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IMPACT OF ANXIETY (*UDVEGA*) AND DEPRESSION *(VISAD*) IN PATIENTS WITH IRRITABLE BOWEL SYNDROME (*VATAJA GRAHANI)* AND ITS MANAGEMENT BY ARGYREIA SPECIOSA

Dr. Mithun Mahata[1], Dr. Partha Biswas[2]

[1]3rd Year PGT, Department of Samhita & Siddhant, IPGAER SVSP Kolkata.
[2]Professor & HOD, Department of Samhita & Siddhant, IPGAER SVSP Kolkata.

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***Corresponding Author: Dr. Mithun Mahata**
3rd Year PGT, Department of Samhita & Siddhant, IPGAER SVSP Kolkata.
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ABSTRACT

Background: Irritable Bowel Syndrome (IBS) is a chronic functional gastrointestinal disorder frequently associated with psychological disturbances such as anxiety and depression. In Ayurveda, IBS resembles *Vataja Grahaṇi*, wherein impaired *Agni* and *Vata* vitiation are influenced by mental factors such as *Udvega* and *Visada*. *Argyreia speciosa* is traditionally used for digestive and neuropsychological balance. **Aim:** To evaluate the impact of anxiety and depression in patients with IBS (*Vataja Grahaṇi*) and to assess the clinical efficacy of *Argyreia speciosa* in its management. **Methods:** A randomized, double-blind, placebo-controlled, two-arm study was conducted on 114 IBS patients with mild to moderate anxiety and depression. Participants were randomly assigned to Group A (Argyreia speciosa, n=57) or Group B (placebo, n=57) for 12 weeks. Assessments included IBS-SSS, Bristol Stool Scale, HAM-A, HAM-D, HADS, and DASS-21. Statistical analysis used paired and independent t-tests. **Results:** Group A showed significant reductions in IBS-SSS scores ($p<0.05$), HAM-A ($p<0.001$), HAM-D ($p<0.001$), HADS ($p<0.001$), and DASS-21 ($p<0.001$). The placebo group showed no significant improvement. The intervention was well tolerated with no major adverse events. **Conclusion:** *Argyreia speciosa* significantly improves gastrointestinal symptoms and reduces comorbid anxiety and depression in IBS (*Vataja Grahaṇi*). Its dual action on digestive and psychological domains supports its role as an effective Ayurvedic psycho-gastroenterological therapy.

KEYWORDS: IBS, *Vataja Grahaṇi, Udvega, Visada,* Argyreia speciosa.

INTRODUCTION

Irritable bowel syndrome (IBS) was a chronic, relapsing functional gastrointestinal disorder that affects 11% of the global population.[1]

Irritable bowel syndrome (IBS) was a chronic disorder characterized by abdominal pain or discomfort and alteration in bowel habits in the absence of an organic disorder. IBS was one of the most common gastrointestinal (GI) disorders and its prevalence varies from 4% to 22% in the general population.[2]

Despite it was non-fatal; IBS considerably reduce the quality of life and imposes a significant psychosocial and economical burden.

Modern medical research had established a strong association between IBS and psychological factors such as anxiety and depression, suggesting a complex interaction between the brain and the gut, known as the gut-brain axis.[3] Understanding this psychosomatic connection is crucial, as addressing mental health can greatly improve digestive health outcomes.

In *Ayurveda*, IBS can be closely correlated with *Vataja Grahani*, a condition resulting from vitiation of *Vata Dosha* and impaired *Agni* (digestive fire).[4] The emotional disturbances like *Udvega* (anxiety) and *Visada (*depression) have their own effects on the *Agni* and *Dusti* of *Agni* leads to Indigestion.[5] Those emotional disturbances cause *Vata Prakopa*.[6]Thus, disturbance in mental health directly affect the gastrointestinal tract. However, there was limited clinical research integrating these phychological factors with the ayurvedic concept of *Grahani roga*.

Argyreia speciosa (*Vrddhadaruka)* is an important *Ayurvedic* drug traditionally used as a *Rasayana* and *Medhya* (nootropic) herb. Various *Nighantu* describe this drug in difference *vargas*. It has *Kasaya, Katu, Tikta Rasa, Laghu and Snigdha Guṇa,* and Uṣṇa Virya, *Madhura Vipak* which suitable for correcting *Vata* vitiation and stabilizing *Agni*.[7] The root part of A. speciosa is bitter, aphrodisiac, diuretic, alterative, tonic and useful in gleet, gonorrhea, strangury, chronic ulcers, rheumatism and diseases of the nervous system.[8] Pharmacological research supports its antioxidant, adaptogenic, anxiolytic, anti-inflammatory, and gastrointestinal protective activities.[9] The plant is known to enhance stress tolerance and improve neuromuscular strength, indicating its potential role in disorders with gut–brain interactions.

