety, fear and agitation are seen (Agnivesha, 2008). An imbalance at mental is usually reflected and rather re-enforced at physical level and vice versa (Agnivesha, 2006). As the anxiety disorders are increasing in the general population it is the need of the hour to have a cost-effective drug for their management. In this regard it is planned to study the effect of Ashvagandha and Ashvagandha Compound which comprises of Ashvagandha, Yastimadhu and Shankhapushpi in the management of Chittodvega (Generalized Anxiety Disorder) (Shailaja U *et al.*, 2013) (Sharma PV, 1998) (Kulkarni R, 2012) (Arun Raj GR *et al.*, 2014).

MATERIALS AND METHODS

Objectives of the study

- To evaluate the effect of Ashvagandha in the management of Chittodvega Generalized Anxiety Disorder).
- To evaluate the effect of Ashvagandha Compound in the management of Chittodvega.
- To compare the effect of Ashvagandha and Ashvagandha Compound.

Source of data: For the present Clinical study, 34 patients fulfilling the diagnostic criteria of Chittodvega (GAD) were randomly selected from the OPD and IPD of Department of Manasa Roga, SDM College of Ayurveda and Hospital, Hassan, Karnataka, India.

Diagnostic criteria: The patients diagnosed as Generalized Anxiety Disorder - Mild were subjected to detailed clinical history physical examination and mental status examination. The following criteria of DSM-IV were taken into consideration for the final diagnosis (Ambika Das *et al.*, 2014) (American Psychiatric Association, 2000).

Inclusion criteria

1. Mild GAD for less than 6 months.
2. Mild GAD episode as per DSM-IV. (Andrews G, 2010)
3. Patient between age group of 16 to 30 years irrespective of sex.

Exclusion criteria

1. Patients with GAD for more than 6 months.

2. Patients with moderate and severe GAD will be excluded.

3. GAD associated with other disorders like neurological disorders, systemic conditions, endocrine disorders, deficiency states, toxic conditions and idiopathic psychiatric disorders.

Plan of Study: 34 patients fulfilling the inclusion criteria were randomly selected and assigned into the following 2 groups.

Group A: 18 patients were administered Ashvagandha Churna with dosage of 12 gram in three divided doses with milk after food for a period of one month.

Group B: 16 patients were administered Ashvagandha compound with dosage of 12 gram in three divided doses with milk after food for a period of one month.

ASSESSMENT CRITERIA

The result of the treatment was evaluated as to the degree of anxiety according to Hamilton Anxiety Rating Scale.

Hamilton Anxiety Rating Scale: (Maier W, 1988)

- Anxious mood
- Tension
- Fears
- Insomnia
- Intellectual (Cognitive)
- Depressed mood
- Somatic (Muscular)
- Somatic (Sensory)
- Cardiovascular Symptoms
- Respiratory symptoms
- Gastrointestinal Symptoms
- Genitourinary Symptoms
- Autonomic Symptoms
- Behavior at interview

The signs and symptoms mentioned in Hamilton scale were assessed by adopting the following scoring system and is detailed in table 1. The overall effect of the intervention was estimated in the five categories and is detailed in table 2.

OBSERVATIONS

The demographical data of 34 patients studied in two groups. In group A, 15 patients completed the study while 3 got dropped out. In group B, 15 patients completed the study while 1 got dropped out. The age wise distribution of the patients showed that maximum

