



Research Article

THE EFFECT OF *CHAVYADI CHURNAM* AND *MUSTAKARISHTA* IN MANAGEMENT OF *GRAHANI* W.S.R. TO IRRITABLE BOWEL SYNDROME

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KEYWORDS: *Grahani roga*, Irritable Bowel Syndrome (IBS), *Mustakarishtha*, *Chavyadi churna*.

ABSTRACT

Grahani roga described in classical text books of Ayurveda represents a group of disorders of digestive system caused by impairment of *Agni*. Imbalance of *Agni* and *Samanavata* are the most predominant factors involved in the pathogenesis of *Grahani roga*. The cardinal features of *Grahani* explained in the clinical text books of Ayurveda, have at most similarities with the clinical features of Irritable Bowel Syndrome (IBS) explained in western medicine.

The study "A clinical study to evaluate the combined effect of *Chavyadi Churnam Mustakarishtha* in *Grahani* w.s.r.to IBS" was undertaken to evaluate the combined effect of *Mustakarishtha* and *Chavyadichurnam* in *Grahani*, with a stipulated time period of 40 days. One more observation after 3 months completion of treatment was made without any intervention to check the relapses if any.

In this study 30 patients were incidentally selected and assigned under a single group by confirming the clinical features of *Grahani* along with Rome II criteria. In the intervention *Chavyadi Churna* was administered 3 gms twice in a day with *Takra* as *Anupana* and *Mustakarishtha*, 15ml twice daily after food with equal water. Overall 26 patients (86.6%) got complete relief, 4 patients (13.3%) got moderate relief. The results obtained on the parameters of study were highly significant with $p < 0.001$. At the end with these obtained results it can be concluded that the combination of *Chavyadi Churnam* and *Mustakarishtha* are very effective in the management of *Vataja Grahani* i.e. IBS.

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INTRODUCTION

In the present era, there is a change and irregularity in diet and dietary timings and also the sedentary life style, another major problem along with the above reasons, there is a tremendous mental stress and strain is inducing in every human life. All out of these first effected one is the Digestive system, which results into many diseases, amongst which digestion and absorption disorders constitute an important group.

As per Ayurveda *Grahani* and *Agni* are interdependent. If the *Agni* is maintained properly then the individual will be free from many diseases, if it gets vitiated then individual becomes host for ample number of diseases, among them *Grahani* is the most prevalent disease in these days.

The cardinal features of *Grahani* explained in the clinical texts book of Ayurveda, have at most similarities with the clinical features of Irritable Bowel Syndrome explained in western medicine.

Among different varieties of *Grahani*, *Vataja Grahani* has highest correlation with IBS, when pathology and symptomatology are considered.

It is found that 20% of people are effected with IBS among these 10% of the population will seek medical advice Females are more prone to this disease than males in the ratio 2:1. Fifty percentage of patients present less than 45 years old. Hence it indicates prevalence in the society and demands for a study. But there is no specific therapy identified to manage this disease effectively in the present

medical sciences even till today.

Where as in Ayurvedic system of medicine, we select the drugs which act on *Agni* which is the main causative factor for *Grahani* the drugs, which are selected for the appropriate management, and also to prevent its reoccurrence.

In our classics excellent drugs are mentioned by our Acharyas which correct *Agni*. The drugs which I selected for this particular disease are "*Chavyadi choorna*" and *Mustaka arista*. These are the best *Yogas* mentioned in our classics for the management of *Grahani roga*, with the reference from "Yogaratanakara and Bhaisyajya ratnavali." All the drugs present in both *Yogas* have *Katu rasas*, *Laghu gunas*, *Ruksha gunas*, *Ushna viryas*, *Katu vipaka*, *Deepana pachana*, *Grahi*, *Grahani hara* properties. Hence these *Yogas* have the indications to manage *Grahani roga*.

Grahani roga

Grahani is *Adhistana* for *Agni*, it has got the name *Grahani* because of the *Anna Grahana karma*.

Due to its "*Upashtabdha*" and "*Upabrimhana*" action it holds the *Apakwa anna* for further digestion and propels the *Pakwanna*. This particular function is also influenced by *Samana vata*. *Upastabdha* and *Upabrimhana* means *Grahani* segments distends and holds the *Apakwanna* and

thus facilitates digestion. The same is altered when the *Agni* is *Durbala* or *Dushta*.

Charaka described about *Grahani dosa chikitsa* and states that the man who takes food as he likes due to *Jihwa laulya* without minding his capacity of digestion in *Shastra* is deemed to get *Grahani dosaja rogas* and further he mentioned in *Agrya vastu parigananam* that the intake of food before the digestion of the previous is *Agraya Nidana* (most important aetiology) of *Grahani dosa*.