Considering the dual digestive and neuropsychological relevance of *Argyreia speciosa*, it appears particularly suitable for conditions like IBS where *Vata* aggravation, *Agnimandya*, and psychological factors coexist. However, scientific evidence supporting its efficacy in IBS associated with anxiety and depression remains limited.

The present study aims to evaluate the impact of *Udvega and Visada* in patients with *Vataja Grahani* and to assess the efficacy of Argyreia speciosa in its management.

MATERIALS AND METHODS

Study design

A randomized double blind placebo control two arm parallel study was carried out to evaluate the impact of anxiety *(udvega*) and depression (*visada)* in patients suffering from irritable bowel syndrome (*vataja grahani)* and to assess the clinical efficacy of Argyeia speciosa in their management. Total 114 patients of IBS associated with mild to moderate

level of anxiety and depression were selected for study and divided into two Groups. Group A (n=57) received 2 capsules (500mg) containing fine powder of root of Argyreia speciosa and Group B (n=57) received 2 capsules (500mg) of rice grain powder for three times daily as same colour and same consistency for same period of time.

Study setting

The study was conducted in the department of Ayurveda Samhita & Siddhant, Institute of Post Graduate Ayurvedic Education & Research at Shyamadas Vaidya Sastrapith, Kolkata. The study was approved by Institutional Ethical Committee for Clinical Trial on Human subjects on 22.09.2023. (IEC No SVP/3746/2023 dated 03/10/2023).

Sample size and randomization

A total of 114 patients diagnosed with IBS (*vataja grahani*) associated with mild to moderate level of anxiety and depression. Participants were randomly allocated into two groups – Group A (Trial group) and Group B (Placebo Group) using simple randomization by randomized table method.

Diagnosis

The participants were diagnosed primarily with the sign & symptoms of IBS, Rome IV criteria and seven point Bristole scale. Then anxiety and depression were measured with psychological measuring scale.

Selection criteria

114 IBS individuals with anxiety and depression were selected for study on the basis of below criteria.

Inclusion criteria

The present study includes participants of Irrespective of sex, race, religion between 18 to 65 years of age with IBS-M, IBS- C and IBS-D, IBS-U types of IBS. Patients were diagnosed as per Rome IV criteria. The severity of IBS in each patients was assessed using the IBS Severity Scoring System (IBS SSS). Only mild to moderate IBS Severity score of ≤300 were included. To evaluate psychological comorbidity, all participants were screened for anxiety and depression using the HAM A and HAM D scale. Patients scoring within the range of mild to moderate anxiety severity score in HAM A scale (18- 24) and mild to moderate depression score in HAM D scale (8-23) were included in the study after obtaining their written informed consent.

Exclusion criteria

Patients with other pre-existing GI disorders, GI surgery, abnormal upper and lower GI endoscopy, having chronic medical illness, chronic kidney disease, diabetes mellitus, cardiac failure, psychiatric patients, pregnant mother, patients under anxiety/depression medication were excluded from the study.

Assessment criteria

Assessments were performed at baseline visit, 4,8,12 week visit. Anxiety and depression were major factors for influencing IBS, psychological parameter were assessed using Hamilton Anxiety Rating Scale (HAM A), Hamilton Depression Rating Scale (HAM D), Hospital Anxiety and Depression Scale (HADS), Depression Anxiety Stress Scale (DASS 21). For gastrointestinal assessment used bristole seven point stool scale, IBS Severity Scoring System (IBS SSS) scale.

Statistical analysis

Data were presented as 'mean ± s.e'. Independent t test was applied to compare mean values between groups.To compare between baseline & end point value of study, the paired t test was used. SPSS software with 24 version was used for statistical analysis of the study. p value <0.05 was considered statistically significant.

RESULT

Demographical profile

A total of 114 participants were enrolled and randomly allocated into two groups — Group A (Trial Group, n = 57) and Group B (Placebo Group, n = 57). All participants completed the baseline assessment. The two groups were comparable in terms of demographic and clinical parameters, including age, gender, religion, marital status, occupation, habitat, income, addiction, and IBS subtype.