numbers of patients 58.82% (n=20) were in the age group of 26- 30 years and the least number of patients 14.71% number of patients was male i.e. 61.76% (n=21) and 38.23% (n=13) of patients were female. More number of patients was of Hindus 91.18% (n=31) and 8.82% (n=3) were Christians. 55.88% (n=19) were married and 44.12% (n=15) were unmarried. 50% (n=17) were graduates, 23.53% (n=8) have completed PUC, 13.3% (n=4) were post graduates, 5.88% (n=2) were of SSLC and higher primary. 38.24% (n=13) were students, 26.47% (n=9) were service class, 14.71% (n=5) were house wives and 11.76% (n=4) were agriculturists and business men. 76.47% (n=26) of the total patients registered for the study were belonging to middle economic status, 14.71% (n=5) belonged to poor and 5.88% (n=2) were from rich economical status. 44.11% (n=14) had Vishamagni, 41.18% (n=15) had Samagni, 8.92% (n=3) possessed Mandagni and 5.88% (n=2) were with Tikshnagni. In case of Koshta, 55.88% (n=19) had Madhyama Kosta, 23.53% (n=8) had Krura Koshta and 20.59% (n=7) had Mrdu Koshta. 35.29% (n=12) were with Twak Sara, 11.76% (n=4) with Rakta Sara, 5.88% (n=2) with Medho Sara, 14.71% (n=5) with Mamsa Sara and 32.35% (n=11) were with Asthi Sara. 14.71% (n=5) were with Uttama Samhanana, 76.47% (n=26) with Madhyama Samhanana, 8.82% (n=3) were of Heena Samhanana. 55.8% (n=19) patients had Madhyama Satva and 44.12% (n=15) had Avara Satva. Maximum no. of patients was graded as Madhyama Satmya i.e. 79.41% (n=27) while 20.59% (n=7) were with Avara Satmya. The status of Ahara Shakti and Vyayama Shakti depicts that, 79.41% (n=27) had Madhyama Ahara Shakti. 14.71% (n=5) were having Avara Ahara Shakti and 5.88% (n=2) patients had Pravara Ahara shakti, whereas 70.58% (n=24) patients were of Madhyama Vyayama Shakti, 14.71% (n=5) patients had Pravara and Avara Vyayama Shakti respectively. 44.11% (n=15) patients were of Vata Pitta Prakriti, 23.52% (n=8) of Pitta Sleshma Prakriti, 17.64% (n=6) of Vata Sleshma Prakriti and 14.70% (n=5) were with Pitta Vata Prakriti. 61.76% (n=21) of the patients were of Rajasika Prakriti, 32.35% (n=11) with Tamasika Prakriti and 5.88% (n=2) patients were of Tamasika Prakriti. 50% (n=17) patients were of anxious personality, while 38.23% (n=13) were of aggressive and the remaining 11.76% (n=4) were of paranoid personality. The Symptom anxiousness 100% (n=30), tension 100% (n=30), fear 50% (n=15), insomnia 83.33% (n=25), intellectual symptoms 70% (n=21), depressed mood 70% (n=21), somatic – muscular symptoms 46.66% (n=14).

Somatic-sensory symptoms 46.66% (n=14), cardiovascular symptoms 66.66% (n=20), respiratory symptoms 6.66% (n=2), gastrointestinal symptoms

(n=5) were in 16 - 20 years of age group. While 26.47% (n=9) were in the age group of 21-25 years. The maximum 63.33% (n=19), genitourinary symptoms 16.66% (n=5), autonomic symptoms 90% (n=27) and behavioral symptoms at interview 33.33% (n=10).

Effect of the Therapies on the Patients of Chittodvega

The effect of Ashvagandha Churna on signs and symptoms of 15 patients of Chittodvega after treatment is detailed in table 3. The effect of Ashvagandha Churna on signs and symptoms of 15 patients of Chittodvega after follow up is detailed in table 4. The overall effect of Ashvagandha Churna on 15 Patients of Chittodvega is detailed in table 5. The effect of Ashvagandha Churna on Hamilton Anxiety Rating Scale after 30 days of treatment is detailed in table 6. The effect of Ashvagandha Churna on Hamilton Anxiety Rating Scale after follow up of treatment is detailed in table 7. The effect of Ashvagandha Compound on signs and symptoms of 15 patients of Chittodvega after treatment is detailed in table 8. The effect of Ashvagandha Compound on signs and symptoms of 15 patients of Chittodvega after follow up is detailed in table 9. The overall effect of Ashvagandha Compound after treatment is detailed in table 10. The effect of Ashvagandha Compound Hamilton Anxiety Rating Scale after 30 days of treatment is detailed in table 11. The effect of Ashvagandha Compound Hamilton Anxiety Rating Scale after follow up is detailed in table 11.

DISCUSSION

Overall effect of the Therapy

Consideration of overall effects of therapies showed that 46.66% of patients had mild improvement in Ashvagandha Churna group (Group A) as well as 53.33% of patients had mild improvement in Ashvagandha Compound group (Group B) whereas 46.66% moderate improvement in both the groups .whereas 6.66 % of patients remained unchanged in Ashvagandha Churna group. Follow up study effects showed that all the patients were regular for follow up. Comparing the effects of follow up study the effect of the therapy was increased after follow up in both the groups. This shows that both the groups provided better effect.