Charaka described Samanya nidana of Grahani dosha as follows

Mithya ahara/dietic causes (ch.chi.15/42)

- Abhojana* (without food)
- Ajeerna Bhojana* (eating before)
- Atibhojana*
- Vishamasana*
- Asaatyamyas, Guru, Sheeta, Ati rooksha bhojana*
- Sandusta bhojana*

Mithya viharas/behavioural causes (ch.chi.15/43)

- Vireka, Vamana, Sneha vibramath*
- Vegaavarodha*
- Vyadhi karshanath*

Table 1: Showing Similarities of Grahani and IBS at the level of Pathogenesis

| <i>Grahani</i> | IBS |
|-----------------------------------------------------------------|-------------------------------|
| <i>Samana Vata dushti</i> | Abnormal gut motor activity |
| <i>Agni Dushti</i> | Abnormal gut sensory activity |
| <i>Prana vata dushti</i> | Central nervous dysfunction |
| Impairment of regular functions of <i>Vata</i> and <i>Pitta</i> | Physiological disturbances |
| <i>Kala dushti</i> | Luminal factors involvement |

From above all concepts and correlations it can be concluded that *Vataja Grahani* matches most with the IBS.

Table 2: Showing the comparison between Lakshana of Grahani and IBS

| <i>Grahani</i> | IBS |
|------------------------------------|------------------------------------------------------------------------|
| <i>Atisrishtam vibaddham va</i> | Altered bowel with diarrhoea and constipation |
| <i>Punah punah srijet varcha</i> | Frequent defecation |
| <i>Shoola</i> | Abdominal Pain |
| <i>Amameva vimunchati</i> | Passes mucus along with stools |
| <i>Jeerne jeeryati adhmanam</i> | Post prandial fullness |
| <i>Parshva vankshana hritpeeda</i> | Pain on right and left sides (flanks), epigastric and hypogastric pain |
| <i>Chirat mala pravritti</i> | Delay in delivery of stools |
| <i>Dukhena mala pravritti</i> | Impaired rectal sensation and hence painful defecation |
| <i>Tiktamlodgara</i> | Dyspepsia |
| <i>Shabdha phenamala</i> | Gas, flatulence |

| | |
|-------------------------|----------------------------------|
| <i>Hrillasa</i> | Heartburn |
| <i>Chardi</i> | Vomiting |
| <i>Shiroruk</i> | Head ache |
| <i>Manasaha sadanam</i> | Abnormal psychological behaviour |

Pathya-Apathya

According to Ayurvedic Classics treatment is incomplete until *Pathya* and *Apathya* are followed by the patient.

“*Pathya*” is one which is *Hithakara* to the body as well as mind, it may be in the form of *Ahara dravya* or *Vihara*.

“*Apathya*” is one which is *Ahithakara* to the body and mind.

Pathya and *Apathya* to be followed in *Grahani Roga* can be categorized as *Aharja* and *Viharja*.

Takra is best diet in *Grahani Roga* as it is having both dietic and medicinal value.

Pathya Ahara

Annavarga - *Shashti, Shali, Jeernashali, Masoora, Tuwari, Mudga, Yusha, Lajamanda, Vilepi*, etc.

Shaka varga - *Ramba pushpa, Changeri*.

Table 3: Showing Pathya, Apathya

| Sl.No. | Varga | Pathya | Apathya |
|--------|----------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Aharaja | | |
| | Annavarga | <i>Shashtishali, Jeernashali, Massora, Tuwari, Mudgayusha, Lajamanda, Vilepi, Dhanyaka</i> etc. | <i>Virudha bhojan, Asathmya bhojana, Guru, Sheeta, Atiroksha, Sandhusta Bhojana, Dushtajala, Amla, Lavana, Saraka dravya</i> etc. <i>Godhuma, Yava, Kalaya, Masha, Rajamasha, Nishpava, Rasona.</i> |
| | Shakavarga | | |
| | | <i>Changeri, Kutaja, Vastuka, Changeri</i> | <i>Kakamachi, Kushmanda, Tumbi, Kanda, Tambula, Pathrasakha</i> |
| | Phalavarga | | |
| | | <i>Dadima, Kapitta, Bilwa, Jatiphala, Kadaliphala, Harithaki, Jumbu, Tinduka</i> | <i>Badara, Narikela, Draksha, Kantakari</i> |
| | Pushpavarga | | |
| | | <i>Bakula, Shaluka</i> | ----- |
| | Mamsvarga Madhyavarga | <i>Kshudramatsya, Ena, Tittira, Lava, Shashanka</i> | ----- |
| | Gorasavarga | <i>Madira</i> | <i>Dhanya amla, Souvira, Tushodaka.</i> |
| | | <i>Dadi, Takra, Grutha, Ajadugda, Godugda, Navaneetha</i> | <i>Mastu</i> |
| | Tailavarga | | |
| | | <i>Tuwari, Tila</i> | ----- |
| | Ekshuvarga | | |
| | | <i>Madhu</i> | <i>Ekshu, Guda</i> |
| 2. | Viharaja | | |
| | | <i>Nidra, Vishrama, activities making mind happy</i> | <i>Veganigraha, Chinta, Shoka, Bhaya, Krodha, Vireka, Vamana, Sneha, Vibramath</i> etc. |

| | | | |
|---|--------|-------|-------------------------------------------------|
| 3 | Others | | |
| | | ----- | Vyadhikarshanath, Desha, Kala, Ruthuvaishamyath |

The present study is purely clinical and was undertaken in the OPD on 30 patients and above selected randomly.

The parameters considered for the evaluation of the patients and the assessment of the progress are all taken as subjective. In addition to this objective parameters are also taken in order to exclude other diseases out of all Irritable bowel syndrome is the Diagnosis of exclusive criteria in the present study.