The majority, 50 (44%), belonged to the 51–65 years age group, while 11 (10%) were between 18–30 years, 23 (20%) were between 31–40 years, and 30 (26%) were between 41–50 years. Among the participants, 90 (79%) were males and 24 (21%) were females. With regard to religion, 72 (63%) followed Hinduism and 42 (37%) were Muslims. Occupationally, 21 (18%) were businessmen, 15 (13%) housewives, 3 (3%) students, 26 (23%) service holders, 28 (25%) workers, and 21 (18%) farmers. In terms of habitat, 65 (57%) individuals resided in urban areas and 49 (43%) in rural regions. Socioeconomic data revealed that 67 (59%) belonged to the low-income group, 31 (27%) to the middle-income group, and 16 (14%) to the high-income group. Regarding addiction patterns, 73 (64%) reported no addiction, while 17 (15%) were smokers, 18 (16%) used tobacco, and 6 (5%) consumed alcohol. Based on IBS subtypes, 33 (29%) were categorized as IBS-C, 42 (37%) as IBS-D, 12 (10%) as IBS-M, and 27 (24%) as IBS-U. According to the Bristol Stool Form Scale (7-point scale), 13 (11%) participants were under Type 1, 38 (33%) under Type 2, 2 (2%) under Type 3, 2 (2%) under Type 4, 5 (4%) under Type 5, 37 (33%) under Type 6, and 17 (15%) under Type 7.

Effect of Intervention on IBS Symptoms

Group A (Argyreia speciosa) demonstrated a significant reduction in symptom severity as compared to the placebo group. (Table no 1)

Effect on Anxiety (Udvega)

Argyreia speciosa significantly reduced anxiety scores on HAM A scale compared to placebo.(table no 2)

Effect on Depression (Visāda)

Group A showed a significant decrease in depression scores ($p < 0.001$), while Group B showed statistically insignificant change on HAM D scale.(table no 3)

Additional Psychological Assessments

Group A showed highly significant decrease in anxiety scores (p<0.001) than group B on HADS scale.(table no 4)

Argyreia speciosa significantly reduced depression scores on HADS scale compared to placebo.(table no 5)

Group A showed highly significant decrease in anxiety scores (p<0.001) than group B on DASS 21 scale.(table no 6)

Group A showed highly significant decrease in anxiety scores (p<0.001) than group B on DASS 21 scale.(table no 7)

Safety and Tolerability

No major adverse events were reported during the study. A few patients experienced mild gastrointestinal discomfort initially, which subsided spontaneously. Laboratory parameters remained within normal limits throughout the study period.

Table no. 1: Effect of A. speciosa on IBS SSS scale.

GROUPS	BT (MEAN ± S.E)	AT (MEAN ± S.E)	T- VALUE	P- VALUE
Group A (n= 57)	199.56±6.21	185.53±5.42	2.265	<0.05
Group B (n= 57)	194.74±7.16	200.88±4.15	-0.798	>0.05

Table 2: Effect of A. speciosa on Hamilton Rating Scale (HAM-A).

GROUPS	BT (MEAN ± S.E)	AT (MEAN ± S.E)	T- VALUE	P- VALUE
Group A (n= 57)	19.14±0.23	17.11±0.24	8.051	<0.001
Group B (n= 57)	20.49±0.30	20.58±0.31	-1.935	>0.05

Table 3: Effect of A. speciosa on Hamilton Depression Rating Scale (HAM-D).

GROUPS	BT (MEAN ± S.E)	AT (MEAN ± S.E)	T- VALUE	P- VALUE
Group A (n= 57)	9.70±0.34	8.17±0.35	6.856	<0.001
Group B (n= 57)	11.51±0.44	11.70±0.43	-1.665	>0.05

Table 4: Effect of A. speciosa on HADS scale in anxiety.

GROUPS	BT (MEAN ± S.E)	AT (MEAN ± S.E)	T- VALUE	P- VALUE
Group A (n= 57)	11.26±0.26	9.75±0.25	9.762	<0.001
Group B (n= 57)	11.68±0.29	12.00±0.25	-1.627	>0.05

Table 5: Effect of A. speciosa on HADS scale in depression.

GROUPS	BT (MEAN ± S.E)	AT (MEAN ± S.E)	T- VALUE	P- VALUE
Group A (n= 57)	9.09±0.17	8.30±0.25	4.565	<0.001
Group B (n= 57)	8.98±0.17	9.17±0.16	-1.665	>0.05

Table 6: Effect of A. speciosa on DASS21 scale in anxiety.

GROUPS	BT (MEAN ± S.E)	AT (MEAN ± S.E)	T- VALUE	P- VALUE
Group A (n= 57)	11.40±0.25	10.56±0.29	4.212	<0.001
Group B (n= 57)	12.04±0.30	12.35±0.25	-1.069	>0.05

Table 7: Effect of A. speciosa on DASS21 scale in depression.

GROUPS	BT (MEAN ± S.E)	AT (MEAN ± S.E)	T- VALUE	P- VALUE
Group A (n= 57)	10.95±0.17	9.26±0.28	5.875	<0.001
Group B (n= 57)	11.26±0.20	11.54±0.21	-1.343	>0.05

DISCUSSION

The results of this study demonstrate that *Argyreia speciosa* produced significant improvement in gastrointestinal as well as psychological parameters in comparison to the placebo group.