Comparison of effect of both Therapies

Ashvagandha Churna provided significant results which are gastrointestinal symptoms 54.55% (P<0.001), insomnia 52.63% (P< 0.001), intellectual symptoms 66.67% (P< 0.001), depressed mood 45.45% (P< 0.001), genitourinary symptoms 50% (P > 0.05), cardiovascular symptoms 61.11% (P< 0.001) & behavioral symptoms at interview 66.67% (P< 0.001).

Table 1. showing scoring system to assess the signs and symptoms mentioned in Hamilton scale

Degree of anxiety and pathological condition	Scoring
None	0
Mild	1
Moderate	2
Severe	3
Severe, grossly disabling	4

Table 2. showing the overall effect of the intervention

1.	Complete remission	100%
2.	Marked improvement	76-99%
3.	Moderate improvement	51-75%
4.	Mild improvement	25-50%
5.	Un-changed	< 25%

Table 3. showing the effect of Ashvagandha Churna on signs and symptoms of 15 patients of Chittodvega after treatment

Cardinal Symptoms	Mean Score		% reduction	SD (\pm)	SE (\pm)	t	P
	BT	AT					
Anxious	2.4	1.46	38.58	0.258	0.066	13.996	< 0.001
Tension	2.27	1.4	38.24	0.351	0.090	9.536	< 0.001
Fears	0.53	0.47	12.5	0.258	0.067	0.999	> 0.05
Insomnia	1.27	0.6	52.63	0.487	0.126	5.290	< 0.001
Intellectual	1	0.33	66.67	0.617	0.159	4.182	< 0.001
Depressed mood	1.47	0.8	45.45	0.487	0.126	5.290	< 0.001
Somatic Muscular	0.2	0.13	33.33	0.258	0.067	0.999	> 0.05
Somatic Sensory	0.6	0.27	55.56	0.61	0.159	2.091	> 0.05
CVS	1.2	0.47	61.11	0.593	0.153	4.783	< 0.001
R S	0.13	0.07	50	0.258	0.067	0.999	> 0.05
GIT	0.73	0.33	54.55	0.507	0.131	3.054	< 0.01
GUT	0.13	0.07	50	0.258	0.067	0.999	> 0.05
Autonomic	1.93	1.06	44.83	0.351	0.091	9.537	< 0.001
Behavior at Interview	0.6	0.2	66.67	0.507	0.131	3.054	< 0.01

Table 4. showing the effect of Ashvagandha Churna on signs and symptoms of 15 patients of Chittodvega after follow up

Cardinal Symptom	Mean Score		% reduction	SD (\pm)	SE (\pm)	t	P
	BT	AT					
Anxious	2.40	0.86	63.88	0.516	0.133	11.497	< 0.001
Tension	2.27	0.93	58.82	0.487	0.126	10.580	< 0.001
Fears	0.53	0.27	50	0.593	0.153	1.739	> 0.05
Insomnia	1.27	0.33	73.68	0.704	0.181	5.135	< 0.001
Intellectual	1	0.13	86.67	0.833	0.215	4.024	< 0.01
Depressed mood	1.47	1	31.82	0.915	0.236	1.973	> 0.05
Somatic Muscular	0.2	0.07	66.67	0.351	0.090	1.467	> 0.05
Somatic Sensory	0.6	0	100	0.91	0.235	2.552	< 0.05
CVS	1.2	0.33	72.22	0.743	0.192	4.515	< 0.001
R S	0.13	0	100	0.516	0.133	0.999	> 0.05
GIT	0.13	0.13	81.81	0.736	0.190	3.153	< 0.01
GUT	0.13	0	100	0.516	0.133	0.999	> 0.05
Autonomic	1.93	0.66	65.52	0.594	0.153	8.262	< 0.001
Behavior at Interview	0.6	0.13	77.78	0.639	0.165	2.824	< 0.01

Table 5. showing the overall effect of Ashvagandha Churna on 15 Patients of Chittodvega

Effect	No. of Patients	%
Complete remission	0	0
Marked Improvement	0	0
Moderate improvement	7	46.66
Mild improvement	7	46.66
Unchanged	1	6.66