The Trial drugs of the present study are *Chavyadi Churnam* and *Mustakarishtha*. These are the best *Yogas* mentioned for the management of *Grahani Roga* with the reference from Yoga-ratnakaram and Bhaishajyaratnavali.

Aims and objectives

To assess the combined efficacy of *Chavyadichurnam* and *Mustakaarishtha* in the management of *Grahani roga* with special reference to Irritable bowel syndrome.

Materials and methods

Materials

The materials taken for clinical study are

1. *Chavyadi Churnam*
2. *Mustaka arista*

Chavyadichurnam: It was administered to the patients in the Dosage of 3gms twice daily for a period of 40 days with butter milk as *Anupana*.

Mustakaarista: It was administered to the patients in the dosage of 15ml twice daily with equal quantity of water for a period of 40 days.

Methods

Research design

It was a single blind clinical study with pre and post test design The patients were assigned to single group and were administered *Chavyadi Churnam* and *Mustaka arista*. The results were analyzed Statistically.

Source of data

The data was collected from the patients, who were diagnosed As *Grahani* (IBS) was taken for the study from the OPD and IPD Of PG Dept.of kaya chikitsa, Dr.B.R.K.R.Govt Ayurvedic Hospital, Erragadda, Hyderabad. Out of 34 patients registered, 30 patients Completed the study

Sampling method

Total number of 30 cases excluding dropouts were taken and Assigned into a single group.

Duration of treatment

1 *Mandala* (40days)

Review once in every 10 days.

Follow up after 3 months.

During the course of treatment meditation is advised.

Ingredients of the *Chavyadi Churna*

- 1) *Chavya*
- 2) *Chitramoola*
- 3) *Bilwa*
- 4) *Shunti*

All are taken in equal parts.

Method of Preparation

The dried Drugs of *Chavya* root, *Chitramoola* root bark, *Bilwaphala majja* and *Shunti* (rhizome) are taken. They are made into fine powder and sieved well.

Method of Administration - Oral

Dose: 3 gms, twice a day.

Anupana: Butter milk

Time of Administration : After food.

Ingredients of *Mustakarishtha*

- 1) *Mustaka* - 9340 gms with 52 lit. of water
- 2) *Gudam* - 14 kgs
- 3) *Dhataki* Flowers - 750 gms
- 4) *Ajamoda* - 93 gms
- 5) *Shunti* - 93 gms
- 6) *Maricha* - 93 gms
- 7) *Lavanga* - 93 gms
- 8) *Methika* - 93 gms
- 9) *Chitramoola* - 93 gms
- 10) *Jeeraka* - 93 gms

Method of Preparation

9340gms of *Mustaka* tuber coarsely powdered and placed them in a large size earthen pot. Poured 52 liter of water into the pot and decoction made till the original quantity is reduced to a ¼. Sieved the decoction through a piece of cotton and dissolved into it Jaggery measuring 14 kgs. Also added to that coarsely powdered flowers of *Dhataki* measuring 750 gms and 93 gms each of the *Ajamoda* Seeds, dried *Shunti*, *Maricha* Fruit, *Lavanga* floral bud, *Mathika* seeds, *Jeeraka* fruits and *Chitramoola* root bark. Stored the preparation into an earthen pitcher that has been treated by smoke and has been coated inside with *Ghritam*. Closely tighten the pitcher with cloth with in mud.

Placed the pitcher in a lonely warm place having no wind after one month strained the liquid and filled them into glass bottles.

Mode of Administration – Oral

Dosage: 15 ml with equal quantity of water, twice a day.

Time of Administration: After Food

Criteria For Selection of Drugs:

All the Drugs present in both *Yogas* have *Katu*, *Kashaya Rasas*, *Laghu Ruksha Gunas*, *Ushna Veerya*, *Katu vipaka*, *Deepana*, *Pachana*, *Grahi*, *Grahanihara* Properties.

Takram is selected as *Anupana* because it has *Deepana*, *Grahi* and *Laghu Gunas*. It is very useful in *Grahani*.

Special Qualities of Drugs are as follows

Chavya: Good Digestive Agent, Control G.I. Condition. Normalises Peristaltic movements, improves appetite. Reduce gas, Stops Diarrhoea, improve sleep.

Chitramoola: Controls Diarrhoea, useful in Digestion and promotes appetite, anti microbial activity.

Bilwa: Controls Chronic Diarrhoea, Dysentary and Giardiasis and anti helmenthic property.

Musta: It has Anti-helmenthic, Anti-Fungal, Anti-parasitic, Anti-spasmodic properties, useful in indigestion and worm troubles, it inhibits gastric mobility, it acts as Tranquiliser.

Ajamoda, *Lavanga*, *Shunti*, *Maricha*, *Methika*, *Jeeraka* are useful in digestion, improves appetite. In view of the presence of all the above special properties of these drugs have the perfect indications to manage the *Grahani* (IBS).

Importance of *Takra*

Ayurveda Classics narrated particularly in the treatment point of view and special importance has been for *Anupanas*. Which inturn improves the drug absorption and proper utilisation to treat the cause where in the study *Takra* is the Best *Anupana* explained.