The findings reaffirm the well-established mind–gut connection. In modern terms, IBS is understood as a disorder of gut–brain interaction, characterized by altered intestinal motility, visceral hypersensitivity, and psychosocial disturbances.[10]

Ayurveda describes a comparable concept through the pathogenesis of *Vataja Grahani*, wherein *Agni Mandya* (digestive impairment) and *Vata Prakopa* (vitiation of Vata Dosha) lead to irregular bowel movements, pain, and

instability of digestion.[11] The aggravation of Vata is often influenced by Manasika Bhavas such as *Udvega* (anxiety), *Chinta* (worry), and *Visada* (depression).[12] Thus, the Ayurvedic and modern concepts converge on the interplay of psychological and gastrointestinal factors.[13]

In the present study, the majority of participants belonged to the 51–65-year age group and were predominantly male. Middle-aged individuals may experience greater psychological stress due to occupational and social responsibilities, contributing to higher IBS prevalence.[14] The predominance of urban residents and lower socioeconomic background also reflects lifestyle factors such as irregular dietary habits, mental stress, and sedentary occupation, which are known precipitating factors for IBS.[15]

Significant reduction in IBS symptom severity scores in the trial group indicates the therapeutic efficacy of *Argyreia speciosa* on gastrointestinal function. According to Ayurvedic pharmacology, *Argyreia speciosa* (Vriddhadaru) possesses *Kasaya*, *Katu*, *Tikta Rasa*, *Laghu* and *Snigdha Guna*, *Usna Virya*, and *Vata-Kapha Shamaka* properties.[7] These attributes help stabilize *Vatakapha Dosha* and strengthen *Agni* (digestive power), thereby improving intestinal motility and absorption.

From a modern pharmacological perspective, *Argyreia speciosa* contains flavonoids, alkaloids, and glycosides known for antioxidant, adaptogenic, and neuromodulatory properties.[9] These may contribute to its ability to normalize gut motility and reduce visceral hypersensitivity, explaining the observed clinical improvement in IBS symptoms.

The significant reduction in HAM-A, HAM-D, HADS, and DASS-21 scores in Group A confirms the psychotropic and adaptogenic potential of *Argyreia speciosa*.

In Ayurveda, *Udvega* and *Visada* are considered manifestations of *Rajas* and *Tamas* imbalance along with *Vata vitiation*.[16] By pacifying *Vata* and restoring *Sattva Guna*, *Argyreia speciosa* acts as a Medhya Rasayana (nootropic and neuroprotective agent)[17] that stabilizes mental functions, enhances coping ability, and reduces stress response.

Modern pharmacological studies have reported nootropic, anxiolytic, and antidepressant effects of *Argyreia speciosa*, likely due to modulation of monoaminergic neurotransmission and stress hormone regulation.[18] These effects align with the observed reduction in psychological scores and improvement in overall wellbeing in the trial group.

The improvement of psychological scores paralleled the improvement in IBS-SSS scores, indicating a bidirectional influence between emotional state and bowel symptoms — a hallmark of the gut–brain axis.[19] Reduction in anxiety and depression likely led to decreased sympathetic overactivity and normalized intestinal motility.[20] Conversely, improvement in digestive function would have contributed to reduced discomfort and improved psychological stability, highlighting the holistic efficacy of the intervention.

While the placebo group showed mild and statistically insignificant changes, Group A exhibited highly significant improvements across all measured parameters. This difference validates the specific therapeutic action of *Argyreia speciosa*, beyond any placebo-related psychological influence.

The absence of adverse events throughout the trial suggests that *Argyreia speciosa* is a safe and well-tolerated herbal formulation. This aligns with traditional Ayurvedic usage, where it is considered a rejuvenating (*Rasayana*) drug suitable for long-term administration.

While the findings are encouraging, the study was limited by a moderate sample size and short duration. Future studies with larger cohorts, longer follow-up, and biochemical markers (e.g., cortisol, serotonin, or gut microbiota analysis) are recommended to further substantiate these results. Comparative studies with standard modern IBS management protocols may also help integrate *Argyreia speciosa* into evidence-based clinical practice.

CONCLUSION

The results of this clinical study demonstrate that *Argyreia speciosa* is effective in managing IBS (*Vataja Grahani*) associated with mild to moderate anxiety and depression. Its action on both the gut and mind confirms its role as a *Vata-kaphahara*, *Rasayana*, and *Medhya* drug.

By modulating the gut–brain axis, *Argyreia speciosa* offers a promising Ayurvedic psychogastroenterological approach for holistic management of IBS.

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