Table 6. showing the effect of Ashvagandha Churna on Hamilton Anxiety Rating Scale after 30 days of treatment

No of Patients	Mean Score		%	S.D	S.E	t	P
	BT	AT					
15	18.93	9.93	47.53	85.206	22.00	0.408	> 0.05

Table 7. showing the effect of Ashvagandha Churna on Hamilton Anxiety Rating Scale after follow up of treatment

No of Patients	Mean Score		%	S.D	S.E	t	P
	BT	FU					
15	18.93	6.46	65.84	79.16	0.408	0.609	>0.05

Table 8. showing the effect of Ashvagandha Compound on signs and symptoms of 15 patients of Chittodvega after treatment

Cardinal Symptom	Mean Score		% reduction	SD (±)	SE (±)	t	P
	BT	AT					
Anxious	2.33	1.4	40	0.258	0.066	13.996	< 0.001
Tension	2.40	1.47	38.89	0.258	0.067	13.996	< 0.001
Fears	1.33	0.6	55	0.703	0.181	4.034	< 0.01
Insomnia	1.93	1.07	44.82	0.869	0.165	5.243	< 0.001
Intellectual	1.33	0.87	35	0.516	0.133	3.499	< 0.01
Depressed mood	1.47	0.87	40.90	0.507	0.130	4.581	< 0.001
Somatic Muscular	1.2	0.47	61.11	0.458	0.118	6.203	< 0.001
SomaticSensory	0.9	0.33	64.29	0.632	0.163	3.673	< 0.01
CVS	1.2	0.6	50	0.507	0.131	4.581	< 0.001
R S	0.13	0.07	50	0.258	0.067	0.999	> 0.05
GIT	1.47	0.73	50	0.458	0.118	6.203	< 0.001
GUT	0.47	0.27	42.85	0.414	0.107	1.870	> 0.05
Autonomic	2.07	1.13	45.16	0.458	0.118	7.895	< 0.001
Behavior at Interview	0.53	0.2	62.5	0.617	0.159	2.091	< 0.05

Table 9. showing the effect of Ashvagandha Compound on signs and symptoms of 15 patients of Chittodvega after follow up

Cardinal Symptom	Mean Score		% reduction	SD (±)	SE (±)	t	P
	BT	AT					
Anxious	2.33	1.2	48.57	0.351	0.090	12.471	< 0.001
Tension	2.4	1.2	50	0.414	0.107	11.222	< 0.001
Fears	1.33	0.53	60	0.775	0.200	3.999	< 0.01
Insomnia	1.93	0.53	72.41	0.736	0.190	7.357	< 0.001
Intellectual	1.33	0.47	65	0.639	0.165	5.243	< 0.001
Depressed mood	1.47	0.4	72.72	0.883	0.228	4.673	< 0.001
Somatic Muscular	1.2	0.27	77.78	0.593	0.153	6.088	< 0.001

Somatic Sensory	0.9	0.2	78.57	0.703	0.181	4.035	< 0.01
CVS	1.2	0.47	61.11	0.703	0.181	4.034	< 0.01
R S	0.13	0	100	0.516	0.133	0.999	> 0.05
GIT	1.47	0.4	72.72	0.703	0.181	5.869	< 0.001
GUT	0.46	0.13	71.42	0.617	0.159	2.091	> 0.05
Autonomic	2.07	0.93	54.83	0.743	0.191	5.904	< 0.001
Behavior at Interview	0.53	0.06	87.5	0.833	0.215	2.167	< 0.05

Table 10. showing the overall effect of Ashvagandha Compound on 15 patients of Chittodvega

Effect	No. of Patients	%
Complete remission	0	0
Marked Improvement	0	0
Moderate improvement	7	46.66
Mild improvement	8	53.33
Unchanged	0	0

Table 11. showing the effect of Ashvagandha Compound Hamilton Anxiety Rating Scale after 30 days of treatment

No of Patients	Mean Score		%	S.D	S.E	t	P
	BT	AT					
15	14.66	7.66	47.004	56.049	14.47	0.469	>0.05

Table 12. effect of Ashvagandha Compound Hamilton Anxiety Rating Scale after follow up

No of Patients	Mean Score		%	S.D	S.E	t	P
	BT	AT					
15	14.66	4.26	70.506	39.50	10.202	0.999	> 0.05