Takra plays an important role in *Grahani roga*, Vagbhata Described, *Takra* as Best Medicine in *Grahani*. Charaka described *Takra gunas* as follows:

- 1) Due to its *Deepana*, *Grahi* and *Laghu gunas* it is very useful in *Grahani* due to its *Deepana* and *Grahi guna* especially in the disease *Grahani* frequency of the Stools are being initiated to control the excessive peristalsis.
- 2) Even though *Takra* has *Amla rasa* it will not provoke *Pitta* as it is having *Madhura vipaka*.
- 3) Due to its *Kashaya*, *Ushna*, *Vikasi gunas* it control *Kapha* even though it is having

Abhishyandadi guna.

- 4) By virtue of its *Sandra*, *Amla*, *Swadugunas*, it will not vitiate *Vata* even though it posses *Kashaya ruksha gunas*.

In Yoga ratnakara so many qualities like *Vishaharatwa* were attributed to *Takra*. According to modern buttermilk is having anti bacterial effect. Buttermilk is made with the help of *Bacilluslacti* from milk and this Bacteria will be present in Acetic Acid and they enter into the intestines along butter milk consumed and produce same acids having Anti-bacterial effect and protect the intestines from infection. By above *Gunas Takra* is best in *Grahani Roga*, as it is having both dietic and medicinal value.

Importance of *Arishta*

It is *Manah prasannakara*. It gives soothing effect to brain and also it gives relief from mental Tension. Being naturally formed alcohol in the preparation of *Arishta* is more effective after preparing the drug in the liquid form. This also help directly impose in a systemic way where the drug is carried out.

In irritable bowel syndrome stress is the main causative factor. *Arishta* will be helpful in controlling psychological factors like stress, anxiety, tension (*Bhaya*, *Krodha*, *Chinta*) etc.

Inclusion criteria

1. Patients only of *Grahani roga* (Irritable bowel syndrome) Were selected.
2. Patients between age group of 16-50 years were selected For the study.
3. Patients irrespective of sex, religion, occupation were selected For the study.

Exclusive criteria

1. Patients below 16 years and above 50 years were excluded
2. Amoebiasis
3. Tropical sprue
4. Mal absorption syndrome
5. Ulcerative colitis
6. Crohn"s disease
7. Celiac disease
8. Pregnancy
9. Carcinoma of stomach and intestine, tuberculosis
10. Any serious life threatening disease

Diagnostic criteria

1. All the patients were diagnosed on the basis of signs and Symptoms of *Grahani roga*, which resemble with Irritable Bowel syndrome.
2. The routine hemotological stool and urine examinations were carried out to assess the general condition and Exclusion of other pathogenesis of patients.

Parameters for the assessment

Subjective

1. *Muhur badda muhur drava mala pravritt* (altered bowel habits)
2. *Udara shoola.* (Pain abdomen)
3. *Amayuktha mala.* (Mucus in stools)
4. *Muhur muhur mala pravritti* (frequent defecation)
5. Gas or flatulence
6. Other symptoms

Investigations

- CBP
- ESR
- CUE
- RBS
- Stool examination for ova and cyst. Occult blood.
- Stool culture and sensitivity.
- Sigmoidoscopy, colonoscopy (optional)
- All the above investigations were carried out to exclude other diseases.

Methods of assessment

Symptoms Scoring

1. Baddamala Pravritti

- Normal once daily B0
- Alternate days B1
- Once in 2 days B2
- Once in 3 days B3
- Once in 4days B4

2. Drava mala pravritti

- Normal once daily D0
- Twice daily D1
- 2- 4 times daily D2
- 4-6 times daily D3
- >6 times daily D4

3. Muhur muhur mala pravritti

- Normal once daily M0
- Twice daily M1.
- 2-4 times daily M2
- 4-6 times daily M3
- >6 times daily M4

4. Udara shoola or discomfort

- No abdominal pain P0.
- Occasionally or rare abdominal pain. P1
- Intermittent abdominal pain relieved by passage of Flatus or stool. P2
- Continuous pain not relieved by Passage of flatus and stool P3

5. Amayukta mala/mucus in stool

- No visible mucus in stool A0
- Visible sticky mucus in stool A1
- Passage of mucus with frequent stool. A2
- Passage of large amount of mucus in stool. A3

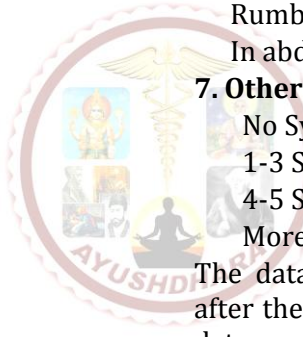
6. Gas (or) flatulence

- No abnormal gas/flatulence G0
- Occasionally abdominal distension G1
- Frequent abdominal distension with Increased flatulence and belching. G2
- Rumbling/gargling sound present In abdomen G3

7. Other Symptoms

- No Symptoms 00
- 1-3 Symptoms 01
- 4-5 Symptoms 02
- More than 5 symptoms 03

The data was collected before the treatment and after the treatment of 40 days. One more follow up data was collected after the treatment. The data obtained was analyzed statistically by applying statistical methods.



OBSERVATIONS & RESULTS

Table 4: Showing the incidence of Sex

| SEX | No. Of Patients | Percentage |
|--------------|-----------------|------------|
| Male | 18 | 60.00 |
| Female | 12 | 40.00 |
| Total | 30 | |

In this study there were 18 Male Patients (60%) and 12 Female Patients (40%) among 30 patients.

Table 5: Showing the incidence of Age Group

| Age in Years | No. of Patients | Percentage |
|--------------|-----------------|------------|
| 15-30 | 13 | 43.3 |
| 30-50 | 17 | 56.7 |
| Total | 30 | |

In this study there were 13 Patients belongs to Age group ranging from 15-30 years and 17 patients belonged to the age group ranging from 30-50 years.

Table 6: Showing the incidence of Socio Economic Status

| Economical Status | No. of Patients | Percentage |
|-------------------|-----------------|------------|
| Rich | 7 | 23.33 |
| Upper Class | 8 | 26.67 |
| Middle Class | 7 | 23.33 |
| Lower Class | 4 | 13.33 |
| Poor | 2 | 6.67 |
| Very Poor | 2 | 6.67 |
| Total | 30 | |

In this study socio economic status showed majority of patients belonged to upper class i.e., 8 patients, 7 patients belong to Middle class, 7 patients Rich, 4 patients belonged to lower class, 2 patients were poor and 2 patients were very poor.

Table 7: Showing the incidence of Diet Pattern

| Diet | No. of Patient | Percentage |
|------------|----------------|------------|
| Vegetarian | 3 | 10.00 |
| Mixed | 27 | 90.00 |
| Total | 30 | |

Among 30 patients 3 patients were Vegetarians and 27 patients followed mixed diet.

Table 8: Showing the incidence of Marital Status

| Marital status | NO. of Patient | Percentage |
|----------------|----------------|------------|
| Married | 18 | 60.0 |
| Unmarried | 12 | 40.0 |
| Total | 30 | |

In this study among 30 patients 18 patients were married and 12 patients were unmarried.

Table 9: Showing the incidence of Religion

| Religion | No. of patients | Percentage |
|----------|-----------------|------------|
| Hindu | 26 | 86.66 |
| Muslim | 4 | 13.3 |
| Total | 30 | |

Among 30 patients 26 patients belonged to Hindu Religion and 4 patients were Muslims.

Table 10: Showing the Incidence of Occupation

| Type of Occupation | No. of patients | Percentage |
|--------------------|-----------------|------------|
| Students | 10 | 33.3 |
| Govt. Employees | 7 | 23.3 |
| House Wives | 5 | 16.7 |
| Business | 3 | 10.0 |
| Software | 2 | 6.7 |
| Agricultures | 2 | 6.7 |
| Tailor | 1 | 3.3 |
| | 30 | |

Among 30 patients 10 patients were students, 7 patients were Govt. Employees, 5 Patients were House wives, 3 patients had business, 2 patients each in Software and Agriculture and 1 patient was tailor.

Table 11: Showing the Incidence of Condition of Agni

| Condition of Agni | No. of patients | Percentage |
|-------------------|-----------------|------------|
| <i>Vishama</i> | 26 | 53.33 |
| <i>Manda</i> | 3 | 10.00 |
| <i>Teekshana</i> | 1 | 3.33 |
| Total | 30 | |

In this study among 30 patients 26 patients had *Vishamagni*, 3 patients had *Mandagni* and one patient had *Teekshanagni*.

Table 12: Showing the Incidence of Type of Koshta

| Type of Koshta | No. of patients | Percentage |
|----------------|-----------------|------------|
| <i>Mrudu</i> | 26 | 53.33 |
| <i>Krura</i> | 3 | 10.00 |
| <i>Madhyma</i> | 1 | 3.33 |
| Total | 30 | |

In assessment of *Koshta* 26 patients had *Mrudukoshta*, 3 patients had *Krura koshta* and 1 patient had *Madhyam koshta*.

Table 13: Showing the Incidence of Prakruthi

| Type of Prakruthi | No. of patients | Percentage |
|-------------------|-----------------|------------|
| KP | 9 | 30.00 |
| PK | 5 | 16.67 |
| PV | 11 | 33.33 |
| VP | 5 | 16.67 |
| Total | 30 | |

In this study 11 patients with *Pitta pradhana Vata Prakruthi* were found, 9 patients with *Kapha Pradhana Pittaprakruthi*, 5 patients with *Pitta pradhana kapha prakruthi* and 5 patients of *Vata pradhana pitta prakruthi* were found.

Table 14: Showing the Incidence of Urge to Defecate

| Urge Induced on | Frequency | Percentage |
|-----------------|-----------|------------|
| F | 19 | 63.33 |
| F & E | 11 | 36.67 |
| Total | 30 | |

Among the factors precipitating the urge of defecation 11 patients experience the urge to defecate on food intake and also an episode of emotional disturbance, 19 patients had an urge to defecate only after food intake.