Ashvagandha Churna provided 47.53% improvement on Hamilton Anxiety Rating Scale which is statistically insignificant after 30 days of treatment. Ashvagandha Churna showed 65.64% improvement on Hamilton Anxiety Rating Scale which is statistically insignificant after follow up treatment. Ashvagandha compound provided significant improvement in following symptoms like anxiousness 40% (P<0.001), tension 38.89% (P<0.001), fear 55% (P>0.05) somatic sensory 64.29% (P>0.05), somatic muscular 61.11% (P<0.001) & autonomic symptoms. 45.16% (P<0.001). Ashvagandha Compound provided 47.004% improvement on Hamilton Anxiety Rating Scale which is statistically insignificant after 30 days of treatment. Ashvagandha compound showed 70.50% improvement on Hamilton Anxiety Rating Scale which is statistically insignificant after follow up treatment. Ashvagandha Churna group provided 47.53% improvement and Ashvagandha Compound group provided 47.004% improvement on Hamilton Anxiety Rating Scale and both groups were statistically insignificant at P > 0.05. On Comparison to Ashvagandha Compound group, Ashvagandha Churna provided significant improvement on Hamilton Anxiety Rating Scale after 30 days of treatment. Ashvagandha Churna provided 65.64% improvement and Ashvagandha

Compound provided 70.50% improvement on Hamilton Anxiety Rating Scale and both groups were statistically insignificant at P < 0.05. On Comparison to Ashvagandha Churna group, Ashvagandha Compound provided significant improvement on Hamilton Anxiety Rating Scale after follow up treatment. Ashvagandha Churna had provided better improvement in signs and symptoms over Ashvagandha compound which is maintained even during follow up study. But overall improvement was better in Ashvagandha compound group over Ashvagandha Churna group.

Probable mode of action of Ashvagandha compound

Ashvagandha is Kapha Vata Samaka Balya, Veeryaprada, Kantiprada, Rasayana, Pustikrita, Atishukrala. Roots contain Somniferin which is sedative, hypnotic and nervine tonic. Ashvagandha root is mood stabilizer, calm and cools the mind, acts as an immunomodulator and has antistress property. Yastimadhu is Vata Shamaka and Pitta Kaphahara Balya, Brmhana, Nadi balya, Mastishka, Rasayana, Medhya and relieves stress. Shankapushpi is best among Medhya drugs. Vata Pitta Shamaka, Medhya Balya, Brmhana, Nadi balya, Mastishka, Rasayana, Nidrajanaka, brain tonic, anti

stress, hypotensive. Psychostimulant and tranquilizer and reduces mental tension.

Ashvagandha Churna provided significant improvement in gastrointestinal symptoms (54.55%) may be because of its Rasa which increases the Agni. It provided significant result in insomnia (52.63%) as the somniferin is a hypnotic and calms down mind. It also provides better result on intellectual symptoms (66.67 %) and depressed mood (45.45%) may be because mood stabilizing and antidepressant activities which are proven. Cardiovascular symptoms (61.11 %) and behavioral symptoms at interview (66.67%) had improved may be because of its immuno modulator, antistress and adaptogenic activities. Ashvagandha Compound provided significant improvement in symptoms anxiousness because of anti anxiolytic property of Ashvagandha and Shankhapushpi. tension 38.89% and fear 55% because of anti stress property of Ashvagandha , Shankhapushpi and Yastimadhu ,somatic sensory (64.29%) and somatic muscular (61.11)% & autonomic symptoms (45.16%)

because of Shankhapushpi and Yasimadhu which reduces stress, muscle tension and quenching thirst property.

CONCLUSION

In Ashvagandha Churna group (47.53 %) relief and Ashvagandha compound group (47.004%) was observed on Hamilton Anxiety Rating Scale after 30 days of treatment which is statistically insignificant. On comparison the percentage of improvement in signs and symptoms, the improvement in Ashvagandha Churna group was more than that of Ashvagandha compound group after completion of the treatment. By seeing the results it is evident that no patient had complete remission or marked improvement in both the groups. This implies that only Ashvagandha or Ashvagandha compound is insufficient for the management of Chittodvega. So other modalities of treatment like Murdini tailas, Pada Abhyanga, Deep muscle relaxation, Supportive psychotherapy may give better results. This may prove to be helpful in the better management of Chittodvega.

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