RESULTS

Table 15: Showing the results in Muhur muhur mala pravritti

| | Normal Once daily | Twice Daily | 2-4 times daily | 4-6 times daily | More than 6 times daily | Total |
|------------|-------------------|-------------|-----------------|-----------------|-------------------------|---------|
| BT | | 2 | 19 | 8 | 1 | 30 |
| Percentage | | 6.60% | 63.30% | 26.60% | 3.30% | 100.00% |
| AT | 24 | 6 | | | | 30 |
| Percentage | 80.00% | 20.00% | | | | 100.00% |
| AF | 14 | 15 | 1 | | | 30 |
| Percentage | 46.60% | 50.00% | 3.30% | | | 100.00% |

Table 16: Showing the results in Dravamala Pravritti

| | Normal once daily | Twice Daily | 2-4 Times daily | 4-6 times daily | More than 6 times daily | Total |
|------------|-------------------|-------------|-----------------|-----------------|-------------------------|---------|
| BT | | 2 | 19 | 8 | 1 | 30 |
| Percentage | | 6.60% | 63.30% | 26.60% | 3.30% | 100.00% |
| AT | 25 | 5 | | | | 30 |
| Percentage | 83.30% | 16.60% | | | | 100.00% |
| AF | 14 | 15 | 1 | | | 30 |
| Percentage | 46.60% | 50.00% | 3.30% | | | 100.00% |

Table 17: Showing the results in Baddamala Prvritti

| | Normal once daily | Alternative Days | Once in 2 days | Once in 3 days | Once in 4 days | Total |
|------------|-------------------|------------------|----------------|----------------|----------------|---------|
| BT | 12 | 4 | 8 | 6 | | 30 |
| Percentage | 40.00% | 13.30% | 26.60% | 20.00% | | 100.00% |
| AT | 28 | 2 | | | | 30 |
| Percentage | 93.30% | 6.60% | | | | 100.00% |
| AF | 25 | 5 | | | | 30 |
| Percentage | 83.30% | 16.60% | | | | 100.00% |

Table 18: Showing the Results in Udarashoola / discomfort

| | No abdominal pain | Occasional / rarely Abd. Pain | Intermittent lower Abd. Pain, Relieved by passage of Flatus and stool | Continuous pain not relieved by passage of Flatus and Stool | Total |
|------------|-------------------|-------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------|---------|
| BT | | 18 | 12 | | 30 |
| Percentage | | 60.00% | 40.00% | | 100.00% |
| AT | 26 | 4 | | | 30 |
| Percentage | 86.00% | 13.30% | | | 100.00% |
| AF | 22 | 8 | | | 30 |
| Percentage | 73.30% | 26.0 | | | 100.00% |

Table 19: Showing the Results in Amayukta Mala Pravritti

| | No Visible Mucous in Stool | Visible sticky mucus stool | Passage of Mucous with frequent stool | Passage of large amount of mucous in stool | Total |
|------------|----------------------------|----------------------------|---------------------------------------|--------------------------------------------|---------|
| BT | 10 | 11 | 9 | | 30 |
| Percentage | | 60.00% | 40.00% | | 100.00% |
| AT | 26 | 4 | | | 30 |
| Percentage | 86.00% | 13.30% | | | 100.00% |
| AF | 23 | 7 | | | 30 |
| Percentage | 73.30% | 26.0 | | | 100.00% |

Table 20: Showing the Results in Gas or Flatulence

| | No abnormal Gas | Occasional Abd. Distension | Frequently Abd. Distension with Increased flatulence and belching | Rumbling or Gurgling sound present in abdomen | Total |
|------------|-----------------|----------------------------|-------------------------------------------------------------------|-----------------------------------------------|---------|
| BT | | 18 | 12 | | 30 |
| Percentage | | 60.00% | 40.00% | | |
| AT | 28 | 2 | | | 30 |
| Percentage | 93.33% | 6.66% | | | 100.00% |
| AF | 26 | 4 | | | 30 |
| Percentage | 86.66% | 13.33% | | | 100.00% |

Table 21: Showing the Results in Other Symptoms

| | No symptoms | 1-3 symptoms | 4-5 symptoms | More than 5 symptoms | Total |
|------------|-------------|--------------|--------------|----------------------|---------|
| BT | 18 | 11 | 1 | | 30 |
| Percentage | 60.00% | 36.66% | 3.33% | | |
| AT | 29 | 1 | | | 30 |
| Percentage | 96.66 | 3.33 | | | 100.00% |
| AF | 28 | 2 | | | 30 |
| Percentage | 93.33 | 6.66 | | | 100.00% |

DISCUSSION**Chavyadi choornam**

This is a reference from Yogaratnakara. It was chosen for *Ama pachana* because of its indication for *Deepana Pachana* effect. Drugs present in this yoga are *Chavya*, *Chitramula*, *Bilva*, *Shunti* are having *Deepana*, *Pachana* and *Grahi* property and also indicated in *Grahani roga*. Along with *Takra* this drug controls chronic stages of *Grahani*. *Takram* is selected as *Anupana* because it has *Deepana*, *Grahi* and *Laghu gunas*.

Mustaka arista

This is a formulation from Bhaishajya Ratnavali Agni Mandhya adhikara. It is indicated in *Ajirna*, *Agnimandhya*, *Atisara* and *Vishuchika* and all types of *Grahani*. *Musta* being an *Agrya draya* for *Sangrahi*, *Deepana* and *Pachana* action, it very well satisfies the criteria for administration of Medicine in *Grahani*. Many research works proved the ability of *Musta* in management of IBS. Hence this particular yoga was selected for the study, as it directly satisfies the necessity *Gunas* and *Karmas* of the *Aushada* for the *Grahani chikitsa*, it can be considered as a *Vyadhi pratyanyika aushada*. *Grahani* being a disorder of GI tract with its associates as *Agni mandhya* and *Ajeerna*, it has to be treated collectively keeping the other two also in consideration.

This formulation predominantly acts on Agni, it does both *Amapachana* and *Agni deepana*. Along with *Musta* there are other drugs like *Yavani*, *Jeeraka*, *Maricha*, *Chitraka*, *Lavanga* etc. Which pacifies the *Koshta gata vata*, this helps in relieving some of the symptoms like "*Jeerne jiryathi admanam*". And also all the drugs have *Deepana pachana* and *Grahi* properties. So when *Musta* does the *Grahi* action along with *Agni deepana* other drugs help in controlling the *Kostagata vata*, which is a close associate of *Grahani samprapthi* and also the *Amapachana*. So by these all the major *Lakshanas* like "*Muhur muhur mala pravritti, Muhur badda drava pravritti, Amayukta mala pravritti, Udarashoola*" and Gas or flatulence are subsided. Some of the other *Lakshanas* like *Manosadana* etc., *Manasika lakshanas* are due to vitiation of *Prana vata*. In IBS where the gut brain relation with

respect to the CNS and ENS deregulation is explained earlier in the review of literature as the psychological factors alter the pain threshold and stress alters the sensory threshold in IBS patients. To control psychological alterations in IBS patients *Arishta* preparation was selected, which gives soothing effect to the brain it might have helped the patients upto some extent only, along with these other mental relaxations techniques like meditation are also advised for the management of IBS (*Grahani*), which gave good results in controlling IBS.

Discussion on Observation**Age**

Maximum number of cases i.e. 17 patients belonged to 30 -50 years age group, 13 patients belonged to 15-30 years age group. This data goes in support with the incidence of IBS which says, IBS is a Disorder of young.

Sex

The number of male patients were (18) higher than the female patients(12).females are more prone than males in the ratio 2:1.no conclusion can be drawn with this particular difference as the sampling method is incidental and the sample size is 30.

Occupation

Among the 30 patients 10 patients were students, 7 patients were govt. employees, 5 patients were House wives, 3 patients had business, 2 patients each in software and agriculture, 1 patient was Tailor. This incidence may be due to more exposure to stress, busy schedule and irregular food habits when compared to other occupations.

Socio Economic Status

Maximum number of patients were from upper class, middle class and rich, this may be due to changes in life style and continuous exposure to stressful life.

Marital Status

In this study among 30 patients, 18 patients were married and 12 patients were unmarried, it can be related to the incidence of IBS more in young adults and also incidental.

Religion

In this study there were more Hindu patients i.e. 26, this is due to the population pattern of the society.

Diet

Out of 30 patients 27 patients were having mixed pattern of diet, this is because *Mamsa ahara* is guru and the *Dravyas* used for the processing are *Vidahi* by its nature. Patients following this diet pattern are frequently exposed to varied foods with different *Guna*, *Virya*, thus effecting the *Agni*.

Showing the Incidence of Condition of Agni

In the study among 30 patients 26 patients were having *Vishama agni*. *Vishama agni* is such a condition where it digests the food sometimes and sometimes it cause indigestion, such altered *Agni* is very much susceptible for *Grahani*.

Showing the Incidence of Type of Koshta

In assessment of *Koshta* 26 patients had *Mrudu koshta*, 3 had *Krura koshta* and 1 had *Madhyama koshta*. During *Roga avastha*, in *Grahani*, it is difficult to assess the *Prakrutha koshta*. As the nature of the disease itself is *Muhur muhur mala pravritthi*, the patients presents with an urge to defecate after food intake, hence most of them were having *Mrudu koshta*. In patients who complained of delay in stool delivery, hardened pellet stools along with impaired rectal sensations and straining, altered with loose stools were considered as *Krura koshta*. Patients who were taken as *Madhyama koshta* complained of *Malappravruthi* altered in consistency.

Urge of defecation induces due to food intake and emotional disturbances

Among 30 patients, 19 patients experienced urge to defecate only after food intake. It is seen because *Grahani* is mainly a disorder occurring due to varied *Ahara vidhi* and *Manasika lakshanas* are due to secondary factors. 11 patients experienced the urge to defecate on food intake and also after an episode of emotional disturbance. This particular incidence shows a common pattern of involvement of secondary factors like *Pranavata* and *Apanavata*. For both the causes of urges *Pranavata* is the initiator. When this becomes *Dushta* and loses its power to control other *Vata*, then it may give rise to the above said condition.

Prakruthi

Out of 30 patients, 11 patients with *Pittapradhana vataprakruthi*, 9 patients with *Kaphapradhana pittaprakruthi*, 5 patients were of *Pittapradhana kaphaprakruthi* and 5 patients were off *Vathapradhana pittaprakruthi* were found. Even though *Grahani* is a *Pittapradhana roga*, *Vata* also has a major role in this disorder.

Showing the incidence of Nidana

Among 30 patients, 9 patients gave a history of irregular food habits before the onset of *Grahani*. According to *Charakasamhita*, it is mentioned that "yo hi *Bhunkte vidhim tyaktva sa laulyat labhate Grahani doshajan gadan*". So this particular *Nidana* has major role in *Grahani roga*, 8 patients gave a history of *Atyambupana* i.e. they had a habit of drinking two to three liters of water in the morning with empty stomach. It is mentioned in the text books of *Ayurveda* that *Atyambupana* is one of the *Nidana* of *Agnimandya*. It leads to *Grahani*, 5 patients gave a history of *Atisara*. This particular factor is very much in support for the *Susruta samhita* quotation as "*Atisare nivruttepi*".

Discussion on results

After the statistical analysis of the results, the results shown were highly significant with regard to all symptoms consider for grading.

Muhur muhur mala pravritti

In this condition, grades 0 and 1 both were considered as normal, because bowel movement twice daily is *Prakrutha*. After the treatment 30 patients had normalcy of 1 to 2 times *Malappravruti* in a day. After follow up i.e. after three months without any medicine 29 patients had normalcy of one to two times *Malappravruti* and one patient had two to four times *Malappravruti*. During this period patients were advised to continue the *Pathya* which was practiced during treatment i.e. *Laghu aahara*, less spicy diet, intake of *Takra* and meditation. Probably the combination of *Chavyadi Churnam* and *Mustakarishtha* controls this symptoms, because of having *Grahi*, *Deepana*, *Pachana* and also having the capacity of controlling the *Vata*.

This showed highly significant P value <0.001.

Dravamala pravritti

Improvement in this condition was seen much earlier when compared to other symptoms. After treatment 30 patients got relief from *Dravamala pravritti*. After follow up 29 patients got complete relief and one patient had 2 to 4 times *Dravamala pravritti*. This may be due to *Grahi* property of drugs present in these formulations.

This showed highly significant P value <0.001.

Badda mala pravritti

Among 30 patients, no patient had particularly constipation predominant IBS and most of the patients had diarrhoea predominant IBS, only some patients had diarrhoea altered by constipation i.e. is mixed type. After treatment 28 patients had no *Badda mala pravritti* and 2 patients had alternate days *Badda mala pravritti*. After follow up 25 patients had no *Badda mala* and 5 patients had alternate days *Badda mala pravritti*. By this it can be concluded that *Chavyadi Churnam* and *Mustakarishtha* work in all types of IBS, irrespective of frequency of stools.

This also showed highly significant P value <0.001.

Udara shoola

After treatment 26 patients got relief from *Udara shoola*, 4 patients had occasional *Udara shoola*. After follow up 22 patients got complete relief and 8 patients had occasional *Udara shoola*. These formulations controls *Udara shoola* by having *Deepana*, *Pachana* properties by *Amapachana*.

This also showed highly significant P value <0.001.

Amayukta mala pravritti

After treatment 26 patients had no mucus in stool, 4 patients had sticky mucus in stool. After follow up 23 patients had no visible sticky mucus in stool and 7 patients had visible sticky mucus in stool. *Musta*, the main ingredient of *Mustakarishtha*, is an *Agrya dravya* for *Sangrahi*, *Deepana* and *Pachana* action.

This also showed highly significant P value <0.001.

Gas/flatulence

Out of the 30 patients, 28 patients got relieved of flatulence and 2 patients had occasional abdominal distension. After follow up 26 patients got relieved of flatulence and 4 patients had occasional abdominal distension. As the other symptoms of *Grahani* had subsided they were advised to consume hot water, avoid legumes and eat hot and fresh food and use more *Takra*, which relieved the distension. In this symptom also the medicines showed highly significant result with P value <0.001.

Other symptoms

After treatment 29 patients got complete relief from other symptoms and one patient had 2 symptoms. After follow up 28 got complete relief and 2 patients had 2 symptoms. This again shows the efficacy of combination in relieving the symptoms.

This also showed highly significant P value <0.001.

Overall assessment

In the overall assessment 26 (86.6%) patients showed good relief of all the symptoms, 4 (13.33%) patients showed moderate relief.

This also showed highly significant P value <0.001.

CONCLUSION

Grahani roga represents a group of digestive disorder. It is closely linked with *Agnimandhya*, *Koshta gata vata* and *Atisara*. Impaired *Agni* and *Samana vata* are the most predominant factors in the pathogenesis of *Grahani*. *Prana vata* and *Apana vata* also have a significant role in *Grahani*.

The etiological factors responsible for IBS, identified by various surveys, fit in to the *Nidana* of *Grahani*, explained earlier in the Ayurvedic text books.

Hence it can be concluded that IBS can be treated in Ayurveda under the treatment principles of *Vataja Grahani*. *Chavyadi Churnam* and *Mustakarishtha* in combination target the *Agni*, *Pitta* and *Vata dosha* in *Grahani roga*. It also satisfies the *Chikitsa sutra* of *Grahani*. With these obtained results it can be concluded that the combination of *Chavyadi Churnam* and *Mustakarishtha* are very effective in the management of *Vataja Grahani* i.e. IBS.